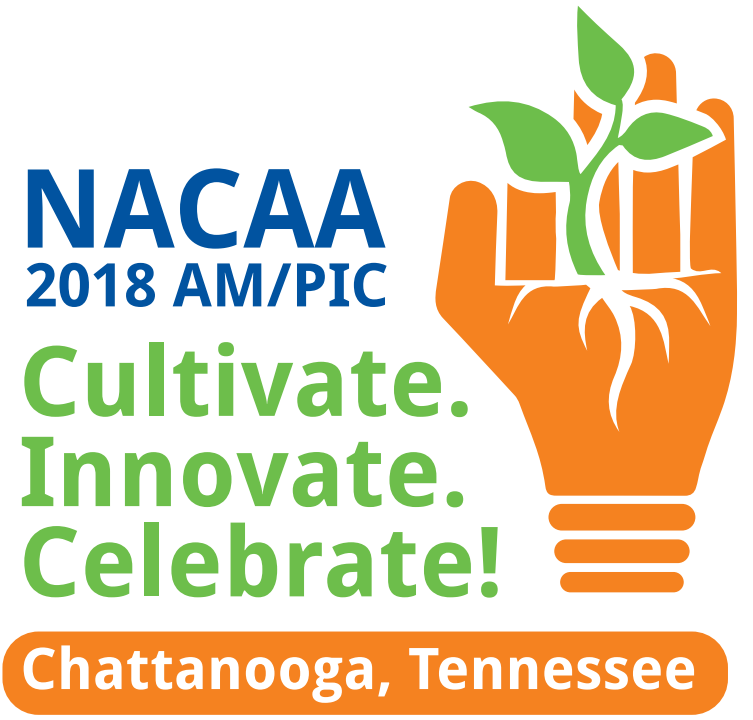
National Association of County Agricultural Agents



Proceedings

103rd Annual Meeting and
Professional Improvement Conference

July 29- August 2, 2018 **Chattanooga, TN**

TABLE OF CONTENTS

2017-2018 NACAA REPORT TO THE MEMBERSHIP

President

Alan B. Galloway

Tennessee

The NACAA has had an excellent year. Since we left Salt Lake City last July, the NACAA board has managed their duties with efficiency and accuracy throughout the year. Their attention to managing within our budget and expanding professional improvement opportunities for our members has been impressive. Participation by NACAA members in the various awards and recognition programs has been above expectation. The number of entries in our many programs offering recognition, awards and presentation opportunities has been outstanding. Over 173 abstracts were submitted for the poster session, and there has been stiff competition for all categories of the communication awards. Even the Search for Excellence programs saw excellent participation. The 103rd NACAA AM/PIC in Chattanooga is shaping up to be a memorable, educational and high energy event.

Changes to the annual meeting and professional improvement (AM/PIC) schedule include the addition of more breakout sessions and providing for longer time slots for each session. Through these changes the committees are able to accommodate more presentations than ever before. NACAA members stepped up and submitted more than enough abstracts for presentations and filled all of the new slots. Having a high level of member participation in our programs makes obtaining and keeping sponsors much easier. We appreciate the duties carried out by our NACAA committee chairs, regional vice-chairs and the state committee chairs. They oversee the submission and judging of a wide range of programs and help NACAA in sharing around $40,000 in awards each year.

A continued high level of participation is needed each year to provide convincing proof to our donors and sponsors of our awards programs they support are needed and important to NACAA members. When we can show sponsors there is high interest in our programs they sponsor, it is easier to convince a returning sponsor to continue giving their hard earned money.

This year each member of the NACAA board was asked to contact at least one new potential sponsor. This effort was coordinated by President elect Fechter and succeeded in obtaining a $5,000 sponsor for NACAA and a $5,000 sponsor plus over $10,000 in like kind support for the host state. Many new potential sponsors now know more about NACAA, and those relationships may develop into new sponsorship in the future.

Speaking of our host state, Tennessee, their success in fund raising enabled them to share and help everyone attending the 2018 AM/PIC. By covering the cost of the Sunday evening meal and portions of the spouses, life members and sons and daughters programs their generosity reduced the registration cost for all attendees. The time and effort invested by the Tennessee Association of Agricultural Agents and Specialists (TAAA&S) members is greatly appreciated and will ensure a successful and memorable conference. The 2018 AM/PIC theme of "Celebrate, Innovate and Cultivate" fits well in defining the many events and functions occurring this year in Chattanooga.

The 2018 NACAA AM/PIC will provide multiple opportunities for members to hear presentations from enthralling speakers and witness the presentation of awards to many of our peers. Everyone enjoys the fun educational parts of an AM/PIC like the opening entertainment on Sunday evening, the 4-H talent revue on Monday, the scholarship auction on Tuesday, the DSA banquet on Wednesday and the educational tours on Thursday.

There are some events at the 2018 AM/PIC which should NOT be missed. The two general sessions on Monday and Wednesday will be slightly different from past years. The keynote speaker on Monday morning is one you will want to hear. Dr. James "Pete" McConnell is an individual who grew up on a farm, participated in 4-H, spent his career teaching agriculture and will provide insights relating to who we are and what we do. Also during the Monday general session will be recognition of one life member who has reached a special milestone and the Hall of Fame Awards, where four individuals will receive one of our highest recognitions.

The Wednesday morning general session is half the length of previous years. However, it contains the presentation of the Service to American/World Agriculture award. Hearing the comments of past recipients of this award has often been a highlight of the entire AM/PIC. Learning of their accomplishments and knowledge of agriculture and Extension work is always impressive.

The shortened Wednesday general session provides time for an additional 24 breakout sessions for member presentations. This change enables a larger number of members the opportunity to be recognized as having presented at a national conference. For

members needing documentation for promotion and tenure, the additional presentation slots helps meet that need. Be sure to study the many presentations offered each day for those pertaining to your work and be sure to attend a few outside your normal area to challenge yourself and learn new things. Shortening the general session also reduced expenses and kept registration costs lower.

It is an honor and privilege to serve as the 100th President of NACAA. While the process of helping guide our association is at times challenging and time consuming, it is more than outweighed by the positives of being involved. I am forever grateful to the members of TAAA&S for nominating me and to all members of NACAA for the opportunity. The meetings attended and the friends made along the way has expanded my understanding of the challenges of NACAA members across this country and provided experiences of great value. I can only hope my efforts in each position I have served in part repays the many opportunities received. I look forward serving as the past president and continuing my support of NACAA and participating in the many programs available to all members.

I close with my favorite quote credited to Abraham Lincoln, "Whatever you are, be a good one". May the experiences you have this year take you from being a "good" NACAA member to a "great" one. I look forward to seeing everyone in Chattanooga.

President-Elect Richard Fechter Kansas

As NACAA President-Elect, it is my privilege to be able to work with Executive Director Scott Hawbaker on securing the many donors and sponsors of NACAA. As the President-Elect changes each year, the one constant in our association is Scott. He provides a consistent link between our donors and NACAA.

Our sponsors and donors are an invaluable component to the success of NACAA each year. Without their support, NACAA would not be able to highlight and recognize the excellent educational efforts of our members and provide the countless hours of professional development that members can receive at the AM/PIC.

A long-term relationship exists between some of our donors and NACAA. We have also had some new donors in the last few years and lost a few as well. In today's business world, agriculture businesses are continuing to consolidate and/or merge. This means there are fewer companies as potential donors. Also, these mergers have sometimes caused the current sponsorship to be reduced or sometimes eliminated. To try and offset some of this happening this year and in the future, President Galloway this year asked each NACAA Board Member to become more involved in the recruitment of potential donors and sponsors. Each board member was asked to contact three or four new businesses about potential NACAA sponsorship. The immediate impacts of this are not completely known at this time, but hopefully some seeds were planted, and new donors will come on board in future years. I want to recognize one new donor this year in Smithfield Foods. For this year, NACAA will receive over $132,000 in sponsorships and grants.

You as an NACAA member also have a role to play with donor development. Don't forget that every potential corporate donor decision-maker lives in some county agent's county! I challenge you to identify individuals in your community with whom you might develop a donor relationship with on behalf of NACAA. Don't forget about the financial incentives for NACAA members who are successful in this area. Outstanding donor support from our corporate partners is yet another dimension which sets NACAA apart from other professional organizations.

At the upcoming AM/PIC, please take a few minutes to go by the Exhibits and Trade Show and visit with the donors present in Chattanooga. I hope you take the time to make a new contact, learn something new, and build a stronger network while you are the NACAA AM/PIC.

In addition to working with donors, this year I had the privilege of working with the NACAA Leadership Scholarship Committee. Other members on the committee were Past NACAA Presidents Chuck Otte, Cynthia Gregg and Fred Miller. The idea of the NACAA Leadership Scholarship Program came from some Past NACAA Presidents. The committee was charged with laying the framework for this program and then transitioning it to the Leadership and Administrative Skills Committee for full implementation. As part of this program, this year at the AM/PIC, a panel discussion will be held on Sunday, 3:00 - 4:00 p.m. titled Growing Leaders - Developing the Leader in You. An excellent panel of leaders is planned to share their thoughts and ideas on leadership.

I have appreciated the opportunity to be part of the leadership team representing NACAA at several conferences this past year including the JCEP Leadership Conference in Orlando, Florida and the PILD Conference in Washington D.C. While at the PILD Conference, President Alan Galloway, Vice President Gene McAvoy, Northeast Region Director Craig Williams, and I had the opportunity to meet with several USDA and NIFA agency leaders. Some doors were opened for potential future work with FSA, NRCS, and others.

I look forward to seeing everyone at the 2018 AM/PIC in Chattanooga. I appreciate the opportunity to serve as your President-Elect this past year and thank you for the trust you have placed in me. Also, thank you to my Kansas colleagues for their support of my service to NACAA. This has been an outstanding year and wonderful experience serving as your NACAA President-Elect. The opportunity to follow in the footsteps of all the outstanding leaders of NACAA has had, and as your next President, will be a humbling experience, but one I am looking forward to.

Vice President Eugene McAvoy Florida

Looking back at my term as NACAA Vice-President this past year, some of the lyrics of the Rolling Stones hit tune "Jumping Jack Flash" play in my mind. It was "born in a cross-fire hurricane." It has been an amazing fast-paced year and it has been a "gas".

The past year has literally been a whirlwind of activity, as just a few short weeks after returning home from the 2017 AM/PIC in Salt Lake City, Hurricane Irma slammed into Florida running the length of the state, turning things upside down and causing 2.5 billion dollars of agricultural damage to Florida's farmers and ranchers. This changed our Extension routine to say the least, as we went 3 weeks without power and other essential services and quickly ramped up to serve as a local relief distribution center for food, water and other necessities.

Despite this distraction, I was able to fully embrace the duties of NACAA Vice-President. One of the major responsibilities of the office is to provide leadership and coordinate the work of the NACAA's three councils and 18 standing committees. The Vice President chairs the Executive Program Committee, which is made up of the three council chairs. It has truly been an honor to work with these hard-working and dedicated individuals - Brian Haller of Arkansas, Extension Development Council Chair, Sherri Sanders of Arkansas, Professional Improvement Council Chair, and Keith Mickler of Georgia, Program Recognition Council Chair.

Much of the committee workload begins and ends with the duties of the council chairs. They put in countless hours providing leadership and communicating with their respective committees for the benefit of our association.

I would also be remiss not to extend a great big thank you and recognize efforts of our 18 National Committee Chairs and 62 Regional Vice-Chairs who devote many long hours to ensure that NACAA continues to serve our members. As you know, NACAA committees are the foundation of our organization and account for the bulk of the work the association does on behalf of the membership. It takes a concerted effort by all of these talented professionals to ensure that NACAA continues to meet its mission of providing first-class professional development opportunities tailored specifically for agricultural Extension agents, recognizing and rewarding professional excellence among our peers and providing leadership development opportunities to our members.

Based on feedback from the membership and requests for additional time, President Galloway working with the Executive Program Committee and various committees were able to reconfigure this year's Annual Meeting program to make additional time for member presentations. These changes have resulted in an additional 12 hours of presentations for 24 additional presentations, substantially increasing the professional improvement opportunities available to members. Based on recommendations from committee, significant changes were also made by the Professional Improvement Committee to make poster submissions and abstracts better conform to the requirements of various universities for promotion.

We were also successful in advertising and promoting a call for nomination for the new JCEP Award for Creative Excellence, which will, recognizes one individual or team from NACAA for their unique contributions and innovative approach in addressing existing or emerging in an exceptionally creative or novel ways that get results.

I would like take a moment to recognize Sherri Sanders, who is completing her term as Professional Improvement Council Chair. Sherri has been a pleasure to work with and has been a great mentor. Sherri was key in helping update the Committee Handbook this past year. I am truly appreciative of Sherri's hard work and dedication in helping the Executive Program Committee stay on task while ensuring we all had fun in the process.

We will welcome Bill Burdine from Mississippi as the new Council Chair after the 2018 AM/PIC.

The past year has been a year of professional growth and development. I am grateful for having had the opportunity to be part of the leadership team representing NACAA at several conferences this past year including the Joint Council of Extension Professionals (JCEP) Leadership Conference in Orlando, Florida and the JCEP Public Issues Leadership Development Conference (PILD) in Washington D.C.

While at PILD, President Galloway, President- Elect Fechter, NE Regional Director Craig Williams, and I had the opportunity to meet with several USDA and NIFA agency leaders.

Many thanks to all the outstanding men and women who stepped up to volunteer for the many committee chair, vice chair and council chair positions to be filled this year. I would also like to express my gratitude to everyone who helped recruit committee leadership for the upcoming year; especially the council chairs and regional directors for their efforts to ensure all of our essential committee positions were filled by competent individuals.

This year at the AM/PIC, we will hold a NACAA National Committee Member Workshop and Luncheon on Sunday along with a NACAA National Committee Recognition Breakfast on Wednesday. If you are currently serving as a State Chair and will be attending the 2018 AM/PIC, mark your calendar for the committee workshops on Monday afternoon. Your input is valuable, and helps insure we continue to provide our members with relevant high quality presentations, posters, and awards in future years.

If you are not already on a committee at the state or national level, I urge you to consider stepping up and volunteering for a leadership position. The knowledge you will learn from participating on a committee will come back in the form of leadership development and knowledge of the importance of committees to making NACAA work. You will have opportunities to network and hear about Extension programs from other members nationwide. Many successful Extension agents can credit their success to ideas gleaned from programs they learned about through participation in NACAA. The experience and insights gained by involvement on a committee along with the desire to do more launched most of us currently serving on the NACAA board on our paths.

I am thankful for the opportunity to serve as NACAA Vice-President this past year and learn from the many dedicated and capable leaders within our organization. I would be remiss if I did not acknowledge my tremendous gratitude to my colleagues in Florida for their support and encouragement and the UF/IFAS leadership team for their support of my service to NACAA. It has truly been a privilege and an honor serving as your NACAA Vice-President. Thank you and I look forward to seeing all you all in Chattanooga, Tennessee at the end of July.

Secretary
Virginia Rosenkranz
Maryland

This has been my first year serving as the NACAA Secretary, and it has been amazing! I have learned so very much about how much work every NACAA Board member does.

As Secretary of the Association, my primary responsibility is to record minutes of the board meetings and other activities of the association and keep our membership informed through posting the minutes to the NACAA website. The board holds meetings prior to and after the Annual Meeting and Professional Improvement Conference. In addition, a winter and spring board meeting are held as well as monthly video conference calls. During the meetings I take minutes, but I also make audio recordings that I play back to try to capture details I may have missed. Draft minutes are reviewed by the board and then approved at a meeting that is at least 2 weeks after the board members received the draft minutes. After the minutes are approved by the board they are posted on the NACAA website. Links are also established to board documents. The board decided in 2010 to restrict access to association financial information and so these reports are not available through the website, but can be requested from the NACAA Treasurer.

The Association Secretary serves as the chair of the Internal Publications Committee. This committee is charged with oversight of the content of the NACAA website, *The County Agent* magazine and the Journal of NACAA. Lee Stivers has been a wonderful editor of the Journal of NACAA since 2015 when she worked with Stephen Brown his last year as the editor to learn more about the role. Lee took over as editor at the 2016 AM/PIC and has continued to do an excellent job. She has worked to keep the list of journal article reviewers current. She updated the article submission instructions and instructions for reviewers. The instructions include how to upload tables, graphics and pictures plus other tips to make submitting an article almost painless. The Journal of NACAA provides members an avenue to publish in a peer-reviewed journal, and is an opportunity to share program and research results with our membership.

has been an honor to serve the membership of NACAA and I look forward to seeing you in Chattanooga in July!

Treasurer

Lenny Rogers

North Carolina

I have truly enjoyed serving as your treasurer this past year. It has been challenging, but rewarding at the same time. The position did take me a on a steep learning curve at first. But by jumping in and learning the multiple investment, PayPal, CD, money market, and checking accounts and the complicated NACAA coding scheme for well over a thousand Quick Book transactions we conduct each year, I've leveled out the climb. After my first month or so, things have flown smoothly.

I do assure you that our National Association is in good financial order. We have a wide diversity of accounts that give us stability and the National Board is currently making wise spending decisions. Also, those of us on the Fiscal Committee recently negotiated a new proposed 5 year contract with our Executive Director that will keep him on board to help run our organization on a day-to-day basis for years to come.

Our income sources are steady with strong membership dues, AM/PIC registration and National Donors/ Sponsor incomes. I have recently managed to secure a new on-going National Sponsor from here in North Carolina, that being Smithfield Foods Inc. I encourage you to seek our other potential National Sponsors in your state. You may be surprised at what you find!

I want to thank my own state association, NCACAA, for their support and encouragement through this process. Also I wish to thank the North Carolina Cooperative Extension Administration and my County Administration for their support. With this, I hope to serve you with continued hard work and integrity in this position for two more years if re-elected.

If you have any questions about NACAA's financial status or questions on our financial operations, look me up at the AM/PIC or e-mail me at lenny_rogers@ncsu.edu . I will be glad to be transparent about our finances at any time.

Past President

Mark Nelson

Utah

It has been an amazing experience to serve in a leadership role for NACAA the past four years and I thank all of you for giving me this great opportunity. Janet and I met many wonderful people during the past 4 years and we will treasure the wonderful experiences which we have had during this time. Serving in this role has given me an even greater appreciation for the great work that each of you are doing in Extension in your home state. It has also made it possible for me to develop close friendships with many great people. Those friendships are priceless.

Serving the association as western region director and in the presidential rotation has been the most thrilling time in my career. NACAA has so much to offer those who chose to get involved in our association. I am amazed how quickly the time has passed but grateful for the opportunity to experience so many educational, entertaining and once in a life time experiences.

While serving as your Past President this year, I had the privilege to represent NACAA at several national events. The most rewarding activity was my opportunity to serve as judge for the National Outstanding Young Farmer program and delivering a keynote speech at their annual meeting in Sacramento, California. NACAA plays a vital role in this program by members submitting young farmer nominations from across the nation. I was also able to represent our association at the National SARE Conference, "Our Farms Our Future" held in St. Louis, Missouri in April of this year. This conference is only held once every ten years and over 950 farmers, Extension professionals and others attended the conference. We all learned a lot about how to be more sustainable.

Representing NACAA at the national meetings of other Extension professional associations such as ESP in Wilmington, North Carolina and NAE4HA in Indianapolis, Indiana allowed me the opportunity to share information about NACAA with our sister Extension professional associations.

Finally I want to thank Utah State University, USU Cooperative Extension, and my colleagues with the Utah Association of County Agricultural Agents for their continuous support during my tenure on the NACAA Board. I am most grateful to them for putting on a "world-class" NACAA AM/PIC in Salt Lake City, Utah in 2017. It was a great opportunity to show of our great state. I encourage each of you to seek opportunities to serve as committee chairs and officers in your state and in NACAA. Remember the more you put into your state and national associations the more you will get out of them. You truly do get back even more than you put in.

Policy Chair Stan Moore Michigan

As I write this I'm just wrapping up a fishing experience on the Au Sable River in Grayling, Michigan. The river is referred to by some as the Holy Grail of trout rivers, and we weren't disappointed. The beauty, fishing, and overall experience is sought after by many anglers. But having this kind of top level experience doesn't just happen. Rules (or policies) have helped to keep the river experience sustainable for past, current and future generations. For the section of the river that we were fishing the policies included "fly fishing only" and "catch and release". While these policies may not be popular with every angler, they help to ensure that the "mission" is fulfilled.

Just as the Au Sable River is an exceptional trout stream, I believe that NACAA is an exceptional association with a lot to offer to those that choose to be involved. NACAA's Mission statement includes the important aspects of: furthering professional improvement of its members; furthering communication and cooperation among all Extension educators; providing for enhancement of the image of Extension; and the development of personal growth opportunities for Extension professionals.

Policies are an important part of helping NACAA meet its mission and the goals associated with it. Policies also provide an important framework so that all members can understand how things work within the association, and thereby navigate the waters on sure footing. Each member can expect that they will be treated fairly and have an opportunity to participate fully in the mission of NACAA. Without policies, each decision would be made on a case by case basis with little assurance of what the outcome would be, and it would become an exercise in who or what you know.

The Policy Chair position, along with the Policy Committee, brings a historical perspective to the board as to why the current policies are in place, and their intended impact. More often than not, policies don't undergo major changes, but procedures may change to match current situations. Procedures are how we carry out the policies. To continue my Au Sable analogy, the policies of fly fishing only, and catch and release are not likely to change, but the opportunity to improve the experience is always on the minds of those managing the river and those experiencing it. GPS technologies help us take full advantage of access points, areas to portage around, and favorite fishing holes. It may also point out areas that you might find yourself taking an unexpected, refreshing swim. The game of choosing just the right fly, for just the right situation continues to advance… making fly shops very happy. Fishing nets have also improved, helping to increase the chance of survival for fish that are released back into the water. Many of these improvements rely on the "fishing community" providing their free input into the "knowledge database".

Back to NACAA. Fulfillment of our mission and goals as an association are important to all members. They help us to become better agents/educators and ultimately benefit our home state universities and our clientele. Through the NACAA website, members have access to learn about and understand the policies that provide a framework for our organization's decision making. To that end, we have recently updated the format of the NACAA policy handbook, as well as the content of chapter 7 "Annual Meeting and Professional Improvement Conference". The handbook now has a table of contents that is linked to each section, so that you can easily navigate your way through the document. If you download the pdf of the handbook, you can also turn on "bookmarks" to allow you to jump back to the table of contents from wherever you are in the document. Finally, searching for keywords is easy to do through the "edit/find" features of Adobe Acrobat.

Learning about the organizations mission, goals and policies affords each member the opportunity to gain the most from the association, and the opportunity to contribute to its continued success. Members provide critical input to the "knowledge database" that will help NACAA continue to be relevant to the needs of its members. Input can be made through NACAA committees, State leadership, or through National leadership. Your current Policy Committee members are: Fred Miller, Rick Gibson, Phil Pratt, Stan Moore, Paul Wigley, Paul Craig, Henry Dorough, Mike Hogan, Cynthia Gregg, and Mark Nelson.

We welcome your input into developing policies and the procedures, that might just be the next "best fly" or "best net" ever, to this great National Association of County Agricultural Agents.

North Central Region Director Connie Strunk South Dakota

As I sit back and reflect on my first year as the North Central Region Director I am humbled with the amount of personal growth and professional opportunities that I have been blessed to be a part of within our organization.

I have had the opportunity to visit with many NACAA members within our region. I have had the privilege of attending, participating, and presenting at the state meetings in Indiana, Iowa, Kansas, Michigan, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. I need to thank the Illinois Association for being flexible and allowing me the opportunity to Skype in to attend their meeting electronically. My schedule did not allow time for an actual face-to-face visit this year. Rest assured, I will try hard for a face-to-face visit this year. For all you Minnesotans reading this, I will be visiting with you at the end of June at your summer meeting.

Each state visit was both a unique and rewarding experience as I represented the national association bringing forward information and issues of concern. I strived to make honest and open communication and interacting with our members a very important part of each of my visits. I also spent some time encouraging diversity within our organization not only focusing on gender and race but also encouraging representation from all states within the region. I really enjoyed representing NACAA at each business meeting and being put to work.

I had the pleasure of attending the JCEP Leadership Conference back in February. While there, I was able to visit with many of our state association's leaders. I am hopeful we can continue with open communication and embrace change in a positive light no matter the size of the issue or concern.

In order for our NACAA Association to grow and stay relevant we have to be willing to try new things and accept that change is needed. Robert C. Gallagher stated, "Change is inevitable-except from a vending machine". This change starts with each and every one of us. We as an association need all NACAA members to step out of their comfort zone and participate. Whether that is by submitting an abstract for a presentation or poster, applying for communication or search for excellence awards, serving on the many different NACAA committees both within your State Association or on the National Association level, become a SARE Fellow, attend the National Meeting and pre-tours, utilize those scholarship funds, or write an article for the Journal of NACAA! I have found you get out of this organization what you put into it. So what's stopping you?

I would be remiss if I didn't take the time to thank those who love, support, and encourage me to follow my heart and my passions. I need to extend a huge thank you to my husband David who has been holding down the home-front and doing a wonderful job while I have been gone! I also want to thank my children, Benjamin, Ada, Gunnar, Cora, Weston, and Zachary for your understanding and patience while I have been away. I would also like to express my gratitude to the South Dakota Association and the North Central Region for allowing me this wonderful, once-in-a-career opportunity.

In closing, always remember "If nothing ever changed, there'd be no butterflies". If you ever have any questions, comments, ideas, etc. please feel free to reach out to me. This past year has both been an honor and a privilege. I am looking forward to serving one more year in this role. For those of you who can make it—see you in Chattanooga!!

North East Region Director J. Craig Williams Pennsylvania

Greetings from the North East Region. Our region has 240 plus members of very diverse county agent backgrounds. We cover from the mountains and farms of WV to the long, flat fields of Maryland and up through PA and NY. We have diverse agriculture markets in NJ reaching to the mountains again in New England and Maine. Across the area are the extension agents of NACAA. In each state, we see extension programs and county agent activities that benefit our communities. Every state has challenges and has a dedicated county agent association to help with these challenges.

As the regional director, I have the opportunity to visit with each state's members during their home state association activities. Every state that I have visited provided great hospitality. I was very interested to see my colleagues in their local activities and local tours. My state tours included local agriculture and small business operations, seeing educators present individual professional in-service topics; tours of new technology or new farming practices. Each state has a different professional association meeting setting. It is a great opportunity to learn from each educator on their subject or project.

One of the major benefits of belonging to the NACAA is that you can meet county agents from across your region and across the country. This is a great privilege of attending the February JCEP or the April PILD conferences. Both of these meetings provided excellent speakers on leadership and topics of national benefit. PILD hosted a great presentation from congressional staffers on how to make Capitol Hill visits and meet your legislators. The PILD conference only happens with an active committee of all the association's leaders.

I encourage all NACAA members to look at any upcoming committee and council leadership positions as they open in your region.

I want thank my fellow PACAA colleagues for their support as the North East Region director and Penn State Extension in our association activities.

Southern Region Director

Bill Burdine

Mississippi

"Time stops for no one" is an old saying that takes on more meaning as we grow older. My kids are becoming adults, retirement is just around the corner and my only hairstyle option left is bald. As I look back, I wonder where the time went. I hope I made enough good memories and helped enough family, friends and clients. I hope I leave NACAA as well or better than I found it.

My time as Southern Region Director is concluding but I've made memories and friends that will stay with me always. One example is some old, decrepit, salty, retired county agents from Texas. I won't mention Warren's or Joe's names, but we became friends years ago at an AM-PIC. Now we follow each other on Facebook to keep up. I mention this friendship because when my flight landed for the Texas state meeting, I was surprised at the airport by these retirees holding a pink welcome sign. Talk about making a person feel special! Retirees are not getting paid to be there. They came because we are friends and that feels good. I realized right then that I've got friends all across our great country. That makes Extension and NACAA special.

NACAA allows us to serve on regional and national committees, present to our peers, win awards and learn how to serve our clients better and faster using scientifically proven methods. At state meetings I attended, I told our members that it's the little things at AM/PIC that helps me the most. I have never been hit with some great epiphany but I pick up lots of little gold nuggets. Some nuggets deal with how we do things differently (some things work well, some don't). Other nuggets deal with how to advertise or evaluate a program. My most-prized nuggets come from member presentations at AM/PIC when I realize how I can use their experience or idea to create a 'better' program for my clients. These nuggets make me wonder why all Extension agents haven't joined our ranks.

I was honored to represent the Southern Region on the National Board. I voted on policy and procedure. I traveled the Southern U.S. visiting with our membership. Puerto Rican agents welcomed me in and we developed friendships despite the language barrier. I was given kudos from my administrators for my national service. All of these are nice things but in the end it's the friendships that mean the most. Another saying is "You only get out what you put in". This is true. I ask you to put some effort into NACAA and you'll be rewarded ten-fold with information and friends.

In closing, I thank MACAA and the Southern Region for giving me this opportunity and I appreciate all our members who make NACAA a family-oriented, professional association that serves to improve our skills. After all, our professional careers are all about serving others.

Southern Region Director

Andy Overbay

Virginia

As I bring my first year on the National Board to a close, I want to first acknowledge my colleagues in Virginia for giving me the opportunity to serve and represent them. I am always amazed by the talents and abilities that are on display when Extension folks gather and work towards a common goal. As much as we hear about all the social ills of our society, Extension reassures me that good people are everywhere.

My wife and I attended our first AM/PIC in 2002 when the Georgia Association hosted in Savannah. From that experience, we realized that we had found another family among NACAA members and spouses; I know that many of you share this experience. My

hope is that those of you who are searching for such a family find one with NACAA as well.

It was fitting that my first state visit brought me back to Georgia. I thoroughly enjoyed their 2017 meeting in Columbus and once again, I was inspired by my experience there. I had the privilege of hearing Georgia Commissioner of Agriculture, Mr. Gary Black deliver the keynote address at their banquet. Commissioner Black delighted the audience with stories and he shared a great message about the power of words in our daily lives. He stated that he demanded that his employees NEVER use the phrase, "I'm sorry" when speaking to clients. Instead, he directs them to say, "Please forgive me." The difference is that saying "I'm sorry" ends the conversation without any acknowledgement of the offense nor does it require any action as a result. Asking for forgiveness, empowers the person who is injured . They have an acknowledgement of your empathy and also allows them to act on their feelings in a positive way….a way that moves both of you forward.

I have come to the same conclusion in dealing with the issue of asking agents and specialists to join our State and National organizations. I now ask members to become an active part of NACAA and their State Associations. If we ask others to simply "join" and they do, they have fulfilled their commitment and thus lead them to ask "ok, now what?" By asking others to become an active part of our organizations, their membership is only the first step in their personal journey as an engaged member.

One of my favorite analogies regarding explaining the Extension office and what we do involves a common item that many of you have in your home, office and most likely in your vehicle. What is something that most everyone has in their home that uses has shares the word "extension" in its name? "An extension cord" comes to mind quickly. The Extension office is not unlike an extension cord. We "extend" the power of research-based information from our Land Grant Universities out into the communities we serve. We empower our clients with the "power' of the University as if they were within reach of the campus itself.

Like an extension cord, Extension offices only work if they are plugged in…..plugged into the community and plugged into the University. Likewise, our Association works best when members are plugged in and fully empowered. Please consider this when you are evaluating your involvement in your State Association and NACAA. There are many opportunities to serve and find your family right here in NACAA. You are empowered when you are plugged in as a fully engaged member and our Association is more empowered with the addition your time, talents and leadership.

Western Region Director

Stephen Brown

Alaska

What an honor it has been to serve my two terms as the Western Region Director. When I started my Extension career in 1992, it was unthinkable to me that I would ever be on the NACAA national board. I was told by my first County Extension Director that active participation in NACAA would do great things for my career and that has turned out to be very true.

Over the last two years I have made many new friends and have met some truly amazing up-and-coming future leaders. The diversity of programming I have gotten to witness is unbelievable. Extension really does have a huge impact on people's lives.

I was told that being a Regional Director is the best board position to have and that has turned out to be true. The challenge has been the long distances I must travel when coming from Alaska. A visit to any state almost always starts with a middle of the night flight out of Anchorage (usually between midnight and 3 am.) It could be worse…I could be from Hawaii where the travel distances are even greater.

I was very fortunate to attend two outstanding association meetings in Wyoming and Utah. You would think an Alaskan would be use to blizzards, but the one I endured trying to get Wyoming to the Denver airport was one of the fiercest I've ever experienced. In Utah it was really heartening to see the esprit-de-corps exhibited by their association!

The Western Region is the only NACAA region that conducts its own Professional Improvement Conference. This past year's meeting was in Albuquerque, New Mexico. Many kudos go out to the New Mexico Association for conducting an outstanding meeting. The Western PIC is a great alternative to the National AM/PIC and especially for those on a tight budget

I finally got to attend the Joint Council of Extension Professional (JCEP) in Orlando, Florida. It was an outstanding experience that I highly recommend to any Extension professional. There is talk of breaking up the JCEP program and conduct regional JCEP's. We may know more by the time the AM/PIC rolls around.

In closing, I would like to thank all of the Western Region members for their support. It has been an honor to serve you. I hope to see you in Chattanooga!

Professional Improvement Council Chair Sherri Sanders Arkansas

The Professional Improvement Council (PIC) is one of the three Councils that make up the committee structure of NACAA. The purpose of this council is to further the professional improvement of our members. The Council consists of six committees: Agricultural Economics & Community Development, Agronomy & Pest Management, Animal Science, Horticulture & Turfgrass, Natural Resources/Aquaculture and Sustainable Agriculture.

The educational activities consist of presentations, educational tours, and super seminars planned for AM/PIC. One of the greatest attributes of the NACAA AM/PIC is that most of the presentations given are by other agents or specialists from across the country. Not only is this advantageous for promotion in rank for the presenter, it is "real –world" useful information that other participants can take home, modify and use in their own area of work. Between the member led presentations, pre-tours and super seminars planned, everyone will have ample opportunities to experience a wide variety of topics.

The Animal Science, Horticulture and Turfgrass, and Natural Resources committees have planned educational pre-tour opportunities. All six of our committees will offer "top-notch" member led presentations. Please refer to the schedule and plan to earmark the ones that interest you. Our schedule allows you to move from room to room with ease to enjoy a number of presentations in different disciplines. The Agronomy and Pest Management Committee will be conducting a Super Seminar – Small Unmanned Aircraft Systems in Hall C, on Wednesday 12:30 to 4:30.

NACAA is an organization with numerous opportunities for professional development and leadership. One method of involvement is through the committee structure, which provides a way for members to share their talents for the benefit of NACAA. This next year, I encourage you to try something new with NACAA, apply for a committee position, participate in a pre-tour, apply to be a presenter, apply for an award or perhaps put your hat in the ring to become a SARE Fellow!

Finally, with sincere gratitude, thank you to the committee chairs, vice chairs and state chairs. I truly appreciate your hard work and dedication. My sincere appreciation is extended to Gene McAvoy for his leadership.

Agronomy & Pest Management Chair Aaron Esser Washington

I'm Aaron Esser with Washington State University Extension and the Chair for the Agronomy and Pest Committee and the Western Region representative. Our Southern Region committee member is Robert Goodson, University of Arkansas Cooperative Extension, our Eastern Region committee member is Jim Lewis, University of Maryland Extension and our Midwest Region committee member is Ted Wiseman, Ohio State University Extension. This has been a great year for the Agronomy and Pest Committee and we are looking forward to the upcoming 2018 AM/PIC in Chattanooga, TN. We have 25 presentations on Tuesday afternoon and Wednesday morning over a variety of topics that we are excited about. On Wednesday afternoon we have organized a Super Seminar from 12:30 pm to 4:30 pm entitled Drones for Agricultural Users: Risk Management. This seminar will focus on risk-based trainings for current and future commercial users of this emerging technology. The workshop will include presentations on aircraft systems and a workflow demonstration. It will be taught by Dr. James Robbins, University of Arkansas Cooperative Extension Service, Extension Specialist and his team.

Ag Economics & Community Development Chair Richard Brzozowski Maine

The Agricultural Economics and Community Development committee is pleased to offer professional improvement opportunities for NACAA members. This year's AM/PIC will include a full day of member presentations on Tuesday, July 31, 2018 when a variety of topics important to Extension professionals will be made. Each presentation will be 20 minutes in length with 5 minutes for questions.

The following presentations are scheduled.

- Katie L. Wantoch, University of Wisconsin Extension; **Supporting Farmers by Educating Agricultural Professionals**
- Caleb M. Carter, University of Wyoming Extension, **Ag Legacy – Helping Agriculture Nurture Its Legacy**
- Jessica Sullivan, University of Florida IFAS Extension, **Protecting the Future of Agriculture Through Conservation Easements**
- Christopher Prevatt, University of Florida, IFAS Extension, **An Economic Assessment of Southern Cow-Calf Producers Wintering the Cowherd**
- Christopher Prevatt, University of Florida, IFAS Extension, **An Economic Analysis of Grazing Cool-Season Annual Forages in the Southern U.S.**
- Hal Pepper, University of Tennessee, **Providing Educational Opportunities for Tennessee Farmers Markets**
- Eric E. Barrett & Robert Leeds, Ohio State University Extension, **A New Process for Developing a Customer Service Plan for Direct Agricultural Marketing**
- Daniel L. Welch, Cornell University Extension, **New Farmer Profit Teams for Advanced Beginner Farmers**
- William D. Lantz, University of Maryland Extension, **Improving the Food System Through the Western Maryland Food Council**

In an effort to encourage more applications addressing community development, Jody Gale, Utah State University Extension & Richard Brzozowski, University of Maine Cooperative Extension, will facilitate an un-conferencing session (interactive discussion) titled **How Does Community Development Relate to Agricultural Extension?** This presentation is scheduled in the last slot of the day.

The committee hopes you will find all of these presentations interesting and useful in your own Extension efforts.

New This Year - With the help of former committee member, Megan Leffew Marketing Specialist with the University of Tennessee Extension, the committee has planned a special professional development tour scheduled for Thursday, August 2. This day long tour, Tour 26, will focus on concepts, strategies and resources for agents working with farmers on agritourism, direct marketing and value-added agriculture. Three Tennessee farms will be featured.

Special Thanks – We are grateful to Dr. Laurence Crane and the National Crop Insurance Services based in Overland Park, Kansas for sponsoring the efforts of this committee.

The members of the Agricultural Economics and Community Development Committee are: National Chair and Northeast Region Vice Chair – Richard Brzozowski, ME; North Central Region Vice Chair – David Bau, MN; Southern Region Vice Chair – Amanda Smith, GA; and Western Region Vice Chair – Jody A Gale, UT.

Animal Science Chair Jerry Brown Kentucky

Animal Science Committee

Committee Members:

Chair: Jerry Brown, KY

Northeast Region Vice-chair: Elizabeth Claypoole, NY

North Central Region Vice-chair: Chris Penrose, OH

Southern Region Vice-chair: Rex Herring, AR

Western Region Vice-chair: Kellie Chichester, WY

Each year the Animal Science Committee is responsible for planning and conducting the two-day Pre-AM/PIC Animal Science Seminar and Tour. This is a tremendous professional improvement opportunity for our members and a great way to network with colleagues from across the country

having similar interests.

The 2018 Pre-AM/PIC Animal Science Tour is scheduled for July 26-28 2018. Dr. Jason Smith and several agents from Tennessee have a great tour planned for this year's meeting. The tour will begin in Memphis, travel across the state, and end in Chattanooga. Tour highlights include; Ames Plantation, Tosh Farms, Robert Elliott & Sons Angus, Columbia Livestock Center, Tennessee Livestock Producers, Inc., Sweetwater Valley Farm and several other interesting stops along the way.

This year's tour will have 23 participants from 15 different states. Thanks to all the tour stops and to our sponsors for their vital role in making the tour possible.

In Chattanooga, you will have the opportunity to hear about some successful Extension programs and research being conducted by your peers. There will be 14 presentations offered during the Animal Science Professional Improvement Seminars on Tuesday afternoon and Wednesday morning of the AM/PIC. Presentations will cover beef cattle, dairy, equine, small ruminant and forage topics. Be sure to review the AM/PIC Program when you arrive in Chattanooga so you can find the time and place of the presentations that interest you. I'm confident you will learn something that can be used in your programs when you return home.

The Animal Science committee has made arrangements with the American Registry of Professional Animal Scientists (ARPAS) to offer certification exams during the AM/PIC on Wednesday afternoon. Thanks to Karl Hoppe for helping to coordinate this service for our members. Contact any member of the Animal Science Committee for more information. In addition, seven ARPAS continuing education units (CEU's) have been approved for those who attend Tuesday and Wednesday Animal Science seminars.

Please join us for the Animal Science Committee meeting on Monday afternoon. We will be planning the committee's activities for 2018-2019. Input from NACAA members is critical to insure that committee activities are meeting the membership's needs. We invite you to be part of the planning process by attend the committee meeting.

It has been a privilege for me to be a committee chair and serve the NACAA membership by planning some of this year's professional development opportunities. Thank you to the committee vice-chairs. Each of you contributed during committee discussions and helped guide decisions that will make the 2018 AM/PIC in Chattanooga a great professional development experience for NACAA members. Thanks!

Pat Rector-Woods Committee Chair, Northeast Region, New Jersey

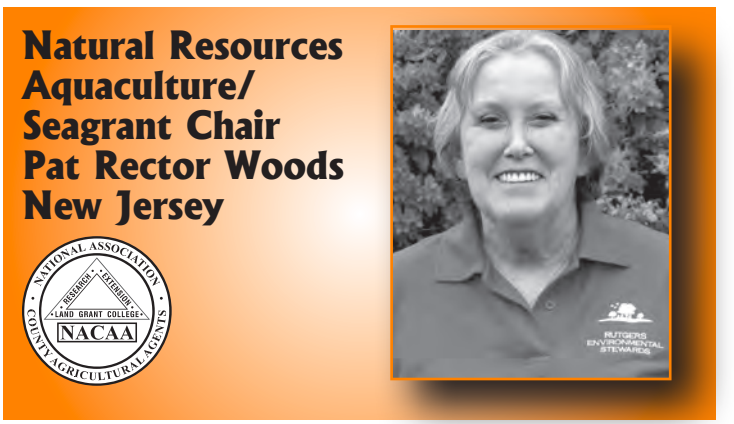
Todd Lorenz, North Central Region, Vice-Chair, Missouri

Darren Snyder, Western Region Vice-Chair, Alaska

Jessica Kate Warren, Southeast Region Vice-Chair, Georgia

The Natural Resources/Aquaculture Committee is looking forward to continuing our work on Invasive Species and moving forward with other focused ideas. We will meet at the AM/PIC on Monday, July 30 from 1:30 – 2:30 PM. We welcome your input, so please check the schedule and plan to join us during our committee workshop.

The Natural Resources and Aquaculture Committee is excited about the wonderful selection of presentations coming to Chattanooga this year. We have drought adaptability in the southwest to green infrastructure in the northeast, Hardwood Plantations in Mississippi and BeeKeeping Networks in Kentucky; all in all we have a wonderfully diverse and excellent line-up scheduled for Tuesday afternoon (1:30-4:30) and Wednesday morning (9:30-11:30). Be sure to check out our presentations.



Our Natural Resources Pre-Tour is filled to the brim with NACAA folks and family excited to see what Tennessee and Georgia have to offer. We will be enjoying Tennessee's South Cumberland State Park and several of Georgia's beautiful and educational spots ending with a dinner at Carter's Lake in the Blue Ridge Mountains.

If you are interested in learning more about our committee or taking a more active role please join us on Monday July 30th at 1:30. See the conference agenda to find out which room.

Horticulture & Turfgrass Chair Karla Kean Tennessee

Committee Members:
Karla K. Kean, Committee Chair
Patrick L. Byers, North Central Committee Vice-Chair
Cyndi K. Lauderdale, Southern Committee Vice-Chair
William Sciarappa, Northeast Committee Vice-Chair

The Horticulture & Turfgrass committee have joined forces to develop a slate of 17 excellent presentations related to Extension Horticulture programs during the AM/PIC in Chattanooga, TN. There will be four professional improvement sessions offered on July 31st and August 1st, 2018. The topics vary from volunteer management to research and general horticulture.

Additionally, this team as well as Karla Kean and a group of agents from Tennessee have worked hard to prepare the PRE/AM/PIC Horticulture & Turfgrass Pre-Tour which will enable participants to gain insight into horticulture in Tennessee. Thanks to funding by the Tennessee Association of Agriculture Agents and Specialists, this tour is fully funded for 2018. The tour will begin on Friday, July 27 at 7:00 am with breakfast at the convention center in Chattanooga. The bus will depart Chattanooga at 8:00am.

Stops on the pre-tour include: Tennessee State University, Otis L. Floyd Nursery Research Center in McMinnville, TN, Wooden's Apple House in Bledsoe County, UT Turf Research Plots, Lake Shore Park, and Tsali Notch Vineyard.

We cannot thank our sponsors, TAAA&S & Nick Gawel with the Tennessee State University, Otis L. Floyd Nursery Research Center enough for sponsoring this tour. I also want to thank my Tennessee cohorts for jumping in with energy and enthusiasm to highlight some great agriculture in our state.

Please join us on July 30th from 1:30 -2:30 pm for the Horticulture and Turfgrass Committee meeting where we will discuss horticultural issues, introduce the new committee members and begin planning for 2019. The committee also thanks everyone who has helped make these educational opportunities possible including state chairs and the NACAA leaders and especially Sherri Sanders and Scott Hawbaker who have had to deal with this "newbie" for the past year!

Sustainable Agriculture Chair John Porter Nebraska

Committee Members:

John Porter, Committee Chair and North Central Region Vice-Chair, Nebraska

Michelle Infante-Casella, Northeast Regional Vice-Chair, New Jersey

Matt Palmer, Western Regional Vice-Chair, Utah

Debbie Roos, Southern Regional Vice-Chair, North Carolina

It has been exciting getting started in my first year as a national committee member and national committee chair for the Sustainable Agriculture Committee. It has been both an enjoyment and a learning experience for me personally. I would like to express my appreciation to the vice-chairs, Professional Improvement Council Chair Sherri Sanders, and NACAA Executive Director Scott Hawbaker for their guidance, leadership, and patience.

First, I would like to invite attendees of the AM/PIC in Chattanooga to join us for the Sustainable Agriculture presentation sessions. This year our two sessions are on different days, making it easier for you to attend sessions without having to pick and choose between sessions. We have a great diverse offering of presentations across multiple facets of agriculture this year. Tuesday afternoon sessions range from food system training, urban producer capacity building, climate scenario planning, beef herd health, and the SARE Fellows program. Wednesday morning sessions include winter honey bee management, breed origin considerations for goat management, GPS assisted grazing management, and leading farm tours for professional and producer development.

Our committee is also charged with the selection of fellows for the NACAA/SARE Fellows program. Speaking as a SARE

Fellow, I can say that this program is one of the most impactful development opportunities I've experienced in my

nearly ten years in extension. The two-year fellowship involves intensive tours of a vast array of farms and training over four site visits, one in each region. Last year the Fellows program allowed participants to explore sustainable agriculture in Texas and North Dakota. Fourteen applications were received and nine were selected as state winners and forwarded to consideration by the chairs. We are pleased to welcome these four new fellows to the program that will begin their experience in 2019:

North Central – Claire Strader, Wisconsin

North East – Nicole Santangelo, Pennsylvania

Southern – Jessica Kelton, Alabama

Western – Kathleen Painter, Idaho

To learn more about the program and meet Fellows past and present, consider attending the SARE Fellows experience session during the Sustainable Agriculture talks on Tuesday afternoon at the AM/PIC. This presentation will feature three of the graduating Fellows and their experiences in four different states (Idaho, West Virginia, Texas, and North Dakota). We also invite you to consider applying for the program next year.

Our committee will also be offering the "Reading the Farm" super seminar and tour at this year's AM/PIC. The Reading the Farm method provides a framework for assessing the sustainability of farms and providing valuable feedback to producers to improve production, profitability, and ensure long-term success. The tour for this program will take participants to Flying Turtle Farm, a diversified operation producing beef, pork, and vegetable crops for the owner's local restaurant chain, Lupi's Pizza. As part of the program, participants will prepare a report to deliver to the producer and their staff on the current state of their sustainable practices and areas where they can improve to improve success. Unfortunately, the Sustainable Agriculture pre-tour our committee planned was canceled due to not meeting our registration threshold. We hope more attendees will consider the sustainable agriculture pre-tour in the future.

We always want to thank the SARE (Sustainable Agriculture Research and Education) program and their associate director Kim Kroll for sponsoring the SARE Fellows program, the Reading the Farm seminar and tour, the Sustainable Agriculture professional improvement tours and pre-tours. Much of our work would not be possible without the generous support of SARE.

Extension Development Council Chair Brian Haller Arkansas

The Extension Development Council's (EDC) committees – Leadership and Administrative Skills, Agricultural Issues and Public Relations, Early Career Development, and Teaching and Educational Technologies – help members improve their skills related to the art and science of extension practice. This focus on skills and methodologies to conduct extension work effectively makes NACAA unique from other subject-specific professional organizations.

The Council's efforts at the 2018 AM/PIC include informational seminars on Tuesday morning, July 31st. The presentations are part of four concurrent sessions featuring 12 hours of training. There are some great and diverse topics that have been accepted. Agricultural Issues and Public Relations has planned a super seminar regarding Hemp, Future of Beekeeping and IR-4 Project. We hope you will join us!

Over the year, educational programming extended beyond AM/PIC through three webinars. The Early Career Development Committee offered a "First Timers Webinar" in April. Teaching and Educational Technologies offered a "Time-Lapse Photography" and "Decision Making Tools". These sessions are archived and available for those who missed the live broadcasts (see the NACAA website for the URL).

NACAA is only as good as its committees, so I encourage NACAA members to increase your participation in the Extension Development Council's activities, and offer guidance and ideas on how we can better to serve your needs. Please share any ideas with your State Committee Chair or Regional Committee Vice-Chair, or attend out Committee Workshops on Monday afternoon, July 30 at the AM/PIC.

I appreciate our committee chairs, regional vice-chairs and state chairs as well as Vice President McAvoy for their individual and collective leadership and guidance during the past year.

Agricultural Issues & Public RelationsChair Craig Askim North Dakota

The Agricultural Issues and Public Relations Committee has been preparing for the 2018 NACAA Conference in Chattanooga, TN. Nine speakers have been invited to speak at our sessions Tuesday and Wednesday mornings. We have a great line-up of speakers who will focus on topics including: local foods, fertilizer applicator certification, contingency planning, building healthy soils, respirator fit test trainings, beef quality assurance, Food Safety Modernization Act (FSMA) Produce Safety Rule, monitoring E. coli, and grazing consolidations. I hope you will join us for these sessions as they are filled with important information relevant to your producers.

The committee has also been preparing a super seminar for Wednesday afternoon of convention. The seminar will focus on three main topics the committee identified as current and public issues. M.L. Robinson, an Environmental Horticulture Specialist from the University of Nevada, will speak on "Hemp, an Old Crop for a New Time". The second presenter will be Dr. Keith Delaplane, an entomology professor at the University of Georgia, who will speak on the "Future of Beekeeping". The final presenter at the super seminar will be Dr. Jerry Baron, Executive Director of the IR-4 Project. The IR-4 Project is national in scope and conducts research at 21 field research farms and five analytical laboratories to facilitate the registration of conventional chemical pesticides.

Finally, I offer my appreciation to the Agricultural Issues and Public Relations Committee members and Brian Haller, our Extension Development Council Chair. They have been incredibly helpful and responsive in our collaborations to organize programs. We look forward to seeing everyone in Chattanooga!

Early Career Development Chair Emily Adams Ohio

First of all many thanks to the service and leadership of my colleagues on the Early Career Development Committee this past year:

Ed Martin, University of Arizona Cooperative Extension

Nick Simmons, University of Florida Extension

Greg Straight, Penn State Extension

The focus of the Early Career Development Committee is to develop professional improvement opportunities that assist members with early career development. The education provided typically involves tools and resources to help an early to mid-career employee succeed. Presentation at past conferences have included mentoring, promotion, work/life balance, and publishing in Extension and other professional journals.

One of the educational programs developed by the Early Career Development Committee is educational sessions at the 2018 AM/PIC in Chattanooga, TN. Three abstracts from members have been accepted for presentation on Tuesday, July 31 from 8:30 – 11:30 am. These topics are applicable to more than just early career professionals. Following is a list of accepted presentations:

Top 10 Goals for Educators Within Their First 5 Years

Heidi M. Lindberg, Michigan State University Extension

You, Too, Can Publish an Article in the Journal of NACAA

Lee Stivers, Penn State Extension

Utilizing Traditional Newsletters to Aid in the Establishment of Relationship and Program Awareness for Young Agents

Kalyn Waters, University Of Florida Extension

The other main product of the Early Career Development Committee was the NACAA AM/PIC First Timers Webinar held on Monday, April 2, 2018. The purpose of this webinar was to better prepare participants for the 2018 AM/ PIC by reviewing the conference program, logistics, and the registration process. Approximately 35 participated in the live presentation and the presentation was also archived and has had 149 views since posted. We appreciate that the AM/ PIC Planning Committee members and First Timer Co-Chairs were an integral part of this webinar. There are plenty of opportunities for First Timers at this year's AM/PIC. The First Timer's Reception will be held on Sunday, July 29 from 3:00-4:30 pm and the luncheon will be on Monday, July 30 from 11:45 am – 1:15 pm. State Early Career Development Chairs and other parties interested in early career development issues are encouraged to attend the Early Career Development Committee meeting at this year's AM/ PIC. Our meeting will be held on Monday, July 30 from 1:30 – 2:30 p.m. Your ideas will be useful for the development of goals for the 2018 – 2019 year and the 2019 AM/PIC. I hope you will share your thoughts and ideas with one of our committee members.

It has been a pleasure to serve as your Early Career Development Committee Chair this year.

We look forward to seeing you in Chattanooga!

Leadership & Administrative Skills Chair Nathan Winter Minnesota

Leadership is the action of leading a group of people or an organization. Administrative skills are the skills required for success in administration, such as communicating, computing, organizing, planning, scheduling, or staffing. The work and educational topics of the Leadership & Administrative Skills Committee can cover a number of topics and in a number of different directions.

I find the title of this committee exciting and the work of this committee valuable for the membership of NACAA. We have opportunities for the first year member and for the veteran Extension Educator or Extension Agent.

Most of us have a degree and training in our disciplines and work to increase our technical skills. Our degree, training, and technical skills are integral for our success working in the Cooperative Extension System. However, I think that it is imperative for everyone to work on their development of leadership and administrative skills.

I have been working for the University of Minnesota Extension for over 13 years and recently moved from an Extension Educator position into a supervision role. In my opinion, Extension Educators and Extension Agents that have leadership and administrative skills are the most likely to be successful working in the Cooperative Extension System. Success can mean many things, but to me it means that you are able to engage their community, develop high quality programs that have positive outcomes and impacts, and maintain sustainable funding.

Our committee will be working with the leadership of NACAA to support the membership with leadership development. Let me know if you would like to work more closely with this committee and to assist in the development of leadership and administrative skills for the membership of NACAA.

This year at our Tuesday morning session, we will feature five presentations in the Leadership & Administrative Skills room and two presentations in the Early Career Development room.

Teaching & Educational Technologies Chair Jennifer Rees Nebraska

The purpose of the Teaching & Educational Technologies Committee is to share new and innovative ways of using technologies and tools in teaching/reaching our Extension audiences. Our committee members have sought to bring value to our membership both at the upcoming AM-PIC and in the months outside of the AM-PIC.

One way we've worked outside of the AM-PIC is in hosting webinars. On April 9th, Justin McMechan from Nebraska and John Tyson from Penn State co-presented on "Using Time-Lapse Photography". On May 7th, Bridger Feuz from Wyoming and Tyler Williams from Nebraska co-presented on "Extension Decision-Making Tools". Both webinars were recorded and can be found at: https://www.nacaa.com/prof-dev/Webinars.php.

Our committee also worked hard in seeking presentation abstracts for the upcoming AM-PIC and appreciate the state committee chairs for your help. Thank you to all who applied! We will have two rooms this year on Tuesday morning with a total of 10 presentations. We also invite anyone interested to join us for our committee meeting at the AM-PIC on Monday at 1:30 p.m.

A special thank you to the committee serving you! The regional vice-chairs are: Stan McKee (Pennsylvania) Northeast Region; Matt Lollar (Florida), Southern Region; Jenny Rees (Nebraska) North Central Region. Also thanks to Ashley Garrelts (formerly from Wyoming), who served the Western Region prior to leaving Extension for another opportunity.

Program Recognition Council Chair Keith Mickler Georgia

The Program Recognition Council is one of three Councils which makes up the committee structure for NACAA. The Program Recognition Council consists of seven committees:

- 4-H and Youth chaired by JJ Jones from Oklahoma
- Communications chaired by David Marrison from Ohio
- Professional Excellence chaired by Mike Haberland from New Jersey
- Public Relations chaired by Kathryn Hopkins from Maine
- Recognition & Awards chaired by Stephen Hadcock from New York
- Scholarship chaired by Donna Hamlin Beliech from Mississippi
- Search for Excellence chaired by Amy-Lynn Albertson from North Carolina.

The Program Recognition Council provides the engine to recognize the professionalism, performance, and outstanding programs by members while our sponsors provide the monetary support.

Program Recognition Council committees recognize the outstanding work of our members in their respective states and regions. Each year the committees reviews numerous entries to determine state, regional and national winners. The committees worked hard to recognize NACAA members for their outstanding efforts. During the AM/PIC, Program Recognition Council committees will award nearly $36,000 to members.

The activities of this council focus on special recognition (DSA, AA, and Hall of Fame), presentations, programs, posters, communication methods, and other forms of recognition during the AM/PIC. During this year's AM/PIC in July there will be a wide variety of presentations in Chattanooga, Tennessee.

I encourage you to attend sessions with the goal of networking along with identifying programs and methods for use or adaptation.

This is my second year of a three year term as council chair; I am very proud to have the opportunity to serve as your Program Recognition Council Chair. This opportunity is a true challenge along with being a blessing in that it allows one to grow both professionally and personally. My role would be an impossible task if not for the excellent group of men and women who are chairs and vice chairs. They have worked hard putting in many hours fulfilling the duties of the Program Recognition Council. Thank you to each member for their time, hard work, and dedication to NACAA.

Below are Program Recognition Council award programs along with the number of entries received:

- 4-H & Youth total number of entries - **22**
- Communications: total numbers of entries for all categories – **824**
- Posters: total numbers of entries for both categories - **173**
- Search for Excellence total number of entries for all categories - **89**
- Public Relations total number of entries – **23**
- AA, DSA, and Hall of Fame total number **- 129**

Joining a Committee

Each year the challenge to fill vacancies within the national committee structure gets a little more daunting. I encourage all members, regardless of how long you have been a member to consider applying for committee membership. If anyone is interested or curious about the time commitment, I encourage you to speak to with a current committee member along with attend a committee meetings during the AM/PIC. I think you will find that the benefit of committee membership and work far outweighs the time commitment. Hope we see you in Chattanooga, TN.

Communications Chair
David L. Marrison
Ohio

The NACAA Communications Committee is pleased to report that BioAdvanced (formerly Bayer Advanced) will sponsor the Communications Awards Program once again in 2018. Their support of this awards program is very much appreciated!

Our committee continued to work this year on expediting the judging of all entries in a timely fashion and updated the "Frequently Asked Question" help sheet to help state chairman answer questions from their membership. Judges for this year's national contest were also able to enter their judging results on-line using Qualtrics.

We continue to see large numbers of entries in the fourteen communication award categories. The caliber of award entries is outstanding. Our members are producing excellent materials and are to be commended for the quality of their submissions. As a whole, the competition for the national winner and national finalists in each category was extremely close.

In total, 824 total entries (up from 810 in 2017 and 586 in 2016) were submitted by NACAA members from across the nation. The Southern Region led the way with 459 entries submitted followed by the North Central Region with 234 entries, the Northeast Region with 69, and the West Region with 62. Congratulations to the Florida Association for have the most entries as a state with 95 total applications. Florida was followed in the top five by Ohio and Tennessee who both had 58 applications, Georgia with 49, and North Carolina with 48.

The following is a summary of the entries made in each category.

- Audio recording had 47 entries
- Published Photo and Caption had 47 entries
- Computer Generated Graphics had 48 entries
- Promotional Piece had 123 entries
- Personal Column had 85 entries
- Feature Story had 78 entries
- Individual Newsletter had 71 entries
- Team Newsletter had 28 entries
- Video Presentation had 69 entries
- Fact Sheet had 73 entries
- Publication had 63 entries
- Web Site had 54 entries
- Learning Module had 23 entries
- Bound Book had 15 entries

New this year, the National Winner for each category will not be announced until the NACAA Communications Award Luncheon scheduled for Tuesday, July 31, 2018. The National Finalists and Regional Finalists will also be recognized at this luncheon.

am appreciative of the work of the National Region Vice-Chairs for the communication committee. The regional vice-chairs are: North Central Region Chair – Heather Gessner (South Dakota), North East Region Chair - Marjorie Peronto (Maine), Southern Region Chair – Brittany Council (Virginia) and West Region Chair – Mark D. Heitstuman (Washington). A special thank you is extended to all the State Communication Chairs for their diligence and timeliness in conducting their state contests.

I would also like to thank Keith Mickler, NACAA Program Recognition Council Chair and Scott Hawbaker, NACAA Executive Director for their assistance throughout the year with questions and concerns. If you have any suggestions for improving the NACAA Communications Contest, please contact David Marrison at marrison.2@osu.edu or call 440-576-9008.

Search For Excellence Chair
Amy-Lynn Albertson
North Carolina

The current Search for Excellence (SFE) committee is comprised of four regional vice chairs and myself. The regional vice chairs include: Linda McClanahan from Kentucky, Steve Van Vleet from Washington, Jennifer Schutter-Barnes from Missouri, and Dwane Miller from Pennsylvania.

The committee held an organizational meeting by Zoom/conference call in December 2017. We discussed procedures for promoting SFE entry submissions and for scoring the entries to be received. The committee voted to have the category SFE in Forestry, and Natural Resources name changed to Search for Excellence in Environmental Quality, Forestry, and Natural Resources as discussed at the 2017 AM/PIC.

During the conference call, we also confirmed the division of responsibilities regarding the SFE categories that each would lead, and preside over at the 2018 NACAA AM/PIC. They were as follows

- Consumer or Commercial Horticulture- Jennifer Schutter-Barnes
- Crop Production- Amy-Lynn Albertson
- Environmental Quality, Forestry, and Natural Resources- Jennifer Schutter-Barnes
- Farm Health and Safety- Dwane Miller
- Farm & Ranch Financial Management- Steve Van Vleet
- Livestock Production – Linda McClanahan
- Sustainable Agriculture- Amy-Lynn Albertson
- Young, Beginning, or Small Rancher/Farmer – Steve Van Vleet

Each regional vice chair was responsible for organizing a team of judges for each respective category, judging the entries and reporting the results to me by May 1, 2018. All the entries forwarded by the states were judges by the end of April, and national winners, finalists, and state winners were notified of their placing by May 5th.

The number of completed entries per category is as follows:

- Consumer or Commercial Horticulture - 19
- Crop Production – 12
- Environmental Quality, Forestry and Natural Resources – 11
- Farm and Ranch Financial Management – 7
- Farm Health and Safety – 5
- Livestock Production – 15
- Sustainable Agriculture – 10
- Young, Beginning or Small Farmers/Ranchers – 10

The total number of entries received in 2018 was 89, a decrease of 14 over last year. There is a lot of opportunities for more members to participate by submitting entries in SFE. The entries are easy to prepare and submit, and the program provides an excellent opportunity for individual and team recognition. Our 2018 winners and finalists will be recognized during their respective SFE luncheons at the upcoming AM/PIC. The committee will continue to promote SFE awards program and encourage more applications next year.

Thanks to each state chair for their efforts in promoting SFE to their membership, and selecting state winners. Thanks to each regional vice chair for all their efforts to facilitate the judging of the entries and other associated tasks of the committee. Thanks to Program Recognition Council Chair Keith Mickler for his assistance and support during the year. Thanks to NACAA Board for their support of the Search for Excellence program. Thanks to NACAA Executive Director, Scott Hawbaker for his support and assistance.

4-H & Youth Chair

JJ Jones

Oklahoma

The 4-H and Youth committee is responsible for reviewing and judging the Search for Excellence in 4-H and Youth Programming Award as well as reviewing and choosing presenters for the Excellence in 4-H and Youth programming seminars. Each year the membership makes it extremely difficult to choose the award winners and seminar presenters and this year was no different.

For the Search for Excellence in 4-H and Youth Programs, there were 22 entries from all four regions. Judging was very difficult and the scores were extremely close.

This year the committee was allowed more presentation time. This allowed the committee to increase the number of presentations to 10. Even with more spots the applications for presenters was extremely competitive. Each year the committee has to make difficult decisions on who to invite to present at the AM/PIC meeting.

I would like to encourage the membership to continue to make this process difficult on the committee. If you applied this year and were not chosen, apply again next year. In some cases, the scores were separated by less than five points. If you have not applied, please do. The committee knows that our membership is doing some outstanding work and that work needs to be shared with others. The committee would like to thank the NACAA board for allowing us this opportunity and we look forward to the future.

Professional Excellence Chair
Mike Haberland
New Jersey

The Professional Excellence committee is responsible for organizing and conducting the poster session before and during the AM/PIC. Presenting a poster is a great way for members to showcase their work in Extension Education or Applied Research, generate discussion during the conference "Meet the Authors" sessions, and get their abstract published in the Conference Proceedings. It takes a lot of dedication and work to make this happen and without the regional vice-chairs and state chairs, the poster session would not be possible. Current regional vice-chairs are: North Central Region, Gary Gao (OH); North East Region, Steven Yergeau (NJ); Southern Region, Shawn Banks (NC); and Western Region, Bonnie Hopkins (NM).

This year we will have had an excellent number of poster abstracts submitted with a total of 173 (65 Research and 108 Extension Education) for judging and/or display in Chattanooga. For 2018 we will use pre-AM/PIC regional judging of state winners to select the 24 National Finalist posters (three from each region for both categories). This will allow more efficient use of the volunteer judge's time during the AM/PIC. Two teams of four judges, comprised of a NACAA peer member from each region, will judge the posters during the AM/PIC to determine the National 1st, 2nd, and 3rd place award winners. Judging criteria is found on the NACAA website, and can be reviewed to prepare for next year's posters.

Posters are to be in place no later than 5:00 p.m. Sunday, July 29 and stay through 4 p.m. Tuesday, July 31, 2018. "Meet the Author's Poster Sessions" will be from 10:00 a.m. – 10:30 a.m. during the breaks on Monday, July 30 and Tuesday, July 31.

National winners and finalists will be formally recognized during the poster session awards breakfast to be held on Tuesday, July 31 starting at 6:30 a.m. The Professional Excellence Committee would like to thank Syngenta for once again sponsoring the poster session awards and breakfast at the 2018 AM/PIC.

Public Relations & Agricultural Awareness Chair
Kathryn Hopkins
Maine

The Public Relations and Agricultural Awareness Committee is responsible for conducting the Agriculture Awareness and Appreciation Awards (A4) program. The Ag Awareness and Appreciation program is a great way for NACAA members to highlight educational programs that demonstrate the public relations component of Extension work. It is also an opportunity to showcase how Extension agents and educators enrich the public's understanding of agriculture in their communities. This year the Ag Awareness and Appreciation award program had 23 examples of outstanding public relations work. There is a tremendous amount of great Extension work that many educators and agents are doing and this outreach makes an excellent entry in the Ag Awareness and Appreciation award program. Think about writing up your work for 2019!

Congratulations to Katie Wantoch from Wisconsin, who is the Ag Awareness and Appreciation Award National Winner for 2018. Katie will present her winning entry during the Ag Awareness and Appreciation Recognition Luncheon on Monday in Chattanooga. Her topic will be the Chippewa Valley Farm-City Day. Congratulations also go National Finalists Jennifer Rhodes from Maryland, Minda Daughtry from North Carolina, and Susan Kerr from Washington.

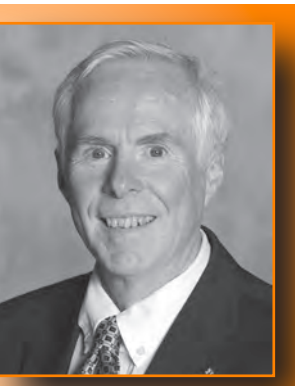
State winners include: Phil Kaatz from Michigan, Michael Estadt from Ohio, Judith Wright from New York, Ken Kelley and Max Runge from Alabama, Jennifer Caraway from Arkansas, Deanna Thompson from Florida, Bryce Roberts from Kentucky, Christine Coker from Mississippi, Mallory Dailey from South Carolina, Lindsay Stephenson Griffin and Jake Mallard from Tennessee, Michael Hiller from Texas, Jennifer Ligon from Virginia, and Leigh Ann Marez from New Mexico.

I want to send a sincere thank you to all of the hard-working judges, Public Relations and Ag Awareness Committee Regional Vice Chairs and state chairs for their commitment to the difficult work of judging the excellent entries this year.

The Public Relations and Ag Awareness Committee appreciated having entries from all of the four regions in 2018 and challenges everyone in NACAA to submit an entry in one of the NACAA awards programs and especially in the Ag Awareness and Appreciation Award program in 2019. Your work makes a difference! We would like to send a sincere and special thank you to Bayer CropScience for sponsoring the

Agriculture Awareness and Appreciation Award this year. It has been my pleasure to serve as the National Chair. I have enjoyed working with our Regional Vice Chairs and reviewing all of the great programming our agents and educators are doing across the country on behalf of the agricultural industry.

Recognition & Awards Chair Stephen Hadcock New York



During the 2017-18 NACAA year, the national leadership of the Recognized and Awards Committee was composed of Vice Chairs Sherry Beaty, Joni Harper, Amber Yutzy, and Donna Hoffman continued to serve as Vice-chairs for their respective regions. As the "old pros," these ladies have provided great leadership in their respective regions. I have had the honor of serving on this committee for the last four years and will be handing the reigns to the incoming chair at the end of the AM/PIC.

Making our jobs easier are the many state Recognition and Awards State Chairs. The state chairs helped to make our jobs easier this year with the cooperation and adherence to deadlines set by our committee. On behalf of the National Committee, I extend our sincere thanks to them.

On Tuesday morning, 61 Achievement Award recipients will receive their awards at a breakfast in their honor. This is the 44th year that NACAA has presented this award to this year's recipients joining 2,172 fellow Achievement Awards winners. The 2018 Achievement Award winners have demonstrated their ability to conduct high-quality educational programs for their clientele and gain the respect of co-workers for their work. Achievement Award recipients have accomplished this in less than 10 years. A special thank you goes to NACAA President Alan Galloway and American Income Life's Bill Viar, who will assist with the awards presentation on Tuesday morning.

This is the 80th year our national professional organization has recognized fellow Educators with the Distinguished Service Award. These members were chosen by their respective states to receive one of the most prestigious awards given by NACAA. This year's recipients will be recognized during the Annual Banquet on Wednesday evening. The Distinguished Service Award will be presented to 62 NACAA members from across the country and join 7,333 past recipients. These DSA recipients are being recognized for providing outstanding educational programming, are respected by their clientele and co-workers, and have worked for more than ten years.

The Committee also is fortunate to facilitate the selection of Hall of Fame recipients each year. This is the 13th year for this prestigious award. Four outstanding Hall of Fame winners will receive their awards at Monday's general session. Recipients of this award are recognized for their outstanding work as an Extension Educator and for being involved in their communities. They have provided leadership for professional organizations, churches, and humanitarian service organizations. This year's inductees make one proud to be a member of NACAA.

Committee leadership appreciates that the NACAA Board gave careful consideration and approved a change in policy to allow deceased NACAA members to receive the Hall of Fame Award posthumously. This year, Dan Kluckinski will be recognized for the work he performed and devotion he had for the Association and for the residents of New Jersey.

The committee wishes to thank the Ag Pipeline Alliance for continuing their financial support for the Hall of Fame award. The committee expresses our appreciation for the continued support of the Achievement Awards Breakfast by American Income Life Insurance Company for 45 years and they have provided sponsorship for 63 years overall to NACAA programs. Altria Client Services is the sponsor of the Awards Booklet and the committee wishes to say thank you for your continued support of the Annual Banquet.

Finally, I want to say what an honor and privilege it has been to be Chair of this committee. I consider it one of the highlights of my Extension career. One cannot but feel pride and the sense of accomplishment when reading the abstracts of this year's recipients. They all are entitled to this recognition and the committee is proud to do what we can to make it happen.

The Scholarship Committee is comprised of four regional Vice-Chairs and myself. They are Sandra Barraza (West) from New Mexico, David T. Handley (Northeast) from Maine, Travis Harper (North Central) from Missouri and Libbie Johnson (Southern) from Florida. Life Member representative, Charles Moody, also joins the committee to share his years of experience and wisdom during the selection process at the annual AM/PIC. The committee works with the NACAA Educational Foundation to award scholarships for professional development to NACAA members.

The Scholarship Committee is responsible for promoting the program by obtaining funds from NACAA members, friends of NACAA, and others interested in the scholarship effort. Primary activities include: promotion, review, and awarding of scholarships; administering the live and silent auction at the AM/PIC; and soliciting donations to the scholarship program. I would also like to recognize the NACAA Educational Foundation for their help and support of the scholarship program. Through their guidance and stewardship of the investments, we continue to be able to provide funding for outstanding professional development activities.

The Scholarship Committee works with state scholarship chairs to encourage donations to the scholarship program. Between May 15, 2017 and May 15, 2018, NACAA members and friends contributed $16,042 to the scholarship program. The scholarship auction at our 2017 AM/PIC in Utah raised a little more than half the amount, $8,232. Thank you for your generous support! This past year, 8 individual and 3 group scholarships (42 agents total) were awarded $28,250 for continuing education and professional development efforts.

The Scholarship Committee would like to recognize the following members for reaching designated contribution levels to the NACAA Scholarship Program during the period of May 15, 2017 through May 15, 2018. Certificates of Appreciation will be awarded to these members during their regional meetings at the Chattanooga AM/PIC:

Scholarship Chair

Donna Hamlin Beliech

Mississippi

$100 - $249

North Central Region: Richard Hentschel, Nathan R. Crane, Larry Tranel, John Otte, Ron Lenth, John Lawrence, Charles Brown, Phil Kaatz, Joni Ross Harper, Patrick L. Byers, John Porter, Dan Lima and Mark Allen Badertscher

Northeast Region: Christina Yoder Becker

Southern Region: Tinsley H. Gregg, Michael D. Reeves, Daniel J. Griffin, Justin Chlapecka, Sheila Dunning, Shawn Banks and Albert Sutherland

West Region: Andrea Kawabata

$250 - $499

North Central Region: Mark Ploger and Jennifer Rees

Northeast Region: Elizabeth Claypoole and Emelie Swackhamer

Southern Region: Craig Roussel

West Region: Dave McManus, Roland K. Patterson, W.F. "Frank" Hendrix and Sheila L. Gray

$500 - $999

North Central Region: Heather Gessner

Northeast Region: Dwane L. Miller

Southern Region: Lenny Rogers and C.P. Chihasz

West Region: Mark Nelson

$1,500 - $1,999

Southern Region: Alan B. Galloway

$2,000 - $2,499

Northeast Region: Glenn Rogers

$3,000 - $3,499

Southern Region: Keith Mickler

$4,000 - $4,499

North Central Region: Charles Otte

$23,500 - $23,999

Southern Region: Eddie R. Holland

Scholarship applications can be submitted any time after this years AM/PIC (Aug. 3, 2018), but before the June 1, 2019 deadline. The funds can be used for members' professional improvement, i.e. advanced degrees, tours, seminars, research, or other specialized training. Specifically, funds go toward reimbursement of registration or certification fees, travel, food and hotel accommodations.

- The on-line application is located on the NACAA website. It must be filled out and submitted electronically.

- In order to be eligible for up to $1,000 in awards, members need to be vested at $40 in the scholarship program. Members need to be vested at $100 to be eligible for up to $2,000 in awards. No monetary award can be over $1,000 in any one year. This contribution must be made before the end of the AM/PIC to qualify for future scholarships (i.e. a contribution must be received by the end of the 2018 AM/PIC to apply for an educational scholarship in 2019).

- Other criteria can be found at the NACAA website under the "Awards" tab.

Vestment in the scholarship program can occur in a variety of ways. Here are some possibilities:

- Bring items for the AM/PIC silent and live auction. You receive credit for the amount the item sells for.
- Purchase tickets ($20 each) for a

special cash drawing held during the AM/PIC auction. Non-winning tickets receive credit for a donation to the scholarship program. It's a WIN-WIN chance!

- Some states have auctions or other fundraisers, and designate the proceeds toward the NACAA Scholarship Program under an individual Extension Agent name.
- Direct donations online with a credit card! Simply visit the NACAA website and scroll to the middle of the page. Click on "Donate to the NACAA Educational Foundation – SCHOLARSHIP".

Applications submitted by June 1st, and approved by their state and regional chairs are reviewed by the Scholarship Committee at the 2018 AM/PIC in Chattanooga. Awardees will be notified via e-mail in a timely manner and given instructions on the dispersal of funds process.

Schedule an <u>early</u> States Night Out dinner and bring an item or two for this year's auction!

Life Member Chair

Neil Broadwater

Minnesota

The Life Member Committee Regional Vice Chairs for 2017-18 have been Eddie Holland, Texas; Paul Craig, Pennsylvania; Dave Phillips, Montana; and Melvin Brees, Missouri. With Dave Phillips and Melvin Brees having served two year terms following this year's AM/PIC, Milt Green of Wyoming and Dave Stenberg of Nebraska will be filling those slots for the 2018-2020 term.

Why does NACAA have a Life Member Committee? According the by-laws of NACAA the purpose is to serve as a liaison between Life Members and members of NACAA and the Board of Directors; to actively seek resources for the Scholarship Fund and to encourage state program committees to develop programs that will enhance the Cooperative Extension Service. With nearly 3,000 Life members the committee is committed to working on behalf of those members to advise the NACAA Board on life member activities and offer assistance when needed.

The NACAA web site has a Life Member page that has been in existence over a year and a half now to provide information to life members across the country. Please check out the page at http//www.nacaa.com/committees/LifeMemberInformation.php. Let us know how we can make it better and more meaningful.

This has been the third year that the Life Member Committee has set up a rotating schedule by region to submit an interesting article for a Life Member page in each *The County Agent* magazine publication. We hope you have read them and enjoyed learning about some of the things Life Members are doing after retirement. We plan to continue this series of articles for the 2018-19 year as well. If you are a life member and have an interesting story to tell and would like to submit an article you are welcome to contact your Life Member Regional Vice Chair.

The life members hold an annual business meeting each year during AM/PIC. At that meeting a memorial service is held to honor all NACAA members who have passed away during the past year. Names are gathered by the Regional Vice Chairs with the cooperation of state life member contacts. Two challenges we continue to face each year is to make sure we have a life member contact in each state and then, for them to be able to find or be aware of the individuals who have left us so we can be provided with the information needed for the "In Remembrance" publication and memorial service. We ask for each state's cooperation in this effort.

In your particular state, if your association is having an event or activity, keep in mind the life members so they can participate and/or stay connected. Life members often like to hear what is going on in your state, appreciate having the opportunity to be part of the association meeting or going on that tour or visit you have planned for educational purposes. So think about contacting a life member near you when something is being planned.

This is my second and final year as the NACAA Life Member Committee Chair. Dave Phillips of Montana will be taking over the chair position for the 2018-2020 two year term. I ask that you give him your full support. I wish to thank the NACAA Board for always making sure Life Members are part of the association's plans for AM/PIC. I also wish to thank the Tennessee Life Member Committee for helping set up a great Life Member program that include speakers, tours and activities at this year's AM/PIC. AM/PIC allows life members to be able to renew acquaintances, see old friends and make new ones during the many activities scheduled. I am looking forward to seeing you there.

The purpose of the Journal of NACAA is to provide members with opportunities to publish in a nationally recognized peer reviewed journal; to share scholarly work in Extension; and to become more knowledgeable Extension professionals.

The Journal publishes scholarly works in the field of Extension, including discipline-based research as well as works describing important aspects of Extension practices and processes. Honoring the wide variety of scholarly activities undertaken by Extension agents and educators, the Journal welcomes submissions of original research, applied research, survey results, needs assessments, demonstrations, case studies, literature reviews, and innovative techniques and approaches to programming.

The Journal publishes on June 1 and December 1 each year. Submissions must be electronically submitted by March 15 for the June edition, and September 15 for the December edition. We received sixteen submissions for the December 2017 issue; thirteen papers were published. For the June 2018 issue, we received twenty-four submissions.

This winter I met with a small group of peer reviewers to develop a set of guidelines for peer reviewers, similar to our submission guidelines for authors. We are beta-testing the new peer reviewer guidelines with the June 2018 issue, and plan to have this posted online soon. We currently have sixty-one peer reviewers, with a wide range of interests and expertise. Our peer reviewer pool is a real strength of our journal, and we sincerely appreciate their service to NACAA and its members.

I welcome comments and questions from authors and reviewers, both prospective and experienced. And we can always use additional peer reviewers. Please drop me an email at ljs32@psu.edu.

Thanks to 2017/2018 Journal of the NACAA National Peer Reviewers

Nicole Anderson Oregon

Chris Augustin North Dakota

William Bamka New Jersey

Derek Barber Florida

Pamela J. Bennett Ohio

Jerry Bertoldo New York

Carol Bishop Nevada

Liz Bosak Pennsylvania

Stephen Brown Alaska

Chris Bruynis Ohio

Beth Burritt Utah

Carl J. Cantaluppi, Jr. Retired

Brent Carpenter Missouri

Wayne Flanary Missouri

Gary Gao Ohio

Roger Gates Georgia

Hemant Gohil New Jersey

Sheila Gray Washington

Linden Greenhalgh Utah

Adele Harty South Dakota

Michael Heimer Texas

Steven Hines Idaho

Jessica Kelton Alabama

Susan Kerr Washington

Richard Kersbergen Maine

James Keyes Utah

Jeremy M. Kichler Georgia

Stephen Komar New Jersey

Rocky Lemus Mississippi

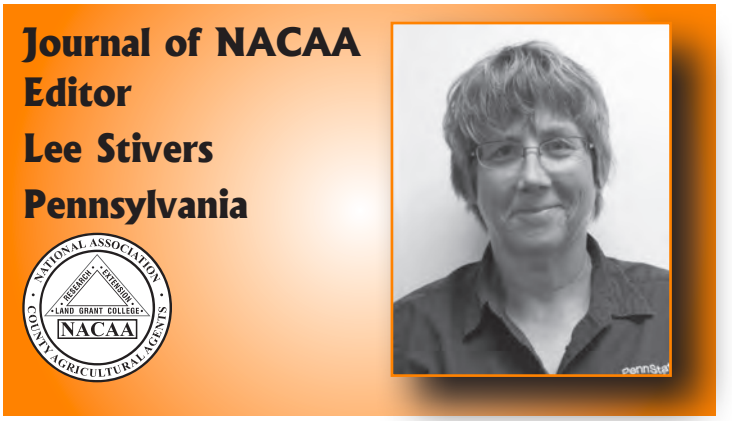
Don Llewellyn Washington

Salvatore Mangiafico New Jersey

Jeff McCutcheon Ohio

Keith Mickler Georgia

Charles Mitchell Alabama



Tracy Mosley Montana

Rebekah Norman Tennessee

Andy Overbay Virginia

Michael Pace Utah

Angelique Peltier Illinois

Chris Penrose Ohio

Marjorie Peronto Maine

Heidi Rader Alaska

Hans Schmitz Indiana

Mary Carol Sheffield Georgia

Sara Shields Louisiana

Bill Shockey West Virginia

Carrie Stevenson Florida

Mark Stewart Missouri

William Strader North Carolina

Gary L. Strickland Oklahoma

Ed Twidwell Louisiana

Stephen Van Vleet Washington

Richard W. VanVranken New Jersey

Todd Weinmann North Dakota

Michael Wheeler Georgia

John Wilson Nebraska

Tim Wilson Florida

Jeff Wilson Mississippi

National Outstanding Farmers of America Liaison Ray Hicks Georgia

If you want to get reenergized, just get involved with the Outstanding Young Farmer program. Having been involved with this program a little with nominating two past top ten applicants I was somewhat aware of its existence. But little did I realize just how wide spread this program is. The Outstanding Farmers of America Organization is made up of past nominees of the program. It is designed to facilitate an exchange of ideas and friendship that encourages excellence and involvement in agriculture and the local, state, and national community. There are approximately 1,500 members across the nation who utilizes their connections with each other in a strong networking format to assist farmers and promote the importance of America's farming community.

The National Outstanding Young Farmers program is administered by the Outstanding Farmers of America and supported by NACAA, John Deere and the United States Junior Chamber. Applicants must be between the ages of 21 and 40, deriving a minimum of two-thirds of their income from farming. They are judged on progress in agricultural career, extent of soil and water conservation practices, and contributions to the well-being of the community, state and nation.

Seeing these young people interact and become friends is inspiring. They all come from different backgrounds but have a common cause in deriving their livelihood from agriculture. They share heartaches and triumphs alike. They listen to the older alumni and learn from them. It's like a big family.

At the 2018 62th Annual Awards Congress, held in Sacramento California in February, 15 of the 30 nominations were made by NACAA agents from across the country, which resulted in 4 in the top 10. Each of these candidates thanked their Extension Agents for their help in getting nominated. The nominee from Arkansas was submitted by Jenny Ross and they were named one of the top four finalist. NACAA is doing an outstanding job of recognizing these young farmers but we need to keep on encouraging these to fill out the nomination forms. The 2019 Congress will be held in Bettendorf, IA., February 7-10, 2019. Applications for the program are due August 1 and be found at http://ofafraternity.org .

For more info please feel free to contact me at Ray Hicks, rhicks@uga.edu, (912) 682-8670.

Extension Journal, Inc. Melody Rose Tennessee

Extension Journal Inc.

Many thanks and appreciation is extended to the NACAA officers and board for their support of me representing our association on the Extension Journal, Inc. (EJI) board. This has been an exciting year in developing the special issue on innovation that will launch this fall!

Journal of Extension

JOE is a scholarly, double-blind, peer-reviewed online journal representing the best of Cooperative Extension from across the nation. All ***JOE*** submissions are peer reviewed with high editorial standards and scholarly rigor expected from all papers submitted and from the reviewers. Should your paper be published in ***JOE,*** consider that a huge achievement!

The Journal of Extension remains a rigorous, refereed journal for Extension professionals. Well over a million visited the *JOE* site during 2017, along with 282 submissions received for publication. For more on the numbers, please visit:

https://www.joe.org/website-statistics/index.php

You can also find the top 50 most read articles for 2017 at: https://www.joe.org/website-statistics/top-articles-2017.php. Tracking of the top 50 most read articles goes back to 2005. If you are interested in being a reviewer and have breadth across several areas as well as depth of expertise, please visit *JOE*: https://www.joe.org/for-reviewers.php.

You can apply to become a *JOE* reviewer by sending the name and e-mail address of a reference who can speak to your ability to serve as a reviewer and a file containing your curriculum vitae to Robert Ricard at: robert.ricard@uconn.edu.

2018 AT A GLANCE…

- The proposed release date for the special *Innovation Issue* is September 13, 2018.
- The JOE (Job Bank) website has a new look! Make sure to visit the site to see the new changes, which have made the website more user friendly.
- A new *Trending Articles* section has been added to the homepage for an easier glance at new and

relevant articles.

- Marketing items (bookmarks), along with a booth display have been created (and are set-up and distributed at national meetings).

National Job Bank

Extension Journal, Inc.'s additional product is the National Job Bank http://jobs.joe.org/. The National Job Bank provides access to a broad range of faculty positions in teaching, research, extension and outreach along with the professional positions involving education, research and/or outreach missions.

The National Job Bank allows the job seekers free registration and accounts, quick access to employers that are ready to hire, ability to communicate to employers online, and alerts when a relevant job becomes available. Employers can search through and find key individuals for positions they wish to fill.

SPECIAL THANKS

Since joining the EJI Board in January 2016, it has been a wonderful experience and a great opportunity to serve with other members of the Extension family from across our nation. The friendships and contacts I have made are priceless. Serving as the NACAA representative on the EJI board has truly been an honor and privilege.

Executive Director Scott Hawbaker Illinois

Twenty years ago, the delegates of the 1998 San Antonio AM/PIC, voted to approve the budget and creation of the Executive Director position for NACAA. I'm thankful that the board of directors selected me for the job, and have continued to allow me the opportunity to serve.

Over the years, the position has evolved to include additional responsibilities with sponsor recruitment, web-based application maintenance, AM/PIC registration, and much more. As technology has become more prevalent, NACAA's online presence has evolved as well by offering a wide variety of member services/information on the world wide web.

This year marks the 16th year I have handled the AM/PIC online registration process. The AM/PIC is ultimately like having 4 mini-conferences in one (Active, Life, Spouse, Sons & Daughters programs). As time continues, we'll continue to work on modifying the process to make it more user friendly for everyone.

It's been an honor to get to know NACAA members from across the country, and a pleasure to call many of you close friends. For some, we may only talk a few times a year, but it's always enjoyable to do what I can to make NACAA a more efficient and viable organization.

As the future I'm sure will bring more challenges to NACAA, I encourage you to stand strong with YOUR organization and do what you can to get involved and gain the most out of what NACAA can offer. Whether it's professional improvement, program recognition or Extension development - the opportunities are readily available to each and everyone of you.

As always, feel free to give me a call or send me an e-mail with questions or concerns t (217) 794-3700 or nacaaemail@aol.com. It's my pleasure to assist in any way possible.

Poster Session

Applied Research

2018 NACAA

103rd
Annual Meeting
and
Professional Improvement Conference

Chattanooga, Tennessee

National Winners & Finalists

1st Place

RESULTS OF PLANT PARASITIC NEMATODE SURVEY OF 7 NC PIEDMONT COUNTIES

Hambrick, T.[1]; Scruggs, A.[2]; Wall, J.[3]
[1]Agricultural Extension Agent, NC Cooperative Extension Service, Winston Salem, NC, NC, 27105
[2]Agricultural Extension Agent, NC Cooperative Extension Service, Lincolnton, NC, 28092
[3]Agricultural Extension Agent, NC Cooperative Extension Service, Asheboro, NC, 27205

Plant-parasitic nematodes (PPN) are considered the most damaging disease to North Carolina (NC) soybeans, resulting in estimated yield losses of 7-8% annually. Traditionally, PPN have been considered a major problem only in the NC Coastal Plain due to the presence of coarser textured soils. Poor stands, slow growth, and increased incidence of root diseases throughout the NC Piedmont during the 2017 growing season created the need to evaluate PPN populations and determine the potential impacts PPN may have in this region. Soil samples from 97 row crop fields across seven Piedmont counties were collected for nematode analysis. Identification and determination of population densities were conducted by the NCDA&CS Agromonic Division, Nematode Assay Section. Eleven different PPNs were identified in this survey including spiral, stunt, lesion, dagger, stubby-root, root-knot, lance, ring, soybean cyst, sheathoid, and reniform. Spiral, stunt, and lesion nematodes were present in over 50% of all sampled fields. Based on nematode type and population density, 5.2% of fields were classified as high risk, while 48.5% were classified as moderate risk. Results of this study demonstrate higher potential impact from PPN on Piedmont soybeans than previously understood. With this new information, Extension programs can be designed to educate producers on the potential impacts of PPN, better identify problems in the field, and provide information on nematode best management practices.

2nd Place

ORGANIC MANAGEMENT OF FOLIAR DISEASES IN TABLE BEETS TO SUPPORT THE EXPANDING INDUSTRY IN NEW YORK STATE

Kikkert, J. R.[1]; Hansen, Z.R.[2]; Pethybridge, S.J.[3]
[1]Sr. Extension Associate, Cornell Cooperative Extension, Canandaigua, NY, 14424
[2]Postdoctoral Associate, Cornell University, Geneva, NY, 14456
[3]Assistant Professor, Cornell University, Geneva, NY, 14456

The 2016 opening of the Love Beets factory in Rochester, NY exponentially increased demand for organic table beets. Production in New York is deleteriously affected by a foliar disease complex. In 2017, cool, wet conditions were conducive for bacterial leaf spot caused by *Pseudomonas syringae* pv. *aptata*. Four small-plot, replicated trials were conducted in commercial fields of 'Merlin' beets on two farms in western NY. All operations until trial establishment, including nutrient application and cultivation, were conducted by the growers. Disease epidemics were initiated by naturally occurring inoculum. A treatment consisting of 4.7 liters/ha Cueva + 2.3 liters/ha Double Nickel LC was replicated five times within a completely randomized block design and applied three times. Each main plot was equally split into hand weeded or not. Plots were assessed for crop stand, disease severity, leaf length, and weed density at regular intervals. Data were analyzed by general linear modeling and means were separated with Fisher's protected LSD test. The main factors, Cueva + Double Nickel or weeding alone reduced disease severity and increased leaf length in most trials. Additionally, there was a significant positive interaction of fungicide treatment and weeding. The effect of Cueva + Double Nickel LC (alone or in tank mixture) was further tested for efficacy to control Cercospora leaf spot (CLS) in a small plot, replicated trial in Geneva, NY. 'Ruby Queen' (planted 9 June) was inoculated on 20 July with a mycelial suspension of *Cercospora beticola*. Treatments consisted of either Cueva (4.7 liters/ha), Double Nickel LC (2.3 liters/ha) or both applied as a tank-mixture. Treatments were applied on 28 July, and 3 and 10 August. All treatments significantly reduced the average number of CLS lesions. The average number of lesions per leaf was reduced by 70.1% in plots receiving Cueva + Double Nickel on 3 August and by 63.9% on 14 August. The reproducibility of disease control in on-farm trials and significant effect on CLS suggests Cueva + Double Nickel LC may provide broad spectrum disease control. Weed management is another important factor. This research was funded by the Towards Sustainability Foundation.

3rd Place

USE OF A MULTI-STATE SURVEY TO IDENTIFY GAPS IN UNDERSTANDING OF AGRICULTURAL RESEARCH

Stahl, L.[1]; Bauder, S.[2]; Coltrain, J.[3]; Thomas, J.[4]
[1]Extension Educator - Crops, University of Minnesota, Worthington, MN, 56187
[2]Extension Agronomy Field Specialist, South Dakota State University, Mitchell, SD, 57301
[3]Crops and Soils Educator, Kansas State University, Girard, KS, 66743
[4]Cropping System Extension Educator, University of Nebraska, Alliance, NE, 69301

Extension educators and university researchers rely on

research-based information in their programming efforts. In agriculture, statistically-sound research often uses small plots, and treatments are randomized and replicated in a statistical design, such as a randomized complete block. Farmers and agricultural professionals, however, are exposed to many different sources of information, some of which lack any statistical base. Producers have shown high interest in comparisons that have been conducted on-farm where treatments may run across the field and randomization and/or replication is lacking. To help gauge perceptions of farmers and agricultural professionals regarding the value of statistics in research and their understanding of key statistical concepts, 1,175 farmers and agricultural professionals were surveyed across 4 states (Kansas, Minnesota, Nebraska, and South Dakota) in 2017. The surveys were distributed as part of a North Central Agriculture and Natural Resources Academy project at crops meetings and pesticide safety education courses. Of 1,066 question respondents, only 44% felt confident in their understanding of the LSD (Least Significant Difference). Of these people, only 68% correctly answered a follow-up question that tested interpretation of the LSD. When asked about the value they placed on various types of agronomic information, 36% placed a moderately high to high value on small-plot replicated trials (n=1123) compared to 70% for large-plot, replicated trials (n=1116). Also, 54% placed a moderately high to high value on field-scale, demonstration/non-replicated plots (n=1111). Based on this information, a series of tools were developed for educators to help farmers and agricultural professionals better understand the importance and significance of quality research, as well as interpret and critically evaluate research results and marketing information.

Finalists:

3 YEAR SUMMARY - EVALUATING PEANUT WHITE MOLD FUNGICIDE PROGRAMS IN COOK COUNTY, GEORGIA

Price, T.[1]
[1]County Extension Coordinator, University of Georgia, Adel, GA, 31602

White Mold (WM), (Sclerotium rolfsii) is considered one of the most destructive diseases in peanut production in Georgia. University of Georgia's, "2015 Georgia Plant Disease Loss Estimates" estimated $59.7 million dollars in damages to Georgia's peanut crop valued at $684.6 million according the Georgia Farm Gate Value report. University of Georgia Extension Agent in Cook County, University of Georgia Extension Peanut Specialist and a Cook County peanut producer collaborate each year to install replicated field trials to evaluate common peanut fungicide programs for controlling white mold. Data showed that Fontelis based programs have been effective for managing white mold in peanuts however 2017 data showed this product may be losing efficacy against the disease. A two block Elatus program has provided acceptable control of white mold in 2015 and 2017 however this program showed less control of the disease compared to all other white mold treatments in 2016. 4 block Convoy programs in all three years were among those programs that consistently showed the greatest control of white mold compared to the checks. Provost has shown to consistently control white mold compared to the untreated checks in all three years however it must be noted that each year this product was paired with other products with white mold efficacy (Propulse, Convoy, and early emergence Proline.) Data generated from these trials are disseminated to local producers and agriculture industry via fact sheets, blogs, email, and one-on-one consultations. The data from these trials is commonly referred to during white mold fungicide recommendations.

CRESTED WHEATGRASS (AGROPYRON CRISTATUM) RESPONSE TO RYZUP SMARTGRASS AND FERTILIZER

Rethwisch, M.D.[1]; Arterburn, J.R.[2]; Nixon, J.S.[3]
[1]Farm Advisor - Crop Production and Entomology, University of California Cooperative Extension, Blythe, CA, 92225
[2]Beef Systems Educator, University of Nebraska Extension, Rushville, NE, 69360-0329
[3]Community Vitality Extension Educator, University of Nebraska Extension, Harrison, NE, 69346-0277

Previous Nebraska research had shown a significant growth response in some cool season grasses when gibberellic acid-3 (RyzUp SmartGrass 40WDG) was applied. No known experimental data existed for crested wheatgrass, *Agropyron cristatum* (L.) Gaertn., growth response to early season foliar application gibberellic acid. This experiment was initiated to determine if crested wheatgrass responded to RyzUp SmartGrass 40WDG application, and if so, to document the growth/yield responses and determine associated economics.

RyzUp SmartGrass 40WDG (Valent USA) was applied at rate of 0.3 oz./acre with the surfactant ClassAct NG via a back-pack sprayer to three northwest Nebraska fields of crested wheatgrass which ranged from excellent to deficient levels of nitrogen/phosphorus, and followed the same pattern for grazing/overgrazing. Granular nitrogen fertilizer was applied to selected plots in two fields, but did not adequately supply needed phosphorus. Experimentation utilized a randomized complete block design with a minimum of three replications per treatment/untreated controls per site. Data were collected for the effects of fertility, RyzUp SmartGrass, and their potential interactions on crested wheatgrass growth, yield and hay quality at each site.

Plant height data were on an irregular basis from

application to June 1. Plant yield data were collected in June by cutting near ground level and removing forage from several small squares/plot and placing in bags for drying. Net weights of dry hay were recorded and yields/acre calculated. Samples were then analyzed via NIR technology to determine hay quality. Data were statistically analyzed.

RyzUp SmartGrass application effect on yield increases was correlated to fertility/yield potential of sites, with increases over fertilizer application alone ranging from 0-597 lbs./acre. Granular nitrogen fertilizer application significantly increased hay yields (684-752 lbs./acre) in low fertility fields. RyzUp SmartGrass can increase crested wheatgrass yields, but is limited by field yield potential.

IMPACTS OF BALE GRAZING ON SOIL HEALTH AND HERBAGE PRODUCTION IN SOUTH CENTRAL NORTH DAKOTA

Nester, P. L.[1]; Sedivec, K.K.[2]; Berg, M. A.[3]; Augustin, C[4]; Sheldon Gerhardt[5]; Marissa Leier[6]; Fara Brummer[7]
[1]Extension Agent ANR, North Dakota State University Extension Service, Steele, ND, 58482
[2]Professor/Extension Range Specialist, North Dakota State University, Fargo, ND, 58102
[3]Area Extension Specialist, Livestock Environmental Management, North Dakota State University Carrington Research Extension Center, Carrington, ND, 58421
[4]Area Extension Specialist, Soil Health, North Dakota State University North Central Research Extension Center, Minot, ND, 58701
[5]Extension Agent ANR, North Dakota State University Extension Service, Napoleon, ND, 58561
[6]Extension Agent ANR, North Dakota State University Extension Service, Mandan, ND, 58554
[7]Sage Steppe Ecosystems Faculty Research Asst., Oregon State University, Lakeview, OR, 57630

Bale grazing is a winter feeding practice allowing livestock access to hay bales on improved pastures or hayfields. An applied research project on four ranches in North Dakota examined bale grazing effects on subsequent forage production and quality, and soil properties on improved pastures or hayfields. Very little published data is available addressing these impacts. Four bale grazed treatments (BGT) per ranch were selected. Soil and vegetation was collected at four points (0, 5, 10 and 15 feet) along each cardinal direction from bale center. Vegetation biomass and feed quality were analyzed during peak herbage production (late-June). Soil samples (0-6 inch) were analyzed for nitrate-nitrogen, phosphorus, potassium, pH, electrical conductivity, organic matter, and Haney Soil Health Calculation. Hay residue was sampled to determine waste, and examine possible relationships with forage growth for two consecutive growing seasons. Four control treatments (CT) of similar plant community, soil texture and slope were also sampled within each ranch. First year data showed positive trends between forage growth and bale grazing on three ranches, and negative trends on one ranch compared with CT. Forage increased 14.5 percent at bale center, 18.8 percent five feet, 38.5 percent 10 feet, and 71.5 percent 15 feet from bale. Forage production was greater ($p \leq 0.1$) 15 feet from bale during the first year, greater ($p \leq 0.1$) zero, five and 10 feet from bale second year post treatment. Crude protein content was greater ($p \leq 0.1$) on BGT than CT (16.8 vs 9.9 percent) zero, five and 10 feet from bale during the first year. Haney soil health calculations were not different between BGT and CT during first year. The BGT increased ($p \leq 0.1$) nitrate, phosphorus and potassium levels by three to six times compared to CT. Bale grazing increased forage quality and forage production within 15 feet from bale for one to two years. Nutrient content of BGT increased in soil for NO_3, P, and K during first year. Bale grazing appears to be an effective late-season grazing strategy enhancing forage production, quality and soil chemical properties of improved pastures and hayfields in North Dakota.

CONTROL OF CORN EARWORM LARVAE IN SWEETCORN

Barrett, J. J.[1]; Johnson, John David[2]; Frank, Daniel[3]
[1]Ag & Natural Resources Extension Agent, WVU Extension Service, Parkersburg, WV, 26101
[2]Ag & Natural Resources Extension Agent, WVU Extension Service, Cottageville, WV, 25239
[3]Entomology Extension Specialist, WVU Extension Service, Morgantown,, WV, 26506

Sweet corn is an important cash crop for small farmers in West Virginia. Corn earworm is the primary economic pest of sweet corn and control is essential for growers to sell a quality product. Insecticide spray programs have been the traditional method of control. However, the challenges associated with pesticide applications can be greatly reduced with the use of Bt sweet corn, which expresses insect toxic proteins from the bacterium, Bacillus thuringiensis (Bt) in plant tissue. Field performance of two Bt corn hybrids were evaluated for control of corn earworm. Treatments included: 1) Attribute®-BC0805 (expressing the Cry1Ab protein), 2) Attribute® II-Remedy (expressing the Cry1Ab and Vip3A proteins), and 3) Providence-A, a non-Bt isoline (control). The non-Bt sweet corn (Providence) and Attribute® (BC0805) hybrids saw significant damage from corn earworm larvae. Attribute® II (Remedy) sweet corn provided excellent control of all foliage feeding and ear invading lepidopteran pests and was impressive in yield. Although Remedy corn seed would be more expensive than non-Bt hybrids, the decrease in pesticide use and percentage of marketable ears would be well worth the cost. Results show that corn earworm are resistant to the Cry1Ab protein expressed in the Attribute® hybrid, which has been on the market since 2003.

GRAFTING HIGH TUNNEL HYBRID TOMATOES TO REDUCE YELLOW SHOULDERS AND INCREASE YIELD

Lantz, W. D.*[1]
[1]Extension Educator, University of Maryland Extension, Mt. Lake Park, MD, 21550

High tunnels have allowed producers to extend the growing season and increase the production of tomatoes. Many producers utilize common varieties of tomatoes used in field or garden production. These varieties often have problems with fruit quality when grown in tunnels, however, producers continue to prefer to use these varieties because of customer demand. The variety, '*Big Beef'* is popular with fresh market producers. '*Big Beef'* produces an early large fruit that has excellent flavor, however it develops yellow shoulders disorder (YSD) during the mid-part of the growing season. Research indicates that YSD is caused by lower potassium levels in the plant especially with heavy fruit loads. Recently researchers looked at the benefits of nutrient uptake on yield and fruit quality of grafted tomatoes. A research project was developed to evaluate the value of grafting '*Big Beef'* to increase yield and reduce the amount of YSD. The research was conducted in 2017 in three high tunnels in Garrett County, Maryland. Producers planted grafted and non-grafted '*Big Beef'* tomato plants in side by side rows in the high tunnel. They weighed and counted the number of fruit from the three 10 plant plots of grafted and non-grafted plants. The producers also evaluated each fruit for the YSD giving the fruit a rating of 0 (no evidence of YSD) to 4 (high degree of YSD) compared to a pictorial chart provided by the researcher. The grafted plants had significantly greater yield of 26.6 pounds per plant compared to the non-grafted with a yield of 20.4 pounds. The grafted plants also had a 9.5% higher level of fruit receiving a YSD score of 0-2 (salable fruit). At $1.50 per pound for saleable fruit the grafted plants had a $10.37 higher income per plant. The educator held two field days and presented the information at two local vegetable meetings to a total of 80 producers. The educator has organized a group purchase of 1500 grafted plants for 10 farms in 2018.

EVALUATION OF AGRICULTURAL & PELLETIZED LIMESTONE FOR RAISING SOIL PH IN TALL FESCUE PASTURES

Runsick, B.[1]; Gadberry, S.[2]
[1]County Extension Agent, University of Arkansas Cooperative Extension Service, Salem, AR, 72576
[2]Professor - Ruminant Nutrition, University of Arkansas Cooperative Extension Service, Little Rock, AR, 72204

Use of pelletized limestone has become more and more prevalent among forage producers in north central Arkansas as an addition to regular fertilizer applications, Producer claims of applications frequently range from 50-150 lbs. per acre with the intent to raise soil pH to optimum levels for forage production. The main objective of this research was threefold: to test the effects of various rates of pelletized and ground agricultural lime on soil pH over time, to determine whether or not such applications are cost-effective, and to confirm current soil testing lime recommendations for forages. To address these objectives, a tall fescue field with a soil pH of 5.3 on a Brockwell sandy loam was selected. Fifteen treatments of various rates of two sources of pelletized lime and two sources of agricultural lime were applied. Plots were then sampled at 6 month intervals: 6 months, 12, months, and 18 months after application. The resulting data shows that pelletized lime neither raises soil pH to an optimum level for forage production at commonly applied rates, nor is it economical to use pelletized lime at any of the tested rates over agricultural lime under current cost conditions. The rate of pH change over time for pelletized lime treatments and the control was equal to 0 ($P = 0.45$ and greater). Overall, agricultural lime showed a significant linear increase in pH over time ($P = 0.02$). Agricultural lime rates significantly increased pH above control ($P<0.01$), and pelletized lime rates did not differ from control, with the exception of 64% ECCE at 1000 lb per acre, which tended to differ ($P=0.09$)

The sampling data also suggests that current soil test lime recommendations of 2 tons/acre for cool season grass/legume pastures at soil pH 5.0-5.4 on sandy loam soils do not sufficiently raise pH to optimum levels. Further investigation should be conducted.

EVALUATING NITRATES IN FALL GROWTH OF ANNUAL CEREAL FORAGES

Mosley, T.[1]
[1]Extension Agent, MSU, LIVINGSTON, MT, 59047

Annual cereal forages play an integral role in integrated crop/livestock production systems across the West. Producers use annual cereal forages in rotational systems when renovating alfalfa, integrate them into systems to supplement perennial forages, and use them in cover crop mixes. In recent years, producers have inquired in the fall with Montana State University Extension offices regarding the nitrate content of annual cereal regrowth, often referred to as volunteer growth. These producers, wishing to capitalize on the new growth, want to better understand the potential for nitrates and limit nitrate poisoning risk to their livestock. Little information exists regarding the potential for nitrate accumulation in fall regrowth of cereal forages and nutrient quality of this feed resource is limited. The purpose of this project is to evaluate the nitrate content and forage quality of fall growth of annual cereal forages, and evaluate the influence of environmental and management factors that affect nitrate accumulation in forages. Field sampling occurred in Fall 2017 and will occur again in Fall 2018. In both years, forage will be clipped in

10 random plots across 5-10 fields each year. Forage will be evaluated for nitrate content using three methods (Nitrate QuikTest, laboratory analysis, and U of GA method using Quantofix Nitrate Srips), and sent to a lab for forage quality analysis. Results of nitrate testing methods will be compared. In the field, soil moisture and soil temperature at each plot will be determined. Fertilization and irrigation information and dates of recent frosts will be collected from producers for inclusion in the analysis. In 2017, eight fields were sampled. First year results indicate that fall growth of annual cereal forages is safe to graze and provides nutritious forage either alone or when used as a cover crop. Laboratory analyses show that the nitrate content of annual cereal forages in 87% of these fields were safe to feed to all classes of livestock. Crude protein of all forages averaged 22.2% and Total Digestible Nutrients averaged 71.2%. These data indicate that fall growth of annual cereal forages can play an integral role in integrated crop/livestock production systems.

FORAGE TESTING PROVIDES VALUABLE INFORMATION TO ARIZONA PRODUCERS WITH CATTLE GRAZING NATIVE RANGELANDS

Wright, A. D.[1]; McReynolds, K.[2]; Stratton, S.[3]
[1]Livestock Area Agent, The University of Arizona, Willcox, AZ, 85643
[2]Natural Resources Area Agent, University of Arizona, Willcox, AZ, 85643
[3]Rangeland Management Specialist, Natural Resource Conservation Service, Willcox, AZ, 85643

Arizona cow-calf producers face significant challenges related to grazing on native rangelands. With increased climate variability and severe droughts occurring more frequently, forage quality is of particular concern. Deficiencies in minerals can be severe enough to cause clinical disease (e.g. white muscle disease due to lack of selenium), however subclinical deficiencies can adversely affect production factors including cow fertility, calf health, and weaning weights. Many producers believe a mineral program is simply supplying a trace mineral "red block", however these blocks are typically inadequate in several important minerals that are deficient on Arizona rangelands. Previous forage testing in central Arizona demonstrated a number of mineral deficiencies, in particular phosphorous, zinc, copper, and most importantly selenium (30 – 50% deficient). While the underlying geology and soils plays a role in the mineral content of plants, several other factors affect mineral levels including rainfall, plant species, and season. Due to soil and vegetation variations, a focus group determined that forage testing in southeastern Arizona would be of benefit to ranchers in the area. Two agents from the University of Arizona, in collaboration with the Natural Resource Conservation Service, identified seven unique ecological sites in Greenlee County. Seasonal rain gauges were established, and forage samples representing key grazing species were collected two to four times per year for mineral content analysis. Similar to central Arizona, forages across all sampling sites were deficient in Phosphorous (80% deficient), Copper (30-60% deficient), and Zinc (35-75% deficient), however southeastern Arizona faced much more significant deficiencies in Selenium (100% deficient). Additionally, some of the forages sampled had extremely high levels of iron (8 – 18x needed levels), which can act as an antagonist to other minerals. These preliminary results have been presented to ranchers across the region and state, resulting in alterations of several mineral programs. Due to high demand, an expansion of the testing area is underway. While supplementation is not an exact science, forage testing is an excellent tool to identify potential holes in a supplement program, provide cattle with the resources they need, and help Arizona's ranchers remain profitable and sustainable.

Western Region Entries

EVALUATING AGRICULTURAL WATER POLLUTION POTENTIAL IN THE DESCHUTES RIVER WATERSHED, SOUTH PUGET SOUND

Bramwell, S. G.[1]
[1]Agriculture Extension Faculty, Washington State University, Olympia, WA, 98503

The 2015 Deschutes River Total Maximum Daily Load Report by Washington State Department of Ecology recommended actions to improve bacteria, temperature, dissolved oxygen, pH and fine sediment conditions in the Deschutes watershed, south Puget Sound. There is a well-documented need to address agricultural nonpoint source pollution, but contributions of agricultural activity to water quality degradation remain unknown. The objective of this research project was to develop a protocol to characterize agricultural activity in this watershed to evaluate potential contributions to non-point source water pollution. A diverse group of stakeholders was convened including the Thurston County Stormwater Utility (regulatory), WSU Extension (research), and Thurston Conservation District (non-regulatory). Agricultural characterization work utilized parcel level data in existing conservation plans, Thurston County Geodata databases, pre-existing parcel inventories at the Conservation District, and a windshield survey methodology adapted from District practice. The 5,045 acre Reichel Creek sub-basin was selected as the pilot region within the Deschutes River to develop this protocol and database. Data collection occurred throughout spring and summer of 2017, and concluded with windshield survey field work in the fall. A database was developed to aggregate parcel level data and Geodata resources to generate data clusters quantifying general land use, agricultural land use, livestock activity including stocking density, stream proximity (including presence/absence of exclusion fencing by stream mile), and wetland

proximity. Ten percent of the sub-basin was designated long-term agriculture, 83 percent long-term forestry, and 7 percent residential. Of 563 agricultural acres, all of it was grazed or hayed, and 37 percent had livestock present consisting of a total of 176 animal units. Ninety-seven percent of all farmland fronted on Reichel Creek, 33 percent of farmed parcels along the stream had livestock present, and of these 40 percent had verifiable exclusion fencing and 60 percent could not be verified. It was determined that there was substantial nitrogen and phosphorus generated from the 176 animal units along Reichel Creek, with potential loss to the surface water. Study results identified priority landowner groups (by stocking densities and livestock creek access with unverifiable exclusion fencing) for targeted outreach and voluntary conservation projects.

SOIL MOISTURE

Schmelzer, L.[1]
[1]Extension Agent, MSU, COLUMBUS, MT, 59019

Weather phenomena can often be sudden and violent, causing a massive amount of damage. Drought, although less dramatic, is longer lasting, and causes even more damage and similar costs over a much longer period (Motha 2001). Montana was in a dramatic drought from 1997 to 2006. In Stillwater County there were 12 years of declining precipitation totals (WRCC, 2007). The effects of this drought have had an enormous impact on the state of Montana, its farmers and ranchers, forests due to fires, and overall economy. Our Stillwater county Drought advisory board came up with a plan to install soil moisture sensors to help capture this information and make it available to commissioners, governors drought advisory board and others that made drought disaster determinations. We found very little help and virtually no other systems in the nation.

We have instituted a new program to replace the original systems with much improved updated systems We have joined the Montana Mesonet http://climate.umt.edu/mesonet/default.php

Below are the identified List of Objectives for this three year process.

- Develop new web-based tools currently unavailable, to assist range managers in making critical decisions relative to disaster declarations and drought conditions, provide information for future planning concerning range production and management decisions based on local weather and soil moisture information (Whilhite 2000).

- Gather and assimilate soil moisture data from other sensor networks to achieve broad regional coverage (e.g. Wyoming, RAWS, and Scans).

- Develop an early drought warning tool that integrates sensor outputs and the site-specific soil properties to calculate plant available water

- Utilize the aggregated soil moisture data in conjunction with climate information to create and update decision-making tools such as *predicting forage production and stocking rates early in the grazing season on rangelands. (Kruse et al. 2007; Morgan et al. 2006);* predict grain yield based on current soil moisture and NWS long-term precipitation probabilities (Brown and Carlson 1990).

- Solicit feedback by end users through the development process of these tools and guides. (All years) Workshops have been scheduled in 2018 to accomplish this objective.

Southern Region Entries

BIOMASS APPLICATION BENEFITS FOR LOUDON COUNTY, TENNESSEE

Goddard, J.[1]
[1]Extension Agent, UT Extension, LOUDON, TN, 37774-1026

Fertilizers are a significant expense for American farmers and their prices are directly tied to the cost of energy. As fertilizer prices increase, viable alternatives are sought after. The by-product of corn fermentation processes "1,3-Propanediol (PDO)" spent microbial biomass (SMB), is one option high in nitrogen (9.3% on wet basis) that could be applied at prices drastically lower than those of chemical fertilizers. Currently, 15,000-30,000 tons of organic SMB, devoid of heavy metals, produced from a chemical plant is discarded after fermentation. There is reason to believe SMB could be reused as agricultural fertilizer. The objective of this 3-year study is to test SMB produced by a local chemical processing plant as a viable nitrogen fertilizer for field corn, corn silage, wheat, hay and pasture in Loudon County, TN. The biomass was hand applied in 2015 at rates 1 to 8 tons/acre and was compared to the current farmer practices of granular urea. Due to the SMB stickiness (peanut butter-like consistency), we compared 3 box spreaders in 2016-2017 (Gehl 1312 Side-Delivery, Hagedorn V 5290 and Kuhn Knight 2044 ProPush). Both Kuhn and Hagedorn with vertical beaters worked well.

The field corn was monitored throughout the growing season for nutrient availability and uptake through crop height by using a GreenSeeker ® and Minolta SPAD chlorophyll content meter. The corn and corn silage were harvested, weighed and moisture tested to determine yield. The fescue hay was harvested three times with a Troy-Bilt trail blazer 42"

sickle bar mower then weighed, dried and tested for yield and nutrient content.

The biomass was compared at varying rates to the current farmer urea fertilizer application rate. Nitrogen availability and crop uptake was compared within the treatments. No significant differences between the urea treatment and SMB treatment yields were found, indicating that SMB could offer a sufficient source of N in local crop and forage production.

The results of this research could allow the use of this byproduct in local agriculture, decreasing costs for farmers and repurposing waste. The manufacturer landfills $365,492 to $730,985 worth of SMB nitrogen annually at a cost of $525,000 to $1,050,000.

EFFECTS OF COVER CROPS ON CORN AND COTTON

Mallard, D. J.[1]; Raper, T[2]
[1]Extension Agent llI, UT, Jackson, TN, 38305
[2]Cotton and Small Grains Specialist, UT, Jackson, TN, 38305

Objective:

Brief statistical analysis of the data collected from Mr. Matthew Griggs' Adaptive Management project during the period from 2015-2017. Specifically, this analysis should include:

A statistical analysis of corn yield data collected at the end of the 2016 season.

A statistical analysis of cotton yield data collected at the end of the 2017 season.

Interpretation of trends noted from the soil sampling analysis conducted at various dates through the life of the project.

Method:

Data was received by Mr. Matthew Denton 30 Jan 2018. Treatment descriptions were as follows: CS represented a cool and warm season cover; RR represented a regular rotation, and WS represented a

warm season cover. Data was imported to a predictive analytics software (JMP Pro V.13, SAS Institute Inc., Cary, NC) for visualization. While soils data was processed exclusively in JMP, the corn and cotton yield data was analyzed as a randomized, complete block design and least significant differences were calculated in SAS (SAS Institute Inc., Cary, NC). Yield data was analyzed with the *proc glm* procedure and replication was considered random.

Over the three-year course of this project, several soil samples were collected. During 2015 and 2016, both organic matter and SHC measurements were collected across all treatments and consolidated to a single sample. During 2016 and 2017, total living microbial biomass, phospholipid fatty acid (PLFA) samples were collected across all treatments and consolidated for analysis. Data was interpreted as point measurements.

EFFICACY OF AMINOCYCLOPYRACHLOR APPLIED IN LATE WINTER FOR SUMMER WEED CONTROL

Meyer, Z. A.[1]; Pugh, B.C.[2]
[1]Extension Educator, AG /4H & CED, Oklahoma State University, Kingfisher, OK, 73750
[2]N.E. Area Agronomy Specialist, Oklahoma State University, Muskogee, OK, 74401

Herbicide options in pasture systems have increased greatly in the previous decade. However, producers still lack the variety of active ingredients and timing options provided to row crop systems. A replicated research study was initiated in Okemah, Oklahoma on a dormant Bermudagrass (*Cyonodon datylis*) pasture on February 28, 2013 prior to weed emergence. The site selected had a history of heavy infestations of Western ragweed (*Ambrosia psilostachya*), Carolina horsenettle (*Solanum carolinense*) and tropic croton (*Croton glandulosus*). Western ragweed exhibited a plant population of 10-20/ ft2 at emergence, which was 30 days after application (DAA). Ten treatments were established using a randomized complete block design with 3 replicates per treatment. The treatments consisted of an untreated check, GrazonNext® (GNHL) at 1.5 pts/A (aminopyralid 6.5% + 2,4-D 42%) (local standard), and yet to be released aminocyclopyrachlor products: Rejuvra® 2.5 oz, Rejuvra® 4.0 oz, Perspective® 2.5 oz, Perspective® 4.5 oz, a proprietary compound RRW97 1.5 pts, RRW97 2.5 pts, Invora® 12 oz and Invora® 24 oz. All applied treatments were effective at controlling emerging Western ragweed at 90 DAA. Additionally, all treatments offered control of other present broadleaf species.

ANNUAL RHUBARB PRODUCTION AS AN ALTERNATIVE ENTERPRISE FOR FARMS IN THE NORTH CAROLINA PIEDMONT

Snyder, E. M.[1]; Barrier, H.R.[2]; Cutting, D.M.[3]; Hill, L.D.[4]; Holcomb, D.X.[5]; Lenhardt, M.A.[6]
[1]Extension Agent, NC Cooperative Extension, Lenoir, NC, 28645
[2]Research Operations Manager- Horticulture, North Carolina Department of Agriculture & Consumer Services, Salisbury, NC, 28147
[3]Public Garden Manager, City of Salisbury, Salisbury, NC, 28144
[4]Extension Agent, NC Cooperative Extension, Concord, NC, 28027
[5]Extension Agent, NC Cooperative Extension, Taylorsville, NC, 28681

[6]Extension Agent, NC Cooperative Extension, Statesville, NC, 28677

Rhubarb (*Rheum rhubarbarum*) is not commonly grown in the North Carolina Piedmont, owing to its sensitivity to high temperatures and because it is not common in traditional local cuisine. However, many people have moved to the region from places where rhubarb is popular. Past research shows that rhubarb can be cultivated as an annual, where planting and harvest coincide with annual strawberry production. The objective of this study was to evaluate the feasibility of growing and marketing rhubarb as an annual crop alongside the regional strawberry production.

Extension agents in North Carolina's Piedmont partnered with the NCDA & CS Piedmont Research Station to grow and harvest rhubarb at the Piedmont Research Station and on cooperating farms in 2016-2018. 'Victoria' rhubarb was grown using the plasticulture system on four colors of plastic and in a bare ground treatment. Pest issues were minimal, though some transplant losses occurred. Rhubarb was harvested three times in April-May 2017, which coincided with strawberry harvest. At each harvest, petioles were weighed and graded to USDA No.1 Standards. Yields averaged 2 lb per plant. Highest yields were collected from black, silver, and red plastic treatments. 70% of rhubarb met USDA No.1 size standards but virtually none met the red color requirement. As such, rhubarb grown in the region will not likely be a viable wholesale crop. Growers reported selling 100% of harvested rhubarb through direct markets, for $4.00-$6.00 per lb. 60% of growers who participated in 2016-2017 are participating in 2017-2018.

A workshop for commercial growers and homeowners was held in May 2017 to share research results. Based on results from 2016-2017, annual rhubarb shows promise as a profitable direct-marketed alternative crop for farmers in the North Carolina Piedmont.

BERMUDAGRASS (CYNODON DACTYLON L.) CULTIVAR DIFFERENCES DURING THE YEAR-OF AND YEAR-AFTER ESTABLISHMENT IN SPRAY FIELDS

Spearman, B.[1]; Castillo, M. S.[2]; Sosinski, S.[3]; Chavis, T.[4]; Lahti, L.[5]; Wood, R.[6]

[1]Extension Agent, Livestock, NC Cooperative Extension, Elizabethtown, NC, 28337

[2]Extension Speacialist, Forage and Grasslands Program, North Carolina State Univseristy, Raleigh, NC, 27695

[3]Extension Technician, Forage and Grasslands Program, North Carolina State Univseristy, Raleigh, NC, 27695

[4]Extension Agent, Livestock, NC Cooperative Extension, Lumberton, NC, 28360

[5]Extension Agent, Livestock, NC Cooperative Extension, Fayetteville, NC, 28306

[6]Extension Agent, Livestock, NC Cooperative Extension, Laurinburg, NC, 28352

Bermudagrass is the most important warm-season perennial grass grown for forage and turf in the Southeastern USA. Identification of bermudagrass stem maggot (BSM) damage, the cost of establishment of bermudagrass, and potential loss of stands due to BSM, have triggered questions about which cultivars are best adapted under spray field conditions. An on-farm trial was started in Tar Heel, NC, with the objectives of evaluating establishment and productivity of five bermudagrass cultivars. Specific responses measured were: ground cover, canopy height, dry matter (DM) yield, and BSM damage during the year-of (2016) and year-after (2017) establishment. Treatments were bermudagrass cultivars 'Coastal', 'Ozark', 'Midland 99', 'Tifton 44', and 'Tifton 85'. These cultivars were selected because they are the most representative cultivars available in our region for vegetative establishment of bermudagrass.

Treatments were randomly allocated in a randomized complete block experimental design replicated three times. Planting occurred on April 6, 2016 using a sprig-planter calibrated at a rate of 40 bushel/acre. The on-farm site was chosen because it was a representative site for producers and a central location for field days among the participating counties. In 2016, 'Midland 99' achieved greatest canopy cover and both 'Midland 99' and 'Ozark' achieved greatest canopy height up until July. However, by August, all cultivars achieved 100% canopy cover and canopy height was ≥ 12 inches. The DM yield was not different among cultivars in 2016 (~3.8 Ton/ac); however, in 2017, DM yield of 'Tifton 85' was greater than other cultivars at approximately 4.9 Ton/ac compared to 3.7 Ton/ac for the others. The BSM damage was least for 'Tifton 85' (~27%) and greater for all other cultivars (~68%). Our results indicate that differences in DM yield among cultivars may be mediated by its ability to withstand BSM stem damage. A third-year of on-farm research will be conducted to reassess BSM damage and its impact on DM yield.

EVALUATING HERBICIDE INJURY IN CONTAINER GROWN FRASER FIR SEEDLINGS

Birdsell, T. E.[1]; Taylor, A.J.[2]; Owen, J.H.[3]; Neal, J.C.[4]; Edwards, B.[5]

[1]Extension Agent, Agriculture, North Carolina Cooperative Extension, JEFFERSON, NC, 28640

[2]Area Specialized Agent - Nursery and Greenhouse, North Carolina Cooperative Extension, Morganton, NC, 28655

[3]Area Christmas Tree Extension Specialist, North Carolina State University, Mills River, NC, 28759

[4]Extension Specialist, North Carolina State University, Raleigh, NC, 27695

[5]IPM Program Assistant, North Carolina Cooperative Extension, Jefferson, NC, 28640

Fraser Fir (*Abies fraseri*) is the dominant species of Christmas tree grown in North Carolina. It accounts for 95% of a 120

million dollar industry. Seedling and transplant production is an important component of the industry and weed control is one of the highest labor costs. Although there is extensive information on herbicide injury to common woody ornamental crops, there is little information available on the safety of herbicides for use on container-grown Fraser fir seedlings and transplants. The objective of this study was to evaluate injury to Fraser fir seedlings caused by the applications of various pre- and post-emergent herbicides. Dormant seedlings were potted on May 25 into 24 cell trays, and herbicide applications were made twice during the growing season. The first application was made on June 8, prior to bud break, and the second application made on July 28 as new growth was hardening off. Each product was tested at both a low and a high rate. Trees were evaluated for injury 3, 7, 14, and 28 days after treatments were applied. The majority of products tested did not significantly injure seedlings when compared to the control. The only product that caused significant damage was Fiesta (iron chelate). Trees treated with Fiesta suffered extensive damage (dieback or death) to new growth with both the low and high rates. Although few products damaged seedlings, many are not labeled for container production. This study is foundationally necessary in gaining supplemental labeling for containerized Fraser fir seedling and transplant production.

PREVENTING PERIODICAL CICADA DAMAGE TO NURSERY STOCK IN THE FOOTHILLS OF NORTH CAROLINA

Taylor, A.[1]
[1]Area Specialized Agent - Nursery and Greenhouse, NC Cooperative Extension, Morganton, NC, 28655

In the Foothills of North Carolina, there are thousands of acres of field-grown nursery stock. In 2017, a brood of 17-year periodical cicadas (*Magicicada septendecim*) was going to hatch. The last time this brood hatched, nursery growers reported major financial losses due to crop damage. Typical management strategies used in landscapes are not practical in nursery settings where there are thousands of trees to protect. Growers were in need of a practical method to reduce damage sustained from periodical cicadas. In the spring of 2017, a study was conducted to evaluate the efficacy of four insecticides (Acelepryn, Azatin, Scimitar, and Talstar) and two insect repellant products (Captiva and Surround) in preventing periodical cicada damage. Cicada damage on trees was rated on a scale of 1 to 10 after cicadas had finished egg laying. Trees treated with Surround (kaolin clay) had approximately 50% less egg laying damage than trees in any other treatment, including untreated trees. The average mean damage rating for untreated trees was 8.6, while that of the Surround treated trees was 3.7. The fine clay coating from an application of Surround may have been an irritant to the female's ovipositor and after inserting it into the tree a few times, the female flew to a new tree to lay eggs. These results show that the most successful periodical cicada management strategy focuses not on killing periodical cicadas but discouraging females from laying eggs on nursery stock. Insect repellants, like Surround, which aren't typically used in ornamental production, can be effective in preventing periodical cicada damage to nursery grown trees. The findings of this study will help nursery growers throughout the entire Eastern US, where periodical cicadas are found, protect their crops and reduce economic losses.

SHORT-TERM INSECTICIDE DRENCH IMPACTS ON RED HEADED FLEA BEETLE LARVAE IN CONTAINER NURSERY PRODUCTION

Lauderdale, D.[1]; Lauderdale, C.[2]; Griffin, C.[3]
[1]Area Specialized Agent-Nursery and Greenhouse, NC State Extension, WILSON, NC, 27893
[2]Extension Agent, Agriculture-Commercial Ornamental and Consumer Horticulture, NC State Extension, Wilson, NC, 27893
[3]Extension Agent, Agriculture-Horticulture, NC State Extension, Louisburg, NC, 27549

The red headed flea beetle (RHFB), *Systena frontalis*, an insect native to the United States, has become a pest of nursery crops throughout the southeast, along the Atlantic coast, and from Massachusetts to Michigan. Adults chew on foliage leaving holes in tender leaves and scars on thicker foliage. Multiple generation adult feeding through the summer and fall in container production results in enough damage to prevent plant sales due to appearance even though growers make numerous adult insecticide applications. Since the insects overwinter as eggs in container substrate and first generation larvae emergence has been determined based on growing degree days, a trial was conducted to test if some currently labeled drench applied insecticides, some in the labeling process, and some currently in development would be effective at reducing populations of larvae. *Hydrangea paniculata* 'Pinkie Winkie' plants growing in 3 gallon containers and found to have root systems infested with larvae were drenched with 7 different insecticide treatments and compared to an irrigation water drench (untreated control). The study consisted of 10 single plant replicates arranged in a randomized complete block design. Plant root systems and substrate were thoroughly examined 7-14 days after drench application and living larvae were counted. The Acephate 97UP drench resulted in 92% control of larvae. Efficacy of this treatment along with low product cost make this application a viable tool for use in RHFB managment programs. Future trials will determine how reduction of first generation larvae affects foliar damage and adult pesticide applications needed.

THE PERCEPTION OF SUSTAINABLE AGRICULTURE BY PRODUCERS IN NORTHEASTERN NORTH CAROLINA

Burchell, B.[1]; Neff, V.[2]
[1]Area Agent, Agriculture-Livestock, North Carolina Cooperative Extension, Halifax, NC, 27839
[2]Area Agent, Agriculture-Horticulture, North Carolina Cooperative Extension, Halifax, NC, 27839

This research was performed to determine the perception of sustainable agriculture and the practices being implemented by producers in northeastern North Carolina. Literature suggests that sustainable agricultural practices are needed to provide for the world's growing population as well as conserve the earth's natural resources and its environment. The concern is that producers are not aware of the core values of sustainable agriculture and its true definition. Understanding the kmowledge producers possess about sustainable agriculture and the practices being implemented will benefit Coopeartive Extension professionals to better serve thier agricultural communities. A survey was administered to 108 agricultural professionals in northeastern North Carolina, specifically to row crop producers. Results from this research concluded that producers in the area surveyed do possess an accurate perception of the definition of sustainable agriculture. Also, while there is implementation of sustainable practices in row crop production, producers expressed an interest in gaining more knowledge.

RESIDUAL EFFECT OF BROADLEAF PASTURE HERBICIDES ON VOLUNTEER WHITE CLOVER STANDS

Twidwell, E.K.[1]; Strahan, R.E.[2]
[1]Extension Specialist, LSU AgCenter, Baton Rouge, LA, 70803
[2]Extension Specialist, LSU AgCenter, Baton Rouge, LA, 70802

White clover (*Trifolium repens* L.) is a very important component of many pastures in Louisiana. A management practice that could potentially have a negative impact on white clover stands is the application of herbicides to control broadleaf weeds during the summer months. The objective of this study was to evaluate the tolerance of a volunteer white clover stand to application of six broadleaf pasture herbicide treatments. The treatment site was a pasture that was primarily composed of bahiagrass (*Paspalum notatum* Flugge) and white clover. Herbicides evualted included 2,4-D @ 2 pints/acre; Weedmaster @ 2 pints/acre; Picloram @ 1.25 pints/acre; Chaparral @ 2.5 ounces/acre and GrazonNext HL @ rates of 1.25 and 1.5 pints/acre. Herbicides were applied on May 22, 2015. Percent white clover in the mixed stand was determined at 315 and 347 days after treatment. At both evaluation dates the high rate of GrazonNext HL (1.5 pints/acre) and Chaparral had the most negative impact on the white clover, as the proportion of white clover in these treatments ranged from 17 to 23%. The herbicides 2,4-D, Picloram, and Weedmaster caused less damage to the white clover, as the proportion of white clover in these treatments ranged from 53 to 67%. Results of this suggest that application of GrazonNext HL and Chaparral herbicides for control of summer broadleaf weeds in pastures should be avoided if white clover is desired to be a component of a pasture mixture.

EVALUATION OF THE EFFECTIVENESS OF IN-FURROW PRODUCT COMBINATIONS IN THE PRODUCTION OF SOYBEANS

Dame, C. L.[1]; Shadrick, V.M.[2]
[1]ANR Agent, University of Kentucky, Madisonville, KY, 42431-8780
[2]ANR Agent, University of Kentucky, Dixon, KY, 42409

Widespread use of in-furrow products has been touted as a solution to issues with both fertility and overall plant health. Agriculture extension agents in Hopkins and Webster Counties have sought to address these mounting in-furrow utilization questions with emphasis on product evaluation and comparisons to determine if differences in yield and return on investment were measurable. Product placement and trial replication were key to the overall evaluation of products. Products were requested locally from those that were readily available to local producers and that could easily be used by producers with current equipment and other management methods. Agents hypothesized that there would be little to no response from the addition of in-furrow products and that the difference would be less than required to reach a break-even economic return. Site selection for the in-furrow evaluation encompassed both traditional crop rotation management practices and soybeans behind canola as well. A 4.8 maturity soybean variety was chosen for this test. Plots were entered into the FarmLogs online platform to efficiently manage production data and information regarding plant development. Planting populations were set at a constant rate of one hundred eighty-five thousand plants per acre in an attempt to avoid replant issues with the unseasonably high rainfall events experienced during the planning stages. Yield data was analyzed using ANOVA techniques and means were separated using Duncan's Multiple Range Test. There were significant differences recorded among the various products tested. Further studies will be conducted to evaluate in-furrow products in regard to soybean production.

2017 MATURITY GROUP V NON-IRRIGATED SOYBEAN VARIETY TRIAL IN NORTHEAST GEORGIA

Connelly, F.[1]; Cheely, Tammy[2]; Marcellino, P[3]; Sapp, P[4]; Freeman, M[5]
[1]County Extension Coordinator, University of Georgia, Eastanollee, GA, 30538
[2]County Extension Coordinator, University of Georgia, Gibson, GA, no state given, 30810
[3]County Extension Agent, University of Georgia, Elberton, GA, no state given, 30635
[4]County Extension Coordinator, University of Georgia, Lousiville, GA, no state given, 30434
[5]UGA Agronomist, University of Georgia, Statesboro, GA, no state given, 30458

Georgia planted 260,000 acres of soybeans in 2016. In 2017, due to weather conditions planted acres was below the forecasted planted acres of 250,000 at 155,000 acres. Many NE Georgia farmers incorporate maturity group V soybeans in dryland production following a cover crop or rotational winter grazing options for livestock. Over the past 10 years soybean yields have ranged between 30 and 45 bushels per acre. Variety selection is one of the most important agronomic decisions a grower will make. Variety performance can greatly influence a grower's economic profit potential and at current soybean prices a difference of 10 bushels/acre can mean over $97/acre more profit to the grower.

Soybean producers depend on UGA Extension research trial information to select the best performing variety for their operation. The county agent in Glascock along with agents from Elbert, Banks, Stephens and Jefferson recognized the need for a varietal data to assist growers in their management decisions. The county agents in collaboration with the UGA Extension soybean agronomist implemented the 1st on-farm UGA Extension Maturity Group V Soybean variety trial to address this issue.

This study compared five maturity group V soybean varieties no-tilled into a rye cover crop. The varieties were replicated three times in randomized complete block design. Yields and moisture content was taken at harvest.

OPTIONS FOR HORN FLY CONTROL ON GEORGIA BEEF HERDS

Hinkle,N.[1]; Burnsed, J.[2]; Fitzpatrick, R.[3]; Waldorf, R.[4]; Lovett, W.[5]; Daniel, D.[6]; Evans, R.[7]; Gafnea, T.[8]; Jackson, C.[9]; Rich, A.[10]; Jones, L.[11]
[1]Professor of Entomology, University of Georgia, Athens, GA, 30602
[2]County Extension Coordinator, University of Georgia, Monroe, GA, 30655
[3]County Extension Coordinator, University of Georgia, Carnesville, GA, 30521
[4]County Extension Coordinator, University of Georgia, Homer, GA, 30547
[5]County Extension Coordinator, University of Georgia, Alma, GA, 31510
[6]County Extension Coordinator, University of Georgia, Greensboro, GA, 30642
[7]County Extension Agent, University of Georgia, Pembroke, GA, 31321
[8]County Extension Agent, County Extension Agent, Monticello, GA, 31064
[9]County Extension Coordinator, University of Georgia, Forsyth, GA, 31029
[10]Graduate Research Assistant, University of Georgia, Athens, GA, 30602
[11]DVM, University of Georgia, Tifton, GA, 31793

Horn flies are the most important pest of cattle in the United States. In Georgia, horn flies show up on cattle early in the spring and persist until after fall's first hard frost, yielding 15 generations per year.

The horn fly is a small, dark colored fly that feeds on the blood of cattle and other livestock. This fly poses to be nuisance to cattle by causing the animal to exhibit decreased grazing, lowered feeding efficiency, and reduced milk production. These reasons occur because of the time and energy the animal must expend fending off the horn fly.While resistance to insecticides is widespread in Georgia horn fly populations, implementation of product rotation programs permits horn fly suppression while preserving the use-life of registered horn fly control products. Available products include: 1) Insect Growth Regulators 2) Pyrethroids 3) Organophosphates 4) Macrocyclic lactones (e.g., ivermectin, abamectin). No product should be used for more than three years in a row. Rotation depends on the product's mode-of-action, not on brand names.

SCREENING CHEMICAL CONTROL OPTIONS FOR THE BERMDUGRASS STEM MAGGOT

Lovett, W.[1]; Anderson, H.[2]; Baxter, L.[3]; Edwards, P.[4]; Hancock, D.[5]; Kichler, J.[6]; Kicklighter, J.[7]; Knight, C.[8]; Sapp, P[9]
[1]County Extension Coordinator, University of Georgia, Alma, GA, 31510
[2]County Extension Agent, University of Georgia, Fitzgerald, GA, 31750
[3]Post Doctoral Research Associate, Crop and Soil Sciences, University of Georgia, Tifton, GA, 31794
[4]County Extension Coordinator, University of Georgia, Ocillia, GA, 31774
[5]Forage Extension Specialist, Crop and Soil Sciences, University of Georgia, Athens, GA, 30602
[6]County Extension Coordinator, University of Georgia, Moultrie, GA, 31788

[7]County Extension Agent, University of Georgia, Moultrie, GA, 31788
[8]County Extension Agent, University of Georgia, Statesboro, GA, 30458
[9]County Extension Coordinator, University of Georgia, Waynesboro, GA, 30830

Bermudagrass (Cynodon dactylon) is one of the primary forage crops grown in the Southeastern US. Unfortunately, the recent invasion of the bermudagrass stem maggot (BSM; Atherigona reversura Villenueve) has damaged bermudagrass pastures and hayfields. Strategically-timed pyrethroid applications can significantly reduce adult BSM populations and protect bermudagrass during the most sensitive regrowth phase. Pyrethroids are the only effective insecticide mode of action reccomended for control of Bermdua Stem Maggot at this time. Overuse of pesticides of a single mode of action to combat a pest capable of producing a large number of offspring is likely to eventually result in resistance. The objective of this research was to evaluate the effectiveness of four insecticides on suppressing the BSM. Seven County Agents were randomly assigned an insecticide (zeta-cypermethrin, malathion, carbaryl, or spinosad) to be applied on a grower's field. Agents swept the field for BSM before and after each spray application to determine effectiveness of the chemical. The zeta-cypermethrin and malathion most effectively reduced BSM populations ($P < 0.001$; 91% and 84% reduction, respectively), followed by carbaryl (41%) and spinosad (21%). These results will be used to design on-farm experiments for 2018.

THE EFFECT OF TIMING AND MAGNITUDE OF FRUIT ZONE LEAF DEFOLIATION ON YIELD, CHEMISTRY, AND DISEASE IN CHARDONNAY WINE GRAPES

Macallister, C.[1]; Eason, N.[2]; Hickey, C.[3]
[1]County Extension Coordinator, University of Georgia, Dawsonville, GA, 30534
[2]County Extension Coordinator, University of Georgia, Cleveland, GA, 30528
[3]Extension Viticulture Specialist, University of Georgia, Athens, GA, 30602

Fruit zone leaf defoliation is a management tool used to reduce disease pressure and improve berry composition in wine grapes. Although this method has documented benefits in other grape-growing regions of the United States, it has never been evaluated in the southeastern US, particularly in Georgia. However, the change in fruit zone light and radiation experienced with leaf removal can result in different effects on fruit quality across climactically-distinct regions. Thus, it was of interest to see if leaf removal would affect crop yield, quality, and disease incidence. Fruit zone leaves were removed from Chardonnay (*Vitis vinifera*) grape vines in Dahlonega, GA. Seven leaf removal methods were evaluated: pre-bloom removal of 6 leaves (PB6); pre-bloom removal of 4 leaves (PB4); post-fruit set removal of 6 leaves (PFS6); post-fruit set removal of 4 leaves (PFS4); pre-bloom removal of 2 leaves followed by post-fruit set removal of 2 leaves (PB2-PFS2); pre-bloom removal of 3 leaves followed by post-fruit set removal of 3 leaves (PB3-PFS3); no leaves removed (NO). PB6 reduced total crop yield by 34% compared to PFS4. NO and PB4 reduced total crop yield by 20-24% when compared to PFS4, but these differences were not statistically significant. All treatments reduced Botrytis bunch rot (*Botrytis* cinerea) by 48-78% compared to NO. Total titratable acidity was reduced by 8-18% in all leaf removal treatments compared to NO. When compared to all treatments except PFS4, NO reduced soluble solids by 0.7-1.0 degrees Brix. Results from this first year of our multi-year trial indicate that fruit zone leaf removal has great potential to reduce Botrytis bunch rot incidence and improve the balance of sugar and acidity in harvested grapes. However, timing of defoliation has important implications for crop yield. Removing fruit zone leaves before bloom may result in crop losses when compared to removing leaves after fruit set. For these reasons, our immediate recommendation is to manage the fruit zone by aggressively removing leaves immediately after fruit set to maintain crop quantity and quality and reduce bunch rot.

A SURVEY OF PEST MANAGEMENT STRATEGIES IN FLORIDA'S CRUCIFER PRODUCTION

Thompson, S.[1]; Pinkerton, M.[2]; DeValerio, J.[3]; Hodges, A.[4]
[1]Graduate Student, University of Florida Institute of Food and Agricultural Sciences, Department of Entomology and Nematology, Gainesville, FL, 32611
[2]Graduate Student, University of Florida Institute of Food and Agricultural Sciences, Department of Entomology and Nematology, Gainesville, FL, 32611
[3]Extension Agent 2, University of Florida Institute of Food and Agricultural Sciences, Bradford County, Starke, FL, 32091
[4]Associate Extension Scientist and Director, University of Florida Institute of Food and Agricultural Sciences, Doctor of Plant Medicine, Gainesville, FL, 32611

The bagrada bug, *Bagrada hilaris* (Burmeister), is an invasive species which is primarily a pest of early season cruciferous crops. In 2008, this pest was introduced to California and it has since spread throughout the Southwestern United States. *B. hilaris* is frequently intercepted by interstate agricultural interdiction stations and is becoming an increasing concern as it spreads eastward. **Objectives:** 1) Confirm absence of *B. hilaris* in cole crops, 2) Evaluate current pest complexes in Florida's cole crops, and 3) Survey grower management strategies. **Methods:** Three growers representing production for three different market types were selected. Five field sites each had a stink bug trap baited with a combo lure. Biweekly field visits included checking traps, visually scouting fields, and sweep netting weeds surrounding the crops. Stink bugs were identified to species and non-target insects were identified

broadly to family distinguishing between beneficial and pest species. Additionally, growers throughout Florida answered questions regarding current management practices and pest monitoring. **Results:** To date, *B. hilaris* is not present in cole crop production in Bradford County. Temporal stink bug population and pest dynamics were recorded. **Conclusions:** Current pest complexes do not target young crops making an early season pest like *B. hilaris* of particular concern. Based on present management strategies many growers are not equipped for the establishment of *B. hilaris*. This project represents a collaborative effort between two University of Florida graduate students and the agricultural extension agent of Bradford County effectively working to bridge the gaps between science and the field.

AN ECONOMIC ANALYSIS OF INTERSEEDING COOL-SEASON LEGUMES INTO PERENNIAL GRASS PASTURES

Prevatt, C.[1]; Tucker, J.[2]; Mullenix, K.[3]
[1]State Specialized Agent, University of Florida/IFAS, Ona, Fl, 33865
[2]Assistant Professor, University of Georgia, Tifton, GA, 31794
[3]Assistant Professor, Auburn University, Auburn, AL, 36849

While perennial grass pastures provide the basis for beef production systems, interseeding cool-season legumes into these pastures can serve as complementary resources for filling in forage production gaps, reducing stored feed needs, reducing the need for nitrogen fertilizer, increasing the nutritional quality of forage, increasing biomass production, improving animal performance, and reducing the toxic effects from endophyte-infected tall fescue. An economic analysis was conducted evaluating the research of 19 peer-reviewed publications to measure the potential value and added costs of interseeding cool-season legumes into grazed perennial grass pastures over a 10-year production period. An electronic spreadsheet was developed as a tool to help producers determine if interseeding cool-season legumes into their perennial grass pastures can be an economically viable production practice for their operation. The economic factors included in the spreadsheet were a) cost of cool-season legume seed, b) cost of seeding application, c) increase in average daily gain, d) increase in forage production, e) grazing utilization, and g) cost per dry matter ton. The value of gain and animal gain were calculated by the excel spreadsheet. The value of gain ranged from $3.69 to $88.56 per acre. The level of animal gain ranged from 5 to 108 pounds of gain per acre. The most sensitive economic factors in the data set were increase in average daily gain, grazing utilization, and cost per dry matter ton.

EVALUATING COOL SEASON FORAGES FOR SOUTH CENTRAL FLORIDA

Bosques, J.[1]; Rivera-Melendez, F.[2]; Wallaw, M.[3]
[1]County Extension Agent, Agriculture, UF/IFAS, Wauchula, FL, 33873
[2]County Extension Agent, Small Farms, UF/IFAS, Seffner, FL, 33584
[3]Extension Agronomist, UF/IFAS, Gainesville, FL, 32603

Growing forages in the winter and early spring can be challenging in South Central Florida. With short days and limited rain Bahia grass and Hermathria grass go dormant at the peak lactation period of beef females, and if ranchers do not adjust to this fact they are often forced to purchase supplemental feed thus significantly increasing their production costs. During the fall of 2017 County Extension Agents planted 43 different cool season forage varieties in Hardee County. The objective of this trial was to evaluate the forages that could fill the production gap for winter and early spring months. Forages were evaluated for growth, disease tolerance and ability to suppress winter weeds. A factsheet and photo log was created to provide livestock producers with the results of the 2017-18 trial. From the legume trials, white, red, crimson and Persian varieties outperformed the rest of the crops in disease, weed resistance and growth. From the cereal grains, oats (varieties: Cosaque, Legend 567, and Horizon 306), Ryegrass (varieties: Earlyploid, Big Boss, Prine, TAMTBO, Jumbo, Attain, and Florilina), and Wheat (varieties: Haas, and Gore), outperformed all other cultivars. Selecting the right seed can save livestock producers considerable amounts of money and guesswork. More trials need to be conducted to evaluate the performance of these forage crops for yield and variability of soils in the area.

SMALL PLOT PEANUT FUNGICIDE EFFICACY TRIALS

Wynn, K.[1]; Dufault, N.[2]; Vann, C.[3]; Fenneman, D.[4]; Broughton, D.[5]; Troy, P.[6]
[1]Extension Agent II, University of Florida, Jasper, FL, 32052
[2]UF Assistant Professor and Extension Specialist, University of Florida, Gainesville, FL, 32611
[3]Extension Agent, University of Florida, Mayo, FL, 32066
[4]Extension Agent, University of Florida, Madison, FL, 32340
[5]Extension Agent, University of Florida, Live Oak, FL, 32064
[6]Extension Regional Specialized Agent, University of Florida, Live Oak, FL, 32064

Peanut is an important commodity crop in the Suwannee River Valley. In 2017, 45,000 acres of peanuts were planted in counties surrounding the North Florida Research and Education Center (NFREC) – Suwannee Valley. A peanut disease research program led by Dr. Dufault was established to address management needs of this commodity. **Objectives:** To (1) assess the efficacy of commonly used peanut fungicide

programs, and (2) provide local Extension agents with experiential learning opportunities related to disease management. **Methods:** UF/IFAS Plant Pathologist, Nicholas Dufault and UF/IFAS Hamilton County Extension agent, Keith Wynn collaborated with NFREC – Suwannee Valley staff in 2015 to incorporate replicated small plot fungicide trials at the center. This trial evolved into a yearly research program that evaluates the efficacy of various fungicide treatments. Dr. Dufault is responsible for determining the fungicides tested, retrieving chemicals, and interpreting data collected from the trials. Local Extension agents are responsible for applying fungicide applications and taking disease ratings. **Results:** Data collected from disease ratings and yields are used to generate fact sheets, publications, and presentations that are distributed in production meetings throughout the state. Extension agents receive hands-on training with fungicide application methods and disease identification which increases their confidence when interacting with producers. **Conclusions:** This research allowed Extension agents to provide producers with timely information about the efficacy of fungicide products and monitor diseases throughout the season. Because of these trials, producers have seen the benefit of incorporating fungicides into their management programs and have made changes to their disease management plans.

THE TREATMENT WINDOW APPROACH FOR MANAGING DIAMONDBACK MOTH (LEPIDOPTERA: PLUTELLIDAE) IN BRASSICA CROPS IN FLORIDA

Wells, B. C.[1]; Smith, H.A.[2]; England, G.K.[3]; Chambers, S.D.[4]
[1]Extension Agent II, Commercial Agriculture, UF/IFAS Extension St. Johns County, St. Augustine, FL, 32092
[2]Assistant Professor, UF/IFAS Gulf Coast Research and Education Center, Wimauma, Fl, 33598
[3]Regional Specialized Agent IV, Multi-County, UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, 32145
[4]Farm Manager, UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, 32145

The diamondback moth (DBM), *Plutella xylostella* (L.), is one of the most damaging pests of brassica crops worldwide and is notorious for developing insecticide resistance. DBM has been a pest in Florida since 1883 and is now found in all cabbage producing areas of North America. In spring 2016, growers reported uncontrollable DBM populations across the state, and this widespread failure of chemical control suggests resistance development. It is customary in resistance management to avoid applying the same mode of action to successive generations of the same pest. The "treatment window" approach uses the average life cycle of pests to determine the time span in which modes of action should be alternated. A four-week treatment window may be used to design insecticide rotations for DBM management. A fundamental question in chemical control of DBM is optimal placement of diamide and biorational insecticides in the rotation because these materials interfere least with the activity of parasitic wasps that attack DBM larvae and pupae. Insecticide rotations were evaluated at the UF/IFAS Hastings Agricultural Extension Center in Florida in the fall and spring of 2016 through 2018. Three eight-week rotations were compared to an untreated control for the management of the DBM and other larvae attacking cabbage and collards. The trials compare application rotations of the systemic diamide chlorantraniliprole with *Bacillus thuringiensis*, the insect growth regulators novaluran (cabbage) or diflubenzuron (collards), and a grower standard insecticide rotation containing methomyl. Insecticide rotations were evaluated based on suppression of the DBM and other Lepidoptera, enhancement of parasitism, and plant damage. Worm counts and plant damage ratings were higher for the plots receiving the grower standard insecticide rotations when compared to the other treatment rotations in the trials evaluated from fall 2016 through spring 2017. Data collection for spring 2018 is in progress. Results will contribute to improved management of the DBM and other caterpillar pests attacking brassica crops in Florida and beyond.

DALLISGRASS CONTROL IN HAY MEADOWS

Taylor, J.C.[1]
[1]CEA - Staff Chair, UofA Division of Agriculture Research & Extension, Ozark, AR, 72949

Dallisgrass (*Paspalum dilatatum*) is a fast growing perennial warm-season grass used primarily for pasture. It has wide, smooth leaves and a deep root system. It is found statewide and typically grows in low lying moist soils. It is especially well-adapted in the south half of Arkansas. Although cattle find it palatable as a forage it is very competitive in wet soils and tends to invade bermudagrass (*Cynodon dactylon*) or other forages growing in those sites. Dallisgrass is often considered a contaminant or weed in bermudagrass grown for horse hay because it often turns dark brown color when baled resulting in poor eye appeal of the hay.

The growing season of these two grasses are virtually the same except for one small difference. During the fall season Bermudagrass goes dormant before Dallisgrass providing a unique window of opportunity to apply herbicides that would otherwise damage bermudagrass

In the fall of 2017 eight different herbicide treatments were tested in Franklin County one of which provided excellent control. Glyphosate provided over ninety percent control at a rate of 16 oz per acre and is the most cost efficient at $1.75 per acre.Compared to other control measures at $8.50 per acre which are less effective the potential dollar value impact is $6.75 per acre and $135.00 per 20 acers. Results were shared through social media reaching 575 individuals. resulting in a potiential impatct of 77,625. As soon as the producer saw the results he stated "I'm going spray my field right now."

EVALUATING INOCULANT ON LATE PLANTED SOYBEANS IN ARKANSAS

Carroll, A. G.[1]
[1]CEA-Agriculture, UofA Division of Agriculture Research & Extension, DeValls Bluff, AR, 72041

In an effort to ensure profitable production on the estimated 3.5 million acres of soybean, *Glycine max*, harvested in 2017, Arkansas farmers are analyzing inputs and focusing on production practices that will increase net profits. In the right circumstances, soybean inoculants can be a tool to maximize yield and profits. The soybean inoculant is applied to the soybean seeds prior to planting. Nitrogen fixation, the process of converting nitrogen gas in the soil air to ammonia, occurs through the symbiotic relationship between soybean plants and the *Bradyrhizobium* species, a bacteria which infects soybean roots. The resulting infection causes the formation of nodules on the soybean roots. Within these nodules is where the fixation process occurs. The soybean plant gets needed nitrogen from this relationship with the bacteria, and unused nitrogen remains in the soil. An on-farm strip trial demonstration was established in Prairie County, AR on June 7, 2017 to compare grain yield of inoculated verses non-treated soybean seed. Treatments were replicated three times in an irrigated soybean field. Each plot was harvested and measured with a weigh wagon to evaluate differences in grain yield. The result was an average of a 1.0 bushel increase with the use of an inoculant. Due to low plant stresses throughout the growing season, there was not a significant yield difference between the treatments.

EVALUATION OF PLANTING DATES FOR FALL FORAGE YIELD OF SEVEN WINTER ANNUAL FORAGES

Caraway, J.[1]; Simon, K.J.[2]; Jennings, J.A.[3]; Beck, P.A.[4]
[1]CEA - Agriculture, UofA Division of Agriculture Research & Extension, Texarkana, AR, 71854
[2]Animal Science Program Associate, University of Arkansas, Little Rock, AR 72204, no state given,
[3]Professor and Extension Forage Specialist, University of Arkansas, Little Rock, AR 72204, no state given,
[4]Professor - Animal Science, University of Arkansas, Hope, AR 71801, no state given,

Livestock producers often plant winter annual forages intended for fall and winter grazing, but are reluctant to plant before October, due to the fear of stand failure caused by hot, dry weather conditions. However, delaying planting until October also delays grazeable forage production until late February or early March. Seven winter annual forage species were planted in late August and early October at the University of Arkansas-Southwest Research and Extension Center in Hope to evaluate the influence of planting dates on fall dry matter production. The winter annual forage species included: Elbon rye, VNS winter wheat, Jerry oat, Coker 227 oat, Fridge triticale, WinterHawk ryegrass, and Winfred forage brassica. Plots were no-till planted onto a fallowed site. Prior to planting weeds were sprayed and mowed to provide a uniform stubble height. All the plots were harvested in early December. DM yield for all the treatments was low, < 1,000 lbs./ac., regardless of planting date. This is likely due to a combination of hot and dry weather along with a high percentage of weeds for the August planting. Temperatures were very hot during September, 17 days >90°F, with very little rain for 2 months after planting. August planted Jerry oat was the only early treatment that out yielded the October plantings. This is a case where late summer planting produced good stands but little fall yield. However, this was a one year trial and in other parts of the state where this trail was replicated, much higher yields were observed. Even though late summer planting has a risk of hot dry weather, if a producer needs fall grazing, early planting is a must.

HORN FLY CONTROL ON CATTLE USING INSECT GROWTH REGULATOR

See, B.[1]
[1]CEA-AGRI, UACES, YELLVILLE, AR, 72687

A high population of different flies can have a negative impact on the productivity and profitability of beef cattle enterprises. The horn fly is a blood feeding pest of pastured beef cattle. The horn fly is responsible for losses of beef cattle performance in the millions of dollars each year. A fly control demonstration was implemented on a small beef farm in Marion County for two consecutive years. The 39 head beef herd was isolated from other herds. The beef cows were fed a complete mineral with an insect growth regulator (IGR). The IGR in the 4% beef mineral used in the demonstration was S-Methoprene. Cattle were fed the mineral free choice from June until the middle of October each year. A fly count was taken every two weeks on 10 of the 39 cows in the herd.

The average number of flies per cow never reached above economic threshhold. However in the second year of the study it was noted that fly numbers continued to climb through the later part of the season. This information may indicate that the fly population began to build an immunity to the S-Methoprene.

Based on the results from this demonstration feeding cattle an IGR mineral can be an effective way to keep horn flies below threshold throughout the fly season. However, it is recommended to rotate mineral to a different IGR every year to insure that the fly population does not become immune to a particular IGR.

IMPROVING IRRIGATION EFFICIENCY WITH TECHNOLOGY

Beckwith, A.G.[1]; Horton, A.P.[2]; Henry, C.G.[3]
[1]CEA - Agriculture - Staff Chair, University of Arkansas Division of Agriculture, Stuttgart, AR, 72160
[2]CEA - Agriculture, University of Arkansas Division of Agriculture, DeWitt, AR, 72042
[3]Assistant Professor, University of Arkansas Division of Agriculture, Stuttgart, AR, 72160

On the Grand Prairie soils of Arkansas County irrigating soybeans is a necessity to raise profitable soybeans. Years of utilizing groundwater to irrigate soybeans and the rice grown in rotation has led to a drop in the ground water table and in some areas surface water is being used because it is no longer economical to pump water from the depths of the aquifer.

The main objective of this research was to show that by utilizing current technology to monitor soil moisture levels in the soil profile along with a surge valve to increase water infiltration we can decrease the acre inches of water required to grow a crop and not reduce yield. This study was conducted in a grower's field northeast of Stuttgart, Arkansas in the summer of 2017 with a soybean crop planted behind oats. A surge valve was utilized to increase water infiltration on the study side while the control side of the field was watered as the grower normally had. Irrigations were triggered on the surge side by the data provided from the soil moisture sensors. At harvest time we cut four 1.89 acre strips from the surge side and the same from the control side so that statistics could be ran on the data.

The surge side yielded 56.4 bu/ac of soybeans and used 5.8 inches from 2 irrigations. The control side yielded 52.9 bu/ac of soybeans and used 14.27 inches from 3 irrigations. At a significance level of p=.02 we had a significant difference with the higher yield and less water.

The farmer stated that by utilizing the surge valve it reduced the time it took to water the field and put more water in the field instead of the drainage ditch. From this study we can see that it is possible to utilize less water and energy and increase the yield at the same time.

QUANTIFYING LEVELS OF NEMATODES IN ARKANSAS RIVER VALLEY SOYBEANS

Harper, R. S.[1]; Fryer, M.[2]; Lawson, K.[3]; Griffin, B.[4]
[1]CEA-AG, University of Arkansas Division of Agriculture, Paris, AR, 72855
[2]CEA-AG, University of Arkansas Division of Agriculture, Van Buren, AR, 72956
[3]CEA-AG, University of Arkansas Division of Agriculture, Perryville, AR, 72126
[4]CEA-AG, University of Arkansas Division of Agriculture, Clarksville, AR, 72830

Nematodes are an economically important pest in soybean production. In Arkansas, yield suppression of up to 50% can be seen with high densities and correct conditions. This costs millions in lost production to Arkansas soybean growers. Three main species are of economic concern in Arkansas soybean fields: the southern root-knot nematode (RKN), *Meloidogyne incognita;* the soybean cyst nematode (SCN), *Heterodera glycines;* and the reniform nematode (RN), *Rotylenchulus reniformis*. These nematodes can be found primarily in sandy or light soils. The Arkansas River Valley in west-central Arkansas has many of these soil types in which soybeans are grown. County Extension Agents throughout this area worked together to collect samples in soybean fields to determine presence, density and type of nematodes in the region. Four agents collected a total of 76 samples that were submitted to the Nematode Diagnostic Clinic at the University of Arkansas Southwest Research and Extension Center in Hope. The samples were collected using a random field sampling of susceptible soil types to a depth of 6 inches. Of all samples, 89% had some species of nematode present, while only 22% of samples had nematode levels that were economically significant for soybean production. The most prevalent species was RKN, which accounted for 87.5% of the samples above economic threshold. These results show that there is a need for increased use of resistant varieties, crop rotation out of host plants, and possible nematicide applications in the River Valley. Results were distributed to growers before the subsequent cropping season.

SOYBEAN INNOCULATION IN ARKANSAS

Goodson, R.[1]; Ross. J.[2]; Hardesty, C[3]
[1]CEA- AGRICULTURE, Univ of Ark. Division of Agriculture, HELENA, AR, 72342
[2]Soybean Agronomist, Universtiy of Arkansas, Division of Agriculture, Little Rock, AR, 72204
[3]Producer, no affiliation given, Lambrook, AR, 72353

Soybeans have a high Nitrogen requirement, especially during reproduction. A typical soybean plant removes 3.8 pounds of Nitrogen per bushel of yield. A 70 bushel per acre soybean crop will take up roughly 330 pounds of N/acre in the above ground portion of the plant, roughly equivalent to the nitrogen demand of a 245 bushel acre corn crop. Plants generally fulfill this requirement by biological fixation. The process of fixing nitrogen in the soil occurs through the symbiotic relationship between soybeans and the bacteria within the nodules of soybean roots. Soybeans need the bacteria *Bradyrhizobium japonicum* to form nodules on the plant roots. These nodules fix nitrogen from the atmosphere and supply it to the plants. Normally this bacterium is present in fields where soybeans have been grown in recent years. The premise was to inoculate soybean seed and gain an economic advantage of this extra bacterium. To accomplish this a result demonstration was completed with seed inoculation, on fields

where soybeans had been grown the previous year. Because Philips County is one of the largest soybean counties in the state of Arkansas, it along with 7 other counties in the state was selected for this demonstration for the 2017 growing season. The Phillips County location showed an increase of 3.7 bu/ac. With a cost of $5.67 this location showed an economic benefit to use the seed inoculant at this location. However, the rest of the state was not as profitable, with an average yield increase of 1.07 bu/ac. Even with the market price of $9.65, this increase did have an overall economic advantage. This project will be conducted again during the 2018 growing season to further test this theory. The initial results of this demonstration were published in the Phillips County 2017 Demonstration Result Report and presented at soybean production conferences across the state during the spring of 2018.

YIELD AND ECONOMIC EVALUATION OF COTTON VARIETIES FROM LARGE-BLOCK ON-FARM TESTS IN NORTHEAST ARKANSAS

Howell, A.[1]; Robertson, B.[2]
[1]County Extension Agent-Agriculture, University of Arkansas System Division of Agriculture Cooperative Extension Service, Clay County, Piggott, AR, 72454
[2]Cotton Agronomist, University of Arkansas System Division of Agriculture Cooperative Extension Service, Little Rock, AR, 72204

Many different cotton varieties and technologies are available to farmers today. Small plot cotton variety trials are conducted all throughout the south and in Arkansas and provide valuable information on the performance of cotton varieties. They provide the yield of each, but not the quality. Little information is available with regard to fiber quality from a commercial ginned study. Discounts associated with excessive leaf and micronaire are common in Arkansas. A cotton variety may yield well, but that does not mean that it will be the most profitable. The objective of this research is to assess and compare yields of each variety along with quality and price. Five cotton companies each picked two varieties and donated seed for each variety for this study. Seventy-two rows of each of the ten varieties were planted and treated the same throughout the growing season. At the end of the year, 54 rows of each variety were picked and ginned separately to observe quality differences. Farmers are able to use this data to observe which varieties would perform better on their farms to produce good quality cotton, along with high yields. The highest yielding variety in this test was ST5020, but the variety that brought the most income per acre was DP1725. DG3385 yielded the same as ST5020, with both good quality and the second highest per acre income. The difference in cotton varieties could make a big difference in the price they earn per acre. For example, if a farmer in Clay County chose the best and worst performing varieties in this test (in terms of quality); it could end up being a difference of around $120.00 per acre. For cooperating producer David Cagle, if he used this data across his whole farm, the difference in the worst and the best performing variety could make a difference of $145,000. There aren't many producers in this area that wouldn't be willing to make an extra $10,000 on an 80 acre field just by simply choosing the right variety. The information assists them in selecting varieties that have the potential to increase their profits.

COMPARISON OF ON-FARM IRRIGATION SCHEDULING PRACTICES IN SOUTHEAST ALABAMA PEANUT PRODUCTION

Dillard, B.A.[1]; Kelton, J.A.[2]; Bouselmi, A.[3]
[1]Regional Agent- Row Crop, Alabama Cooperative Extension System, Geneva, AL, 36340
[2]Regional Agent- Farm and Agribusiness Management, A, Headland, AL, 36345
[3]Regional Agent- Row Crop, Alabama Cooperative Extension System, Abbeville, AL, 36310

One of the hardest decisions in irrigating crops is knowing when to turn the irrigation on and/or off. Farmers have struggled with this decision for decades. It's supposed to rain tomorrow, the crop is not wilting, or this crop is almost at maturity are just a few thoughts that go through a farmers mind when turning on irrigation. For these reasons, there has been a lot of emphasis in the past 5 years on helping farmers schedule irrigation initiation and termination. In 2017, the Alabama Cooperative Extension System decided to research the difference in four of the most common scheduling practices on peanut (*Arachis hypogaea*): checkbook method, PeanutFarm App, watermark probe, and capacitance probe. We also included a rain fed check plot. Each scheduling practice was replicated three times. Four row plots were planted and a drip irrigation line was run between the middle to rows (harvest rows of plot). As the individual scheduling practice called for irrigation, we turned that row on and irrigated for the hours needed to get to soil water holding capacity level.

After irrigating plots according to irrigation scheduling practice recommendations, yield was recorded for the peanut crop. The yields averaged 5227 lb. per acre for irrigated plots and 4482 lb. per acre for non-irrigated plots. Although there were some yield differences between treatments, the differences were not statistically significant. However, the 2017 crop season was an unusually wet year that did not require substantial supplemental irrigation applications. Further research is needed not only on peanuts but other crops as well.

LATE PLANTING OF EARLY VS. LATE MATURING ANNUAL RYEGRASS IN NORTHERN ALABAMA

Marks, M. L.[1]; Stanford, M.K.[2]; Mullenix, M.K.[3]; Kriese-Anderson, L.A.[4]; McElmoyl, C.D.[5]; Clements, W.C.[6]; Bloodworth, J.Z.[7]
[1]Regional Extension Agent, Alabama Cooperative Extension System, Centre, AL, 35960-2816
[2]Nutrient Management Specialist, Auburn University, Crossville, AL, 35962
[3]Extension Beef Specialist, Auburn University, Auburn University, AL, 36849
[4]Extension Beef Specialist, Auburn University, Auburn University, AL, 36849
[5]Associate Director, Sand Mountain Research and Extension Center, Auburn University, Crossville, AL, 35962
[6]Director, Sand Mountain Research and Extension Center, Auburn University, Crossville, AL, 35962
[7]Herdsman, Sand Mountain Research and Extension Center, Auburn University, Crossville, AL, 35962

The 2016 drought caused unfavorable planting conditions for cool-season annual forages during the fall establishment window in Alabama. Limited information is published on the growth potential of cool-season annual grasses planted outside the recommended window of establishment as an emergency forage option following drought conditions. The objective of this study was to determine the impact of late-planting annual ryegrass on seasonal dry matter production, number of grazing days, and forage nutritive value as part of a beef heifer development program. Two annual ryegrass varieties [Winterhawk (early maturing) or Marshall (late maturing) ryegrass] were planted across three planting dates in winter 2016/2017 (December 15; February 1; March 1) into a prepared seedbed. Each variety × planting date combination was replicated in two 2 acre paddocks. Pastures were rotational grazed and evaluated for forage production, amount grazed by heifers, and percent utilization. The average time to the first grazing event for each of these treatments was 87 days. A planting date x variety effects were observed for seasonal herbage accumulation (HA; $P = 0.045$).Total HA was greatest for Marshall (11,155 lbs DM/acre) and Winterhawk (13,170 lbs DM/acre) ryegrass planted in December. March-planted Marshall (8,995 lbs DM/acre) was not different in HA compared to December plantings, while February planting dates [Marshall (6,905 lbs DM/acre) and [Winterhawk (4,605 lbs DM/acre)] and March-planted Winterhawk (4,605 lbs DM/acre) had less seasonal yield. Overall, annual ryegrass herbage accumulation ranged from 6,760 to 10,365 lbs DM/acre across planting dates. Seasonal yield was greatest for Marshall ryegrass planted in Mar. Dec. planted ryegrass was intermediate in production compared to Mar. planted Marshall, and February planted ryegrass and Mar. planted Winterhawk had the lowest production. Dec. planting dates provided two to three grazing events for heifers in this project. Grazing was initiated on these paddocks in Mar, whereas Feb. and Mar. dates only were grazed one time beginning in May. There were 70 days of grazing provided by ryegrass for heifers in this trial (Mar to June 2017). During the one-year evaluation, delayed planting of annual ryegrass provided adequate forage dry matter production to support late-spring grazing for growing heifers.

MINI-IRRIGATION SYSTEM DEMONSTRATION WITH TIFTON 85 BERMUDAGRASS

Bouselmi, A.[1]; Dillard, B.A.[2]; Kelton, J.A.[3]
[1]Regional Agent- Row Crops, Alabama Cooperative Extension System, Abbeville, AL, 36310
[2]Regional Agent- Row Crop, Alabama Cooperative Extension System, Geneva, AL, 36340
[3]Regional Agent- Farm and Agribusiness Management, Alabama Cooperative Extension System, Headland, AL, 36345

The purpose of this study is to evaluate the use of a K-Line mini-irrigation system (MIST) for irrigating Tifton 85 bermudagrass [*Cynodon dactylon* (L.) Pers.] in southeast Alabama. The K-Line system was developed in New Zealand, and designed to be simple, easy to maintain, time-saving and easy to move with low cost. There were two treatments in this study. Treatment one was irrigated with K-Line and treatment two was non-irrigated. Irrigation in treatment one, was applied when 50% of the total available soil water is depleted by using capacitance probe reading to determine soil moisture. The irrigated treatment received a 0.55 inch irrigation application. The bermudagrass hay was harvested at four-week intervals. Hay samples for each treatment were weighed and dried in order to estimate dry moisture content, dry forage yield and Near-Infrared Reflectance Analysis procedures were used for determining quality. Irrigated treatment increased mean yields by 564 lb DM/acre per cutting over the non-irrigated treatment, the differences were not statistically significant because of sufficient rainfall in some periods. However, in the wet season, the net return increased with using K-line irrigation system by $87 per acre over the non-irrigated. The Trial provides the capability to demonstrate relative yield differences throughout a field. Bermudagrass can benefit from supplemental irrigation applications to boost yields and maintain forage quality. With high hay prices and uncertainty of weather predictions, it may be the most economical to use the K-line irrigation system for Bermudagrass production at small fields level. However, a two to three year trial may be necessary for evaluation.

OPTIMUM INSECT PEST MANAGEMENT STRATEGIES FOR REPRODUCTIVE STAGE SOYBEANS

Reed, T. D.[1]
[1]Extension Specialist, Alabama Cooperative Extension System, Belle Mina, AL, 35615-0159

This presentation provides the results of on-going research efforts in Alabama to develop optimum insect pest control recommendations for soybeans. The objectives of two recent soybean insect management research projects were to (1). Assess the efficacy of different insecticides in preventing defoliation by soybean loopers and (2). Determine if the addition of the brown marmorated stink bug to the stink bug complex attacking soybeans in Alabama requires modification of the current stink bug treatment threshold. Both studies utilized plots that were 8 rows wide and 30 feet long with a 36 inch row spacing. There were 4 to 8 replications per treatment with plots arranged in a RCB design. A caterpillar insecticide efficacy trial was conducted at the Brewton Agricultural Research Unit to evaluate the effectiveness of 8 different insecticides in controlling a mixed population of caterpillars that included above-threshold levels of soybean loopers. This trial revealed that all 8 insecticides tested prevented defoliation levels from exceeding 10%. Untreated plots had 40% defoliation at 31 days after treatments were applied. No yield reduction occurred because soybeans reached the R6 stage prior to defoliation exceeding 20% in the untreated plots. A second study conducted at the Prattville Agricultural Research Unit showed that when left untreated a complex of stink bugs composed primarily of similar numbers of brown marmorated and southern green stink bugs caused a 6.8 bu/acre yield loss ($P>F = 0.0005$, LSD 0.1 = 2.27 bu/ac) compared to plots sprayed 3 times with bifenthrin. This test had a total density of about 1 stink bug per sweep across 2 rows at initiation (R5.1) and 1 stink bug per sweep at the test conclusion in unsprayed plots. More research is needed to determine if and when the presence of the brown marmorated stink bug in the stink bug complex requires a modification of the current treatment threshold of 2 stink bugs per 15 sweeps prior to mid-podfill and 3 per 15 sweeps between mid-podfill and bean maturity.

Northeast Region

ASSESSMENT OF THE EFFECT OF VINELAND AND GENEVA ROOTSTOCKS ON APPLE TREE VIGOR AND YIELD IN THREE HONEYCRISP AND FUJI NC-140 ROOTSTOCK TRIALS

Muehlbauer, M.[1]; Jon M. Clements[2]; Win Cowgill[3]; Wesley R. Autio[4]
[1]Hunterdon County Agricultural Agent, Rutgers Cooperaitve Extension, Flemington, NJ, 08822-4102
[2]Extension Educator, University of Massachusets Amherst, Blechertown, MA, 01007-9385
[3]Agricultural Consultant, Win Enterprises International, LLC, Baptistown, NJ, 08803
[4]Director of Stockbridge School of Agriculture, and Professor of Pomology, University of Massachusetts Amherst, Amherst, MA, 01003

Commercially desirable apple cultivars have historically been grafted to rootstocks for reasons including control of tree height, vigor, and precocity. This practice aids orchard management for farmers through minimizing pruning and sprays, while maintaining high yields and large fruit. As new rootstocks and cultivars are released, it is important to test the scion and rootstock combinations to assess their interactions across many environments. This study is a subset of a national project (NC-140 Regional Rootstock Research) to examine the effect of the newly released rootstocks on yield, tree vigor, and yield efficiency on different apple cultivars. As part of this national study, three nearly identical rootstock trials, two Honeycrisp and one Fuji, were established in 2 states (New Jersey and Massachusetts) in 2014. Both Honeycrisp and Fuji scion wood was grafted in the nursery to new apple rootstocks including 4 Vineland (Ontario, Canada breeding program), 8 Geneva (Cornell-Geneva), 1 Budavosky (Russia) and 3 standard commercial rootstocks served as controls. Each rootstock scion combination was assessed over the course of 3 years (as part of a 10 year study) for yield, fruit size, and vigor. Preliminary results across both states and cultivars indicate that Vineland rootstocks tended to be the largest tress (as measured by trunk cross sectional area cm^2). In Massachusetts, Geneva series rootstocks tended to result in higher yields, while both cultivars showed similar yields across all rootstocks in New Jersey. Data on tree growth and yield will continue for several more years until the trees reach full maturity. These results will help guide agricultural agents and consultants in developing recommendations for growers as to which rootstocks will be best adapted to their growing system, environment, and variety selection. For more information, see the NC-140 website, www.nc140.org.

DELAYED HARVEST AND COLD STORAGE PERFORMANCE OF 'GLORIA' NJ351 PEACHES

Hemant Gohil[1]; Daniel Ward[2]
[1]Agriculture and Natural Resource Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312
[2]Extension Specialist in Pomology, Rutgers Agriculture Research and Experiment Station, Bridgeton, NJ, 08302

The peach cultivar 'Gloria' has novel flesh texture and ripening characteristics in part due to the stony hard gene in its lineage. Because 'Gloria' fruit remain very firm on the tree as they ripen and can become very large, growers are tempted to let the fruit remain on the tree after they have reached commercial maturity. In 2016 an experiment was conducted in two commercial orchards of mature bearing 'Gloria' trees in

southern NewJersey. Commercially mature fruit (N=500) were identified and labeled on one day in each orchard. Labeled fruits were then randomly assigned to be harvested at either 0, 4, 8, 12, or 16 days after commercial maturity then placed in cold storage for 0, 7, 14, 21, or 28 days before evaluation. All fruit were hydro-cooled before storage. Statistical analysis revealed that fruit diameter and total soluble solids increased with increasing harvest delay, while total titratable acidity and ground color hue angle (changing from cool yellow to mid yellow) decreased with increased harvest delay. The significant interaction of harvest delay and storage time on flesh firmness was because fruit remained firm for 28 days of storage if harvested at commercial maturity or 4 days after commercial maturity, but longer delays in harvest resulted in softer fruit and significant loss in firmness during storage. There were no significant treatment effects on the occurrence of flesh defects (internal breakdown or flesh browning). The ability of 'Gloria' to ripen more fully on the tree while retaining firmness and potential storage life provides the opportunity for increased sales and enhanced customer appeal. 'Gloria' peaches can hang on the tree for 5 to 7 days after they reach commercial maturity but hanging longer than 7 days reduces their storage life significantly and is not recommended.

YIELD ASSESSMENTS OF A NEW SELECTION OF OPEN-POLLINATED DENT CORN

Carleo, J.[1]; Helsel, Z.[2]; Orton, T. J.[3]; Paul, J.[4]; Sawyer, J.[5]
[1]Agricultural Agent, Rutgers NJAES Cooperative Extension, Cape May Court House, NJ, 08210
[2]Professor (Emeritus), Rutgers University, New Brunswick, NJ, 08901
[3]Plant Breeder, Rutgers University, Bridgeton, NJ, 08302
[4]Graduate Assistant, Rutgers University, Bridgeton, NJ, 08302
[5]Field Technician, Rutgers Cooperative Extension, Cape May Court House, NJ, 08210

Researchers from Rutgers University were recently given an open pollinated selection of field corn, "Landseair", locally known for large ear production. This initial experiment was intended to further refine the germplasm and document yield in comparison to an organic hybrid 'MC535'. The study followed National Organic Program (NOP) standards and was conducted on non-certified organic land at Rutgers Agricultural Research and Extension Center (RAREC) in Centerton, NJ in 2017. There were 7 replicates in the study, 3 replicates of Landseair 2016 harvested seed; 3 replicates of 'MC535' Organic Hybrid and 1 replicate of Landseair 2015. The replicates were also divided into elevations. The Landseair 2015 had Low, Mid and High elevations while the Landseair 2016 and 'MC535' had Low and High elevation plots. The numerical data recorded for each plot (100 sq. ft. area) included: 1) number of plants; 2) number of ears; 3) weight of grain harvested and, 4) moisture % of the grain. Bushels per acre data were extrapolated from each plot after calculating the dry weight of shelled grain. Mean Bu/A were 156.50, 74.61 and 96.37 for 'MC535', L-2016 and L-2015 respectively. ANOVA (Mixed procedure) reveals that the Landseair selections are statistically different from the hybrid but not from each other. Although the yield in Bu/A of the Landseair seed was statistically lower than the 'MC535', it is possible that yield of the Landseair crop was negatively affected by severe weed pressure in the field early in the season. The average yield in NJ in 2017 for conventionally produced field corn was 167 Bu/A (NASS, 2018). Hybrid 'MC535' also had a higher plant population than the Landseair field which we suspect was due to uniformity of the hybrid seed size when passing through the seeder. Experiments will be refined to reveal more information about the Landseair selection in 2018.

EFFECTS OF A DICAMBA MISAPPLICATION ON SOYBEANS (GLYCINE MAX)

Morris, M. J.[1]; Ritter, R.L.[2]
[1]Agent, University of Maryland Extension, Frederick, MD, 21702
[2]Professor Emeritus, University of Maryland Plant Science and Landscape Architecture, College Park, MD, 20742

With the approval and registration in Maryland of dicamba tolerant (DT) soybeans [*Glycine max* (L.) Merr.] in 2017, the use of dicamba on DT soybeans and other DT crops has increased. Risks are associated with dicamba applications, especially off-target movement to sensitive crops. The objective of this study was to evaluate how a misapplication of dicamba would affect both vegetative and yield components of non-DT soybeans. Field trials in 2013 and 2014 examined a rate titration (0.004 to 0.5 lb ai a^{-1}) of dicamba on non-DT soybeans (V3 stage - three trifoliates). Field studies also examined dicamba application to various growth stages (preemergence to early pod fill) of non-DT soybeans. Soybean height and stand counts were obtained during the growing season. At maturity, yield, pod count, seed count, and seed weight were obtained. Two greenhouse trials were conducted in 2014 and examined a rate titration (0.004 to 0.5 lb ai a^{-1}) of dicamba on non-DT soybeans (V3 stage - three trifoliates). Plant height, as well as fresh weight and dry weight of the above ground and below ground plant material were obtained. Results of this research showed that dicamba misapplied postemergence to soybeans at any growth stage results in total yield loss compared to untreated check plots. Results of the rate titration studies showed that dicamba applied at rates as low as 0.5 lb ai a^{-1} will cause significant yield loss in soybeans.

North Central Region

AN ASSESSMENT OF FORAGE BINDING AND FEEDING METHODS IN LIVESTOCK PRODUCTION

Grussing, T.[1]; Darrington, J.[2]
[1]Cow-Calf Field Specialist, SDSU Extension, Mitchell, SD, 57301
[2]Livestock Environment Associate, SDSU Extension, Brookings, SD, 57007

In the Upper Midwest, stored forages bound with net wrap or twine are predominate winter feedstuffs on livestock operations. A concern often expressed by producers, is if binding material needs to be removed prior to feeding bales, as consumption and possible accumulation might have a negative impact on the performance and health of animals. To begin answering this question, a needs assessment survey of livestock producers and allied industry personnel using convenience sampling via multi-modal distribution was conducted to evaluate the impact of forage binding preferences and feeding methods on livestock health & production. The survey was distributed in December 2017 through University articles and news releases, email distribution lists and social media websites. Respondents (n = 548 started, 393 completed) were made up of primarily beef cow/calf producers (80%). Participants of the survey reported preferred methods of binding for baled forage were net wrap (67%), twine (26%) or both depending on crop or livestock target (6%). Removal of twine or net wrap varied based on feeding method, with 54% removing net wrap or twine before feeding whole bales (n = 324) and 11% removing net wrap or twine before grinding bales (n = 66). However, 6% and 18% of respondents do not remove net wrap or twine before feeding whole bales or before grinding bales (respectively). Among the respondents that do not remove net wrap or twine before feeding either whole or ground bales, 46% have observed livestock eating binding material that remained on the ground after feeding (n = 87). Twenty six percent of respondents had a Veterinarian conduct postmortem exams upon livestock mortality, with 30% of those respondents (n = 41) having recovered net wrap from within the animal. If cost effective and environmentally stable, 86% of respondents would be interested in purchasing a digestible forage binding material to replace traditional net wrap or twine. Overall, 58% of respondents would like to see SDSU Extension provide more educational programming on the impact of forage binding materials on livestock health, forage processing methods and how to best remove binding prior to feeding bound forages to livestock.

ANALYZING DIRECT MARKETING OF LOCAL FOODS IN OHIO: CURRENT STATUS OF REGULATIONS AND POSSIBILITIES FOR THE FUTURE

Barrett, E. E.[1]; Hall, P. K.[2]; Adams, E. G.[3]
[1]Assistant Professor, Ohio State University Extension, Canfield, OH, 44406
[2]Assistant Professor, Ohio State University Extension, Marysville, OH, 43040
[3]Extension Educator, Ohio State University Extension, Coshocton, OH, 43812

When making direct sales, Ohio growers and marketers voiced concerns regarding the barriers to entry they face. In most cases, concerned related to the sales of eggs, meats and cottage foods. Reports included concerns over interpretation of rules and regulations at the local level, costs of licenses, costs of required equipment and the lack of a level playing field from county to county. To combat this issue of concern to growers and marketers, OSU Extension collaborated with experts across the university to complete a multi-faceted project. The objective was to gain insight into the rules and regulations affecting farm direct marketers in Ohio. The team conducted literature reviews in the areas of barriers in other states and food safety concerns relating to the sales of local foods across the country. Comparative analyses were completed to show Ohio's status compared to leading direct marketing states in the areas of regulations and available information for producers to use for implementation. Listening sessions with growers were held across Ohio. Surveys were conducted of both farmers market managers and health department sanitarians to gain insight into current processes and potential improvements. In surveys of farmers market managers, 60% reported having vendors that did not offer items for sale due to the cost of licenses for the products. Separately, 50% of managers reported having vendors that did not offer items for sale due to the costs of equipment required by local health departments. Of health departments responding, 79.3% stated they required specific equipment that is National Sanitation Foundation (NSF) certified, showing differences interpretation of regulations. Four themes were identified as a result of the project. These include: 1. Confusion over regulations and oversight that needs to be addressed; 2. Issues relating to food safety direct marketing sites; 3. Education is needed, possibly in a one-stop-shop location for producers; and 4. The need for a Farmers Market Manager Certification to address other issues.

BLACKBERRY SEASON IN NORTHERN OHIO

Malinich, T. J.[1]
[1]Assistant Professor, EXTENSION EDUCATOR, HORTICULTURE, OHIO STATE UNIVERSITY EXTENSION, Sandusky, OH, 44870

Blackberry, *Rubus spp.*, is considered a marginally hardy crop in Northern Ohio. Growers frequently see canes frozen to the snow line. Recent weather events such as polar vortex temperatures and abnormally early and warm springs with late freezes also hamper the production of this crop. A planting of nine varieties of blackberries is used as a model to determine the bloom order and harvest window in northern Ohio. Three erect, three trailing and three pimocane bearing varieties were looked at to provide growers with examples of berries they may not have considered viable for their operation. Generally, the order of bloom was consistent with cultivar descriptions, but the timing of bloom and crop was later than expected in most years. Primocane varieties not in high tunnels ripened very slowly with much, but not all, of the crop failing to ripen before frost in this region of the state. Data and photos from the planting have been used for educational meetings with large and small operations to provide them with viable information to make decisions on future production. This poster provides the bloom order and harvest period for nine varieties of *Rubus* (blackberry) in Northern Ohio.

CORN YIELD RESPONSE TO SEEDING RATE IN NO-TILL WITH CEREAL RYE COVER CROP

Richer, E. A.[1]
[1]Assistant Professor, Ohio State University Extension, Wauseon, OH, 43567

Much corn seeding rate research has been conducted in conventional and minimum tillage situations throughout Ohio. However, as producers adopt no-tillage corn planting practices that incorporate overwintering cover crops to bolster organic matter, improve soil structure, protect water quality and increase yields, seeding rate research needs to be re-evaluated. Research conducted on seeding rates in this environment will help farmers better manage their biggest variable input cost. On farm trials conducted in Fulton County, Ohio from 2014-2017 have been conducted to evaluate corn seeding rates in no-till with a cereal rye cover crop terminated in the spring. The trials evaluated five seeding rates from 23,000 seeds per acre to 43,000 seeds per acre increased in 5,000 seed increments. The producer's 'normal' seeding rate of 33,000 seeds per acre served as the check treatment. In all years, the cereal rye was terminated approximately 2 weeks prior to planting. Five seeding rates were replicated four times in a randomized complete block design. Stand counts were taken at approximately vegetative growth stage 5 (V5) and compared against the planted seeding rates. Yield data were collected at harvest with a calibrated yield monitor and moistures shrunk to 15.5%. In four years of this trial (2014-2017), the check rate (33,000) showed the highest statistical yield. In three out of four years (2014-2016) the 28,000 rate showed no statistical yield difference; and in three out of four years (2015-2017), the 38,000 rate also showed no statistical yield difference from the check rate. In 2017, the high rate of 43,000 seeds per acre showed no statistical difference from the check rate. In 2016, the low rate of 23,000 seeds per acre showed no statistical difference from the check rate either. Beyond those two cases, the high (43,000) and low (23,000) rates always resulted in a statistically lower yield than the check rate. In summary, the trials showed the greatest confidence for yield and return on investment for no-till corn planted into a cereal rye cover crop to be achieved at the check rate (33,000 seeds per acre).

FERTILIZER OPTIONS FOR STOCKPILING COOL SEASON GRASS

Penrose, C.D.[1]; Landefeld, M.A.[2]; McCutcheon, J.S.[3]; Lima, D.F.[4]
[1]Associate Professor and Extension Educator, OSU Extension, Morgan Co., McConnelsville, OH, 43756
[2]Assistant Professor and Extension Educator, OSU Extension, Monroe Co., Woodsfield, OH, 43793
[3]Associate Professor and Regional Director, OSU Extension, Caldwell, OH, 43724
[4]Extension Educator, OSU Extension, Belmont Co., St. Clairsville, OH, 43950

Research has been conducted on stockpiling cool season grass for grazing in the fall and winter, but there is limited research on using urea with a urease inhibitor (Agrotain®). The purpose of this study was to determine the effects of yield and quality by adding urea, urea with Agrotain®, and ammonium sulfate by applying them to cool season grass, primarily fescue and orchardgrass. There were three sites in Southeast Ohio (Morgan, Noble, and Monroe Counties), each was a randomized complete block design with four treatments (control, 100 lbs./A urea, 100 lbs./A urea plus Agrotain®,and 219 lbs./A ammonium sulfate) and four replications of each treatment. The application date was July 31, 2017 and the plots were harvested on November 13, 2017. There were no statistical differences in CP, ADF, and TDN ($P < 0.05$). There were significant differences in yield between the control and all of the treatments, but not between the treatments. The three site average for the control was 2645 lbs. DM/A; urea, 3322 lbs. DM/A; urea+Agrotain®, 3494 lbs. DM/A; and ammonium sulfate, 3278 lbs. DM/A. Rainfall in the first 30 days from trial initiation in 2017 ranged from 3.2 to 3.3 inches, and the first significant rainfall (0.7-1.3 inches) was within 96 hours of initiation. In an identical study in 2016, there was no significant rainfall for twelve days, then a 0.7-2.0" rainfall event at the three sites. In that study, results indicated there were no significant differences between ADF and TDN, and there were significant differences between treatments and control for yield and CP. Research will be continued to determine if any of the treatments provide significant differences in yield, CP,ADF, and TDN, and what effects rainfall after initiation of treatments has on yield and quality.

MANAGING RISK WITH LATE SEASON NITROGEN APPLICATION

Badertscher, M. A.[1]; Richer, E. A.[2]
[1]Agriculture and Natural Resources, OSU Extension, Kenton, OH, 43326-8848
[2]Agriculture and Natural Resources, OSU Extension, Wauseon, OH, 43567

Corn producers are looking for ways to make more efficient use of nitrogen with less risk of loss. Factors influencing this need for research are a combination of economic and environmental concerns. Current economics in corn production require producers to shift nitrogen management emphasis on economic return as opposed to maximum yield. Changes in climate patterns in Ohio have caused large rain events after extended dry periods. Using late season nitrogen applications allow the producer to spread out nitrogen applications based on crop need and weather events, allowing both more efficient use of nitrogen and limiting nitrogen loss without significant difference in yield. This late season nitrogen research includes eight site years in Hardin and Fulton County, Ohio. Equipment used to apply sidedress nitrogen included coulter/knife, Y-drops, or both. Sources of sidedress nitrogen tested included 28% Urea Ammonium Nitrate (UAN), 82% Anhydrous Ammonia, or both. All test strips included a nitrogen applied pre-plant, check strip, sidedress, and/or nitrogen applied late season. Nitrogen readings were taken in season by soil nitrate test, normalized difference vegetation index (NDVI), corn stalk nitrate test (CSNT), and grain sample analysis to measure nitrogen efficiency. Weather over the two-year time period varied from an early wet season, followed by a hot and dry growing period, and then a wet late season. These conditions are prime for nitrogen loss or under-utilization of nitrogen applied because of poor root development and access to available nitrogen. The results of this study proved that all eight site years showed no significant difference in corn yield whether applied early season, sidedress, or late season. Although late season nitrogen application helps manage risk according to plant need and in season weather conditions, it requires special high clearance application equipment. This equipment can be a limiting factor because of cost, labor, or time required to perform late season nitrogen application across increasing crop acres. Because of this increased expense with no significant increase in yield, this practice may be slow to be adopted by corn producers with limited resources.

MECHANICAL WEED CONTROL IN PASTURES

Landefeld, M.A.[1]; Penrose, C.D.[2]; McCutcheon, J.S.[3]; Wiseman, T.G.[4]
[1]Extension Educator, Ohio State University Extension, Woodsfield, OH, 43793
[2]Extension Educator, Ohio State University Extension, McConnelsville, OH, 43756
[3]Southeast Region Director, Ohio State University Extension, Caldwell, OH, 43724
[4]Extension Educator, Ohio State University Extension, Somerset, OH, 43783

Managing weeds in pastures and hay fields requires a different approach than weed management in row crops. The Ohio State University Extension Weed Control Guide suggests the best way to control weeds in established forage stands is to maintain a dense healthy forage stand through proper fertilization, cutting management, and insect control. Weeds can become a problem if they interfere with light penetration to the forage plant leaves, if excessive nutrients intended for the forage plants are used, or they take water or growing space from the forage plants. This can directly influence the yield, quality, and length of time a field remains highly productive. The purpose of this study was to determine if weed populations in pastures could be changed or reduced by varying the timing of mechanical mowing during the late spring and summer growing period without the use of herbicides. Treatments in this study consist of: (1) Control (no mowing), (2) June mowing, (3) July mowing, (4) August mowing, (5) September mowing, (6) June/August mowing, (7) July/September mowing, and (8) monthly mowing's; June/July/August/September. Forage dry matter samples were taken near the beginning of each month and each plot was visually rated for broadleaf weed pressure contained at the time of sampling. A scale of 0-9 was used for visual rating (0 meaning 0% weeds present to a 9, meaning 90% weeds present). Data included for this report is from the third year of this multi-year study. Results indicate all of the mowing treatments had significantly less weeds present ($P<0.05$) than the control except for the June only treatment. The two mowing treatments of June/August and the four mowing treatments of June/July/August/September, were significantly less ($P<0.05$) than both the non-mowing treatments and the June only treatment. This study suggests that the June/August mowing was the best option to reduce weeds. For future study, educators plan to quantify weed dry matter weight along with visual ratings for additional comparisons.

OHIO STATE UNIVERSITY EXTENSION EFIELDS: CONNECTING SCIENCE TO FIELDS

Zoller, C.[1]; Hawkins, E.[2]; Barker, J.[3]; Bennett, A.[4]; Bruynis, C.[5]; Clevenger, B.[6]; Custer, S.[7]; Douridas, A.[8]; Estadt, M.[9]; Ford, K.[10]; Griffith, M.[11]; Hartschuh, J.[12]; Martin, C.[13]; Nye, T.[14]; Richer, E.[15]; Fulton, J.[16]
[1]Extension Educator, ANR, Ohio State University Extension, New Philadelphia, OH, 44663
[2]Field Specialist, Agronomic Systems, Ohio State University Extension, Wilmington, OH, 45177
[3]Extension Educator, ANR, Ohio State University Extension, Mt. Vernon, OH, 43050
[4]Extension Educator, ANR, Ohio State University Extension, Troy, OH, 45373
[5]Extension Educator, ANR, Ohio State University Extension, Chillicothe, OH, 45601
[6]Extension Educator, ANR, Ohio State University Extension, Defiance, OH, 43512
[7]Extension Educator, ANR, Ohio State University Extension, Greenville, OH, 45331
[8]Extension Educator, ANR, Ohio State University Extension, Urbana, OH, 43078
[9]Extension Educator, ANR, Ohio State University Extension, Circleville, OH, 43113
[10]Extension Educator, ANR, Ohio State University Extension, Washington Court House, OH, 43160
[11]Extension Educator, ANR, Ohio State University Extension, London, OH, 43140
[12]Extension Educator, ANR, Ohio State University Extension, Bucyrus, OH, 44820
[13]Extension Educator, ANR, Ohio State University Extension, Zanesville, OH, 43701
[14]Extension Educator, ANR, Ohio State University Extension, Wilmington, OH, 45177
[15]Extension Educator, ANR, Ohio State University Extension, Wauseon, OH, 43567
[16]Associate Professor, Food Agricultural and Biological Engineering, Ohio State University, Columbus, OH, 43210

Ohio State University Extension has a long history of collaborating with farmers to conduct on-farm research to evaluate various agronomic production practices. A team of educators and specialists came together to formalize an on-farm research program. This project is known as *eFields: Connecting Science to Fields*. The vision of the program is to be the premier source of research-based information in the age of digital agriculture. The mission of the team includes: uniting the private and public sectors to drive innovation for the benefit of farmers; partnering with farmers to translate innovation into long-term profitability for production agriculture; and delivering timely and relevant information for the advancement of digital agriculture technologies. The team launched in 2017 and conducted on-farm research in 13 counties across 39 sites on over 3,000 corn and soybean acres. Research included high speed planting, corn and soybean seeding rate trials, corn nitrogen trials, and sidedressing corn with manure using a drag hose. Research results were printed in hardcopy and available electronically at https://fabe.osu.edu/program/eFields. More than 700 hardcopy publications were distributed in the two weeks following publication and nearly 2,000 e-version 'reads' were documented in the same time period. People from over 16 countries have accessed the publication online. To date, there have been 278 direct downloads of the publication in pdf format. Projects planned for 2018 include seeding rates, nitrogen rates, trait/seed treatment placement, and multi-hybrid placement. This poster will describe how the team was formed, summarize accomplishments, and offer advice for others wishing to develop a similar team project.

SOFT RED WINTER WHEAT RESPONSE TO NITROGEN RATE IN NORTHWESTERN OHIO

Lentz, E. M.[1]
[1]Educator, The Ohio State University Extension, Findlay, OH, 45840

Producers rely on university research to apply the proper rate of nitrogen for optimal wheat yields and to reduce the risk of nutrient loss into the environment. Few nitrogen rate studies have been completed in recent years in the Eastern Corn Belt. The objective of this study was to determine the nitrogen rate for optimal yields for soft red winter wheat. Dyna-Gro 9522, a medium-maturity variety, was established in the fall of 2016 on the OARDC Northwest Agricultural Research Station near Custar, Ohio. Eight nitrogen rate treatments were applied as urea-ammonium nitrate between greenup and early stem elongation (Feekes Growth Stage 6). Rates included in the study were 0, 40, 60, 80, 100, 120, 140, and 160 pounds per acre. All treatments received 20 pounds of nitrogen per acre prior to planting. Experimental design was a completely randomized block replicated four times. Analysis was a simple ANOVA. Grain yield, test weight, spike number, and flag leaf nitrogen uptake were measured for each plot. Yields were 50.9, 77.5, 84.9, 91.8, 98.0, 102.8, 106.3, and 105.3 bushels per acre for the 0, 40, 60, 80, 100, 120, 140, and 160 nitrogen rate, respectively. The trend was for grain yield to significantly increase with larger nitrogen rates until the 120 pound per acre rate, $p<0.01$. Yields were similar for treatments larger than the 120 pound nitrogen rate. For this particular study, an optimal spring nitrogen rate would exist between the 100 and 120 pound per acre nitrogen rate.

SOYBEAN SEEDING RATES EFFECT ON YIELD AND PROFITABILITY IN OHIO

Bruynis, C. L.[1]; Baumen, Emily[2]
[1]Associate Professor, Extension Educator & County Extension Director, Ohio State University Extension, Chillicothe, OH, 45601
[2]Student Intern, Ohio State University Extension, Chillicothe, OH, 45601

With increasing seed costs and improved seed placement, this research was designed to determine the optimal soybean seeding rate to maximize profitability without substantial exposure to yield losses as a result of poor weather. The plot design was a randomized complete block design with a minimum of three replications and treatments. Treatments for Plots A, and B consisted of three seeding rates with three replications. They were 100,000, 130,000, and 160,000 seeds per acre. Plot C used four seeding rate treatments of 80,000, 120,000, 160,000 and 200,000 seeds per acre and three replications. Plot D had three seeding rates consisting of 125,000, 150,000 and 175,000 with four replications. Analysis of the yield data showed no statistical yield difference in three of the four plots. Plot D had a statistical difference; however, the yield difference was relatively small with the 150,000 seeding rate yielding 1.66 bushels more than the 125,000 seeding rate and 2.95 more than the 175,000 rate. On the remaining plots, the highest or second highest seeding rate resulted in the highest yield, although not statistically different than the lower seeding rate. More importantly the highest yield did not return the best economic return. Calculating the economic return using seed costs of $0.371 per 1,000 seeds and grain sales of $10.00 per bushel, the seeding rate with the greatest economic return was the 100,000 to 120,000 seeding rates. This was largely due to savings in seed costs without measuring a statistically significant reduction in yield. Plot D was the exception with the 150,000 seeding rate having the highest yield and the highest economic return. If you drop the price of beans to $9.00, the economic difference disappears and the lowest seeding rate would return the greatest return.

TWO YEARS OF FERTILIZER STRIP TRIALS IN SOUTHEAST OHIO

Martin, C.[1]
[1]Ext. Educ,, ANR, The Ohio State University, Zanesville, OH, 43701

Eleven agronomic strip trials were implemented in 2016 and 2017 to feature field tests for nitrogen, phosphorous, potassium and sulfur with six producer partners in Muskingum County. Muskingum County features hilly topography, small acre fields, livestock production and is located in the Appalachian foothills. The goal of this project was to demonstrate the usefulness of agronomic strip trials in the region and provide producers with current examples to examine fertility recommendations in local topography and soil environments. Plot designs were created to follow protocols developed from the Ohio State University Soils Fertility Lab for updating Ohio fertility recommendations. Seven trials were planted in corn and four trials were planted in soybeans. Field management included no-till, conventional-till, manure, and cover crops in various combinations. All projects were arranged as randomized complete block designs. Nitrogen tests in corn were designed with five treatments to generate yield response curves and include soil samples, tissue tests, stalk nitrate tests, harvest yield, and harvest grain samples. Soybean projects were designed with untreated plots, a phosphorous application, and a potassium application and include soil samples, R1 tissue tests, harvest yield and harvest grain samples. Two years of results include high yielding plots at low and high rates of nitrogen. Seven treatments across the aggregated nitrogen plots featured 200 lbs per acre yield at nitrogen rates below 150 lbs per acre compared to only three at rates above 150 lbs per acre. Phosphorous and potassium results on beans in 2017 show some response to phosphorous and limited response to potassium. No significant differences are present in the only sulfur trial. These trials are valuable for educational discussions to help producers understand the Maximum Return to Nitrogen Rate calculation, Tri-State Fertility Recommendations and nutrient management in agronomic systems. Funding was provided by the Ohio Soybean Council and the Ohio Corn and Wheat Growers Association.

FLOWER PRODUCTION AND EFFECT OF FLOWER HARVEST ON BERRY YIELDS WITHIN SIX AMERICAN ELDERBERRY (SAMBUCUS CANADENSIS) GENOTYPES

McGowan, K.[1]
[1]Horticulture Educator, University of Missouri Extension, Springfield, MO, 65807

American elderberry (*Sambucus nigra* subsp. *canadensis*) is being increasingly cultivated in North America for its use in dietary supplements. While the flowers of European elderberry (subsp. *nigra*) are commonly consumed as an anti-viral is in Europe, the horticultural production of American elderberry flowers is nascent. A large field experiment with American elderberry was established in 2015 in southwest Missouri, USA to evaluate flower production and to determine the impact of a partial flower harvest on fruit yield and quality, and plant morphology. The study concurrently compared four promising new genotypes to two established cultivars. In 2017, 96 randomized plots with six genotypes were assigned treatments of 0, 25, 50, and 100% flower harvest, with four replicated plots per genotype/treatment. Flower and fruit production data, pest and disease incidence, phenology, plant growth response, and fruit quality data were determined. The six genotypes showed differences in flower cyme number, total

flower dry matter produced, mean cyme size, budbreak, fruit ripening date, fruit yields, berry size, and plant height, with the experimental genotypes Pocahontas and Rogersville showing promise compared with the standard cultivars Bob Gordon and Wyldewood. While total fruit yields were correspondingly reduced in plots that received 0, 25 and 50% flowering cyme harvests (3.6, 3.0, and 2.9 kg fruit per plot, respectively), these differences were not statistically significant. Likewise, mean fruiting cyme weight, berry size, soluble solids in fruit, and plant height were not affected by the various flower cyme harvest treatments. While these results are preliminary, up to 50% harvest of flowering cyme harvest did not significantly reduce elderberry fruit yields, but neither did it improve berry size or fruit quality as might have been expected.

SOIL HEALTH FIELD SAMPLING AND HANDLING PROCEDURES FOR IMPROVED PLFA DATA COLLECTION

Lorenz, T. E.[1]; Harper, T. W.[2]; Schmitz, E.G.[3]; Carpenter, B.D.[4]; Shannon, D.K.[5]; Harper, J.R.[6]
[1]Regional Agronomy/Hort Specialist; County Program Director, University of Missouri Extension, Boonville, MO, 65233
[2]Regional Agronomy Specialist, University of Missouri Extension, Clinton, MO, 64735
[3]Regional Livestock Specialist, University of Missouri Extension, Warsaw, MO, 65355
[4]Agriculture Business Specialist, University of Missouri Extension, Sedalia, Mo, 65301
[5]Natural Resource Engineering Specialist, University of Missouri Extension, Columbia, MO, 65203
[6]Agronomy Specialist, University of Missouri Extension, Versailles, MO, 65084

Phospholipid fatty acid (PLFA) analysis is an increasingly popular method for assessing microbial community structure in soils for quantifying soil health. However, the effects of prescribed burns on prairie soil microbial ecology, the impact of proper sample handling on PLFA biomarkers, and the animal impact is not fully understood. Soil samples were collected from the top 2-inches at three landscape positions from Golden Prairie (Barton Co.) and Stark Prairie (Hickory Co.) in Missouri, USA. Samples were collected immediately prior to a prescribed burn and immediately following the burn and analyzed for a suite of soil health indicators, including PLFA. Additionally, the effects of sample processing and handling were evaluated by comparing the PLFA profiles from soil samples freeze-dried within 24 hours of collection, oven-dried at 221 °F, air-dried for 7 and 14 days at 68 °F, and stored field-moist at room-temperature for 7 and 14 days at 68 °F. Significant differences ($p<0.05$) found between the PLFA profiles from the two prairies, were likely due to differences in soil type, vegetation, and restoration. No significant differences in PLFA profiles were detected between the pre- and post-burn samples for any of the PLFA microbial groups. Air-dry storage and field-moist storage at room temperature resulted in an 11 – 14% reduction in total PLFA. Fungi were impacted the greatest by storage, showing a 13-53% decline due to air-dry or field-moist storage, resulting in a significant shift in the bacteria/fungi ratio. Oven-drying had the most dramatic effects on PLFA biomarkers, resulting in a 38% reduction in total PLFA and an 86% reduction in fungal biomarkers. This study highlights the influence of site characteristics on microbial community structure and emphasizes the importance of proper handling of soil samples for PLFA analysis. In the cow patty study, the center location (i.e., under the cow patty) showed major differences on soil health chemical indicators when compared to samples collected away from center by direction. In particular, phosphorus content was dramatically elevated at the center location with increases ranging from 129-230%. The sample depth study revealed all microbial components were affected by depth of sample and management system.

EFFECTS OF STORAGE METHOD AND TIME ON CORN STOVER QUALITY

Jean, M.[1]; Thelen, K.[2]; Rust, S.[3]
[1]Crop Production Educator, Michigan State University Extension, Escanaba, MI, 49829
[2]Professor, Dept. of Crop, Soil and Microbial Sciences Michigan State University, East Lansing, MI, 48824
[3]Professor, Animal Science Dept., Michigan State University, East Lansing, MI, 48824

Stover is a commodity that can be sold as a feedstock for cattle and ethanol production. The objective of this study was to evaluate the effects of time and storage method on corn stover quality. High moisture (HM) bales averaging 45% moisture were stored under a plastic cover or left uncovered exposed to the elements. Low moisture (LM) bales averaging 15% moisture were stored under a roof or left uncovered exposed to the elements. Approximately 50-100 gram samples were taken from each of the three areas (core, rind, total) of the bale with a forage probe on 0, 30, 120, 240, and 360 days in storage. Samples were then analyzed for ash content, ethanol yield and dry matter (DM) recovery. Ash content was significantly higher in the HM bales ($P<0.01$) and increased over time ($P<0.01$). Dry matter recovery was significantly less in high moisture bales ($P<0.01$) and decreased as time spent in storage increased ($P<0.01$). LM stover bales had significantly higher ethanol yields (g/g) then HM stover ($P<0.01$). Ethanol yields (g/g) decreased as time in storage increased ($P<0.01$). Ethanol yield when considering bale recovery is significantly higher when bales are covered ($P<0.01$) and LM ($P<0.01$). When considering bale matter recovery, ethanol yields showed non-significant change if stored under cover, regardless of moisture level. HM stover round bales had lower ethanol yields (g/g) regardless of storage type, higher ash content and dry matter loss. Low moisture bales had higher DM recovery, lower ash content and higher ethanol yield (g/g).

Poster Session

Extension Education

2018 NACAA

103rd
Annual Meeting
and
Professional Improvement Conference

Chattanooga, Tennessee

National Winners & Finalists

1st Place

NARROW-LEAF HAWKSBEARD (CREPIS TECTORUM L.) ?EUR" MANAGING A NEW INVASIVE WEED IN MONTANA

Mills, S. L.[1]
[1]Agricultural Extension Agent, MSU, Glasgow, MT, 59230-2423

Narrow-leaf hawksbeard (*Crepis tectorum* L.), is a winter annual that is highly adaptive and increasingly difficult to control in northeastern Montana. Widespread use of no-till and various conservation tillage techniques, in addition to, continuous cropping, increased precipitation, and Conservation Reserve Program (CRP) acres are believed to have advanced the spread of this weed. Narrow-leaf hawksbeard reduces crop yields and decreases forage quality if not properly managed. Over the last two years agronomists have reported an 82% increase in hawksbeard treatment requests from producers. Little research was available about hawksbeard management until recently. Based on the research findings, best management practices have been established and were presented at 23 Extension meetings, attended by 648 producers over a two year period. Program evaluation indicated 92% of the participants incorporated management strategies discussed during the workshops. Narrow-leaf hawksbeard has impacted 58% of cropland with 16% high risk infestation based on grower survey responses. Producers stated an increased level of confidence in their ability to identify the plant and select herbicides for hawksbeard management. Without the management techniques taught by Extension, growers estimated an average loss of $63 per acre which represents a total of $6,127,000 in potential lost revenue to hawksbeard.

2nd Place

POND SCHOOL EDUCATES LANDOWNERS ON POND MANAGEMENT

Kulhanek, A.[1]
[1]County Extension Educator - Agriculture and Natural Resources, OSU Extension, Medina, OH, 44256

Medina County is the pond capital of Ohio with over 8,000 ponds over ¼ acre in size. As a result, pond management is considered a high need in the county. In addition, harmful algae blooms have become an increasing problem for waterways nationally, as well as in Medina County, home of Chippewa Lake, arguably the largest natural lake in Ohio. To address these needs, a 3-hour Pond School was designed with 3 concurrent tracks of 1-hour presentations for a total of 9 sessions attendees could choose from depending on their personal pond needs. The objective of this workshop was to increase pond owner knowledge on management of a wide variety of pond issues including algae reduction, fish stocking, and aeration as well as wildlife, water quality, and repairs. A retrospective pre-then-post survey was given to attendees at the 2016 and 2017 Pond School events to gauge attendee perceptions of knowledge gained from before to after the sessions, as well as program satisfaction. Pond School was attended by 100 people total for the 2 years of the program thus far. Surveys were returned from 34 individuals (N=34, 34% response rate). From the surveys, 79.4% of respondents reported that they would implement at least one pond management practice they learned at the workshop on their own property and increases in knowledge were reported on managing pond weeds, understanding aeration, applying pesticides safely, and stocking fish properly.

3rd Place

GRAIN MARKETING PLAN SMARTPHONE APP

Groskopf, J.[1]; Tigner, R.[2]; Walters, C.[3]
[1]Extension Educator, University of Nebraska-Lincoln, Scottsbluff, NE, 69361
[2]Extension Educator, University of Nebraska-Lincoln, North Platte, NE, 69101
[3]Extension Specialist, University of Nebraska-Lincoln, Lincoln, NE, 68583

Today's farmers manage their operations in a rapidly changing price environment. Although marketing plans are pivotal to an operation's success and profitability, farmers rarely have written marketing plans. With the continued decline in commodity prices, marketing plans are an even more critical part of farm management and ultimately farm survival.

To assist producers in developing and implementing grain marketing plans, Nebraska Extension has paired "Developing a Grain Marketing Plan" workshops with the Grain Marketing Plan smartphone application.

The Grain Marketing Plan smartphone application is a customizable electronic grain marketing plan with a built in reminder system. Once a farmer has developed a marketing plan, they can input their decision statements into their smartphone. When a price or date target is hit, the farmer will receive a notice encouraging them to take action. The application features a pre-harvest and post-harvest marketing plans and is available for corn, soybeans, and winter wheat.

This poster will discuss the adoption of the Grain Marketing Plan smartphone application by farmers who have attended "Developing a Grain Marketing Plan" workshops and the impact of this application on their decision making.

Finalists:

TACKLING THE ROW CROP FINANCIAL CRISIS: MANAGING FOR 2016/2017 AND BEYOND

Eck, K. J.[1]; Held, N. E.[2]; Mosiman, A. M.[3]; Nielsen, R. L.[4]; Mintert, J. R.[5]; Santiago, L. A.[6]; Schmitz, H. F.[7]; Langemeier, M. R.[8]
[1]Extension Educator, Purdue Extension - Dubois County, Jasper, IN, 47546
[2]Extension Educator, Purdue Extension - Spencer County, Chrisney, IN, 47611
[3]Extension Educator, Purdue Extension - Warrick County, Boonville, IN, 47601
[4]Professor, Purdue University Agronomy Department, West Lafayette, IN, 47907
[5]Professor & Director, Center for Commercial Agriculture, Purdue University Agricultural Economics Department, West Lafayette, IN, 47907
[6]Extension Educator, Purdue Extension - Daviess County, Washington, IN, 47501
[7]Extension Educator, Purdue Extension - Posey County, Mt. Vernon, IN, 47620
[8]Professor, Purdue University Agricultural Economics Department, West Lafayette, IN, 47907

The current economic climate of agriculture poses management challenges to crop producers in Southwest Indiana. The downturn in commodity prices, coupled with locked-in costs such as fertilizer, seed, and cash rent, has caused many producers to re-evaluate their farms' financial options. In the fall of 2015, Purdue Educators in southwest Indiana and Purdue specialists in agricultural economics and agronomy developed a workshop series to help producers determine where they might reduce crop production inputs and find tools to evaluate their farm's individual needs while maintaining crop yields. The resulting program, "Managing for 2016 and Beyond", was presented in three counties in March 2016, with the repeat program, "Managing for 2017 and Beyond", in three additional counties in November 2016. The workshops included agronomic presentations on methods to reduce selected crop production inputs without affecting yields and farm economics presentations on farm budgeting and making long-term cash rent decisions. The workshop series was attended by a total of 107 participants. Evaluation results indicated that prior to the workshop 63% of the participants had already made some change in their cropping plans for the upcoming crop season due to tighter margins, with most planning to reduce fertilizer rates. Due to the workshop 100% indicated they felt better equipped to address financial and agronomic challenges in their operations. When asked which topics presented would have the most impact on their operations, participants listed planting rates, fertilizer use, and budgeting decisions as most impactful. Testimonials from participants included, "Seeing the relationship between excessive inputs and yield was good. Now focusing on maximizing profitability."; "Overall management goal is to reduce costs."; and "As a landowner, I can now discuss this topic with the folks that take care of my ground."

BREAKING THROUGH: FARMER TO FARMER KNOWLEDGE EXCHANGE

Bosak, E.[1]
[1]Field & Forage Crops Educator, Penn State Extension, Dauphin, PA, 17018-9504

The traditional Extension program for crop farmers is a partial or full day event with a line-up of slide presentations from Extension Specialists, Extension Educators/Agents, and other agricultural professionals. This format is efficient and familiar for both the presenters and farmers, however, it does not allow for an exchange of information between farmers or an active exchange between presenter and audience. The Organic Field Crop Study Circles were started with the intention to provide a format for organic grain farmers to learn from each other and to access the latest research results from invited guests. The focus of the study circle is farmer to farmer discussion. Invited guests will share recent results with a hand-out and remain open to questions and comments during a brief five to ten minute presentation. The remaining two and a half hours are for active discussion. Each participant introduces themself and their farm. The discussion begins on the selected, advertised topic for the day but typically the discussion ranges beyond the day's topic. Program participants over the last two years had over 11,000 acres in organic grain and hay production. Seventy five percent of participants reported that by attending the study circle there would be a positive cash impact for their operation. The total estimated cash impact from the study circles was $152,000. All of the participants indicated that their knowledge level increased with the majority reporting a moderate to great knowledge gain.

CREATING AN EFFECTIVE LEARNING ENVIRONMENT FOR FARM WOMEN

McAdam, K.[1]; Enzien, E.[2]
[1]Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Laconia, NH, 03246
[2]Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Brentwood, NH, 03833

UNH Cooperative Extension has offered Annie's Project, a farm management education program for women, in New Hampshire since 2014. One of the key attributes of this program is that it brings farm women together to learn from each other. Organizers observed that women in these programs found the networking time to be especially beneficial, yet limiting due to time constraints of the event. When participants feel comfortable sharing their experiences, it contributes to the social learning experience that makes adult learning effective.

Grant funding was awarded to offer three Annie's Project programs in 2017 and 2018, which enabled organizers to reduce the cost of holding the program and expand its offerings in New Hampshire. In planning meetings, women farmers were asked what time of the week and year would enable their attendance for an 18-hour educational program. Women preferred to have one weekend where they could focus on the program with limited distractions and where travel would not be prohibited by weather. In an effort to accommodate this preference, the Annie's Project program was held in New Hampshire as a weekend retreat format. Women arrived on a Friday afternoon and the program concluded by noon on Sunday. Effort was made to choose venues that were seasonally attractive, family-friendly, and had reasonably-priced lodging accommodations. Women were also able to bring their families with them, reducing the burden of child care in their absence, and enabling their participation.

Women participants were able to connect with their peers within the first three hours of the program, where generally the connections would not have formed until the second or third session of a multi-day program. Group activities on communication and conflict resolution set the stage for developing connections, making participants feel comfortable in sharing their own experiences. Through this deeper level of engagement, participants better understood topics in financial management, saving for retirement, communication issues on the farm and ways to manage risk on the farm. When participants have the time and format to become comfortable with each other, it improves the educational experience for all.

DEVELOPMENT OF EXTENSION PROGRAMMING TO SUPPORT THE ADVANCEMENT OF AGRITOURISM IN THE NORTHEAST

Infante-Casella, M.[1]; Brian Schilling[2]; Stephen Komar[3]; William Bamka[4]; Meredith Melendez[5]
[1]Agricultural Agent/Associate Professor, RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION, CLAYTON, NJ, 08312-1095
[2]Extension Specialist, Rutgers New Jersey Agricultural Experiment Station, New Brunswick, NJ, 08901
[3]Agricultural Agent, Rutgers Cooperative Extension Sussex County, Newton, NJ, 07860
[4]Agricultural Agent, Rutgers Cooperative Extension of Burlington County, Westampton, NJ, 08060
[5]Agricultural Agent, Rutgers Cooperative Extension of Mercer County, Trenton, NJ, 08648

Developing an agritourism venture necessitates a shift from a production-centric focus on farms to one that includes service and hospitality. A team of extension faculty, led by Brian Schilling, Extension Specialist in Agricultural Policy at Rutgers New Jersey Agricultural Experiment Station (NJAES), created a train-the-trainer curriculum and supporting educational materials to assist Northeast farmers to minimize risk and liability associated with farm visitations, mitigate financial risk through enterprise budgeting, and improve marketing strategies. Other Rutgers NJAES program development team members included, William Bamka, Stephen Komar, Michelle Infante-Casella, and Meredith Melendez. The team delivered educational content through multi-tiered delivery systems that included 27 workshops, classroom style trainings, and small-group farm assessments throughout the Northeast, as well as 4 nationally advertised webinars reaching 690 agricultural service professionals and 760 farmers. Other Northeast cooperators for outreach included Lisa Chase (University of Vermont), Richard Brzozowski, (University of Maine), Laurie Wolinski (University of Delaware), Jenny Carleo (Rutgers University). Strong interest in the training program resulted in the presentation and dissemination of materials beyond the Northeast to national audiences through professional meetings. Educational resources included training modules, webinar recordings, fact sheets, corn maze budgeting tool, farm assessment checklists and educational videos found at http://agritourism.rutgers.edu/training/ . The project team promoted and presented resources through national venues at the National Association of County Agricultural Agents, National Extension Tourism, National Association of Community Development Extension Professionals, and American Society for Horticultural Science. These professional association engagements, coupled with national exposure achieved through project webinars, also resulted in extension professionals from outside the Northeast region requesting the use of curricular materials in Virginia, West Virginia, Indiana and Wisconsin. At least two international requests for information also resulted from Canada and Antigua. The demand for agritourism resources and information remains high within the region's agricultural community and expanded use of materials remains constant among agricultural service providers associated with agritourism.

FARMER-TO-FARMER WORKING GROUPS FOR IMPROVING BEEF CATTLE MANAGEMENT IN ALABAMA

Mullenix, K. C.[1]; G. L. Thompson[2]
[1]Extension Specialist - Animal Science, Alabama Cooperative Extension System, Auburn University, AL, 368495625
[2]Animal Science and Forage Regional Extension Agent, Alabama Cooperative Extension System, Belle Mina, AL, 35615,

Peer-to-peer learning is an effective method for communicating and highlighting adoption of best management practices in beef cattle operations. In 2016, a farmer-based working group was organized by Alabama Extension and formed in North Alabama to discuss beef-livestock management within the region. The intended audience was

beef farmers with more than 10 years of experience in the industry. A series of five meetings were organized at producer or Auburn University affiliated farms from August 2016 to April 2017 to highlight technologies and strategies for agronomic, animal, and economic management of Alabama beef cattle operations. Topics included value-added calf marketing, bull selection and genetics, precision soil sampling, rotational grazing, bale grazing, and water quantity and quality in grazing systems. Group discussion was led by farmer participants and personnel from Alabama Extension, USDA NRCS Alabama, or another regional land-grant institution. A follow-up survey was conducted at the final meeting in April 2017 (n = 26 participants). 100% of the participants indicated that the program met their expectations, and that it should be offered again. When asked which methods provided the best educational experience to farmers in the group, 52% indicated on-farm visits, 22% stated speakers at each meeting, 17% preferred field days on research/demonstration sites, and 9% indicated getting to know other farmers in the group. 75% of farmers in the group reported they had already started to adopt one or more of the management topics discussed as part of the program. Specifically, forage strategies adopted by these farmers included management for 300 days of grazing per year, precision soil sampling, and improving strategies for rotational stocking on-farm. Participants reported an average economic impact of $2,500 per operation. Results indicate that a farmer-focused discussion groups may enhance on-farm understanding of beef systems by using resources at the local level.

GILES COUNTY 6TH GRADE SAFETY CELEBRATION

Layton - Dudding, J.[1]
[1]Extension Agent, Virginia Cooperative Extension, Pearisburg, VA, 24134

When do youngsters begin earning extra freedoms and less supervision? Middle school! Emergencies and safety hazards, healthy lifestyles, and decision-making for youth are priority issues brought to the agents from members of the ELC, the FCS Advisory Council, and identified through the 2013 Situation Analysis. This is why the Giles Extension Office and Extension Leadership Council host the "Sixth Grade Safety Celebration" as an interdisciplinary effort.

The target audience is sixth grade in Giles County. This group of young people is gaining new freedoms like staying home alone after school, learning to cook, and venturing out in peer groups. These youngsters help out at home and engage in activities that involve equipment (lawnmowers and ATVs) with less supervision. Many recreational activities such as swimming, boating, and fishing, involve risk. To support these students as they explore young adulthood, we bring them to the Pearisburg Community Center for a field day focused on safety. Students rotate through stations including food handling, water/swimming safety, fire safety, domestic animal safety, home-alone safety, ATV/farm equipment safety, internet safety, and personal defense. These topics were selected by our ELC and Agents based on community data (including the Giles County FOCUS project), geography, and demographics. The students hear speakers, see demonstrations, participate in hands-on activities, and receive take-home items.

The main outcome is that students who attended will make healthier decisions when faced with potential safety hazards. They'll consider their own health, change detrimental behaviors that put themselves and others at risk, and gain valuable life skills. Students will be surveyed in April of 2018 to measure behavior change in the 10 months following the program. 279 students and 51 adult volunteers attended the program over the past two years.

INCREASING ENVIRONMENTAL AWARENESS AND WATER RESOURCES OUTREACH AND EDUCATION IN THE CLASSROOM

Sims, K.[1]; Mcconnell, C.[2]; Simpson, J.[3]; Dailey, M.[4]
[1]Water Resources Extension Agent, Clemson Ext, Anderson, SC, 29624
[2]Water Resources Extension Agent, Clemson Ext, Clemson, SC, 29631
[3]4-H Extension Agent, Clemson Ext, Anderson, SC, 29624
[4]4-H Extension Agent, Clemson Ext, Walhalla, SC, 29691

What's in Our Waters (WOW) Jr. program is a program geared towards teaching youth about environmental scientific topics and our water resources. WOW Jr. was started through a collaborative effort between Clemson Environmental Toxicology graduate students, Clemson Extension, and 4-H as an after school program. WOW Jr. has grown over the past year and the new goal of the program is to introduce elementary age kids to more complex scientific terminology and concepts regarding environmental topics. This has been accomplished through in-class presentations and hands on activities taught by extension staff and college mentors. This past year has been the first time WOW Jr. has had a set curriculum and mentor training about the curriculum in order to increase the program efficacy. WOW Jr. was implemented at two elementary schools, Townville and Central Elementary, which increased our outreach capacity by 500%, going from 20 students to 120 students total across two counties. In order to evaluate the program, we conducted a pre and post assessment with general questions regarding environmental science and water resources that we will compare over the length of the program to see if our lessons were effective. The program started with an introduction to the scientific method and training on how to keep a scientific journal. The students were to conduct an experiment and come up with a hypothesis, observation, and conclusion, they then utilize this method during each lesson.

The topics covered in WOW Jr. are recycling/ waste products, stormwater/ watersheds, erosion control/ gardening practices, and water quality monitoring through chemical and biological data collection. Not only has this program introduced elementary aged students to environmental topics, it has also had a lot of support from professionals in the community that come and help engage the students in a particular topic. WOW Jr. is valuable as it introduces elementary age students to the scientific method but most importantly to environmental best management practices and how to be better stewards of our water resources in years to come

INTEGRATING CLIMATE DATA WITH RANGELAND MONITORING TO IMPROVE RANCH-SCALE DROUGHT DETECTION

Hall, A. L.[1]; Crimmins, M.[2]; McClaran, M.[3]
[1]Area Assistant Agent, Agriculture and Natural Resources, University of Arizona Cooperative Extension, Globe, AZ, 85501
[2]Climate Science Extension Specialist and Associate Professor, University of Arizona Cooperative Extension and Department of Soil, Water, & Environmental Science, Tucson, AZ, 85721
[3]Professor of Range Management, University of Arizona, School of Natural Resources and the Environment, Tucson, AZ, 85721

Precipitation is both highly spatially and temporally variable in Arizona, which adds a major challenge to decision-making for livestock allotments. Drought is often a constant concern for livestock producers because it can significantly affect the rangeland resources producers rely on to continue their operations. With a limited network of official rain gauges on rural rangelands producers are often left to collect precipitation themselves. Developing tools for monitoring precipitation and supporting ranch-scale drought detection became a need to assist ranchers. A new web app MyRAINgeLog allows users to not only log precipitation observations but also track if the observation is above or below average for a specific time period and location. This information is critical to interpreting on the ground conditions and puts small-scale observations into a larger climatological context. Information on the amount and timing of precipitation can be an important piece of the puzzle when interpreting changes in vegetation from year to year. After several years, an underlying relationship between vegetation changes and precipitation at each ranch will become more apparent. Understanding these fluctuations can help adapt management in years of drought. Ranchers can have an idea of how vegetation might change with a decrease in precipitation and adapt their management. MyRAINgeLog combined with rangeland monitoring data, repeat photography, and records about management actions provide multiple tools for ranchers in developing an allotment specific drought management plan.

P.E.S.T.: HOW TO BE THE FIRST IN YOUR COUNTY TO IDENTIFY NEW INVASIVE INSECTS

McMoran, D. W.[1]; Diehl, B. R.[2]
[1]Agriculture and Natural Resources Extension Faculty-Director, Washington State University, Burlington, WA, 98233
[2]Pest Board Coordinator, WSU Skagit County Extension, Burlington, WA, 98233

Invasive pests can have devastating ecological and economic impacts in areas where they become established. WSU Skagit County Extension encourages agents to use the P.E.S.T. methodology to ensure non-native insects are quickly detected once introduced into their county. It is imperative to involve the PUBLIC by establishing direct lines of communication, such as social media where county residents can submit photographs of suspicious specimens or alert agents to recent sighting locations. EDUCATION of county agents should focus on pest taxonomy, biology and behavior to ensure that they are able to identify invasive species and determine where and when a future outbreak may occur. Fact sheets or websites should be created to make this knowledge available to all interested parties. Funding is critical to SUPPORT the time extension agents must spend monitoring for invasive pests in the field and examining samples in the laboratory. Assistance may also be found through collaborations with other university or government entities which share a common goal of detecting and managing invasive insects. Most importantly, county agents should spend as much time as possible in the field TRAPPING for target pests. Detailed trap records should be maintained to accumulate a wide breadth of data that can be used to document invasive insect activity and develop more precise trapping protocols. WSU Skagit County Extension recently utilized the P.E.S.T. approach to capture the first specimens of the Brown Marmorated Stink Bug Halyomorpha halys (Stål) in Skagit County, Washington State.

Western Region Entries

4-H SUMMER ROBOTICS CAMPS HELP BUILD THE STEM PIPELINE

Schmidt, J. L.[1]; Julson, M.R.[2]
[1]County Director and 4-H Youth Educator, Washington State University Extension, COLFAX, WA, 99111
[2]Agricultural Education Teacher, no affiliation given, Pasco, WA, 99301

America faces a future of intense global competition and needs a highly skilled work force particularly in the fields of science, technology, engineering and math. To address the national shortage of teens pursuing science majors and careers, the WSU Extension 4-H programs in Whitman, Asotin, Garfield and Columbia Counties utilized robotics as a

way to get youth excited about STEM fields and opportunities at an early age. Focusing on youth 8 – 12years old, 4-H Summer Robotics Camps were offered in four counties in rural SE Washington with a total of 55 participants. Since planning and organizing summer camps is time intensive, a WSU College of Agriculture, Human and Natural Resources Sciences (CAHNRS) Summer Intern was obtained to provide the primary leadership for conducting the camps. Each camp is two to four days long and meets for three hours each day. Using the EV3 Lego Mindstorm kit, youth design, build and program a robot to perform specific tasks such as negotiating a maze or launching a ball into soccer net. Other camps activities included get acquainted games and a snack break. While working with a peer group at camp to accomplish the given tasks, youth demonstrated teamwork, cooperation, critical thinking and communication skills. At the conclusion of each camp, a simple 19 question Qualtrics survey was administered asking for feedback from the youth. The survey revealed that 81% of the youth were first time attendees; 39% of the youth participated because they like Legos and to build things like robots; 53% said that building the robot was the most fun; 79% said they were interested in learning more about science, robots and engineering; and 86% of the youth said they were interested in attending college. Even though the camps were relatively short in duration, they were successful in creating interest in the STEM fields among the camp participants.

Southern Region Entries

RVA 4-H EMBRYOLOGY PROGRAM INSTILLS CHARACTER TRAITS AND IMPLEMENTS ESSENTIAL LIFE SKILLS AMONG YOUTH

Council, B.[1]; Morton, S.[2]; Comer, M.[3]
[1]4-H Youth Development/Urban Agriculture Extension Agent, Virginia Cooperative Extension, Richmond, VA, 23223
[2]Extension Educator, Virginia Tech, Richmond, VA, 23223
[3]Extension Area Specialist, Virginia State University, Petersburg, VA, 23805

The Virginia Cooperative Extension City of Richmond 4-H and Agriculture & Natural Resources(ANR) program, partnered with Richmond Public Schools to deliver an experiential learning program that would inculcate essential life skills among our youth. By conducting key interviews with Richmond Public School educators, we found there was a need to instill significant qualities in our youth that would create a pathway of success as a young adult. The 4-H Embryology program has been in rotation since 2013 and was initially delivered as an animal science piece to educate youth about the embryo development process among poultry. The shift in program delivery came about in 2016 where we noticed the impact this program had on students' self-esteem, empathy levels, character, teamwork, and self-discipline. Embryology is a subject that supports interdisciplinary programming among 4-H and ANR extension agents.

As program success increased, Richmond Public Schools identified where this program could generate the most impact for youth and educators. Herein the City of Richmond, 4-H Embryology targets grades 3rd-5th with the addition of middle schools grades 6th-8th. The life science process that engulfs this program is a direct link to the Standards Of Learning(SOLs) assessments that are distributed in Virginia. Once the incubators and eggs have been placed in the classroom, the teachers develop teams of students to oversee the project. Students create scientific journals in which they record daily temperatures, their hypothesis on the number of eggs that will hatch, number of chicks that will be male or female, and number of eggs that will not produce chicks. Bi-weekly embryology lessons are conducted with the schools, in which students and teachers identify what life skills have been attained via the "Targeting Life Skills Model" developed by Iowa State University. This program began with an estimate of 150 students enrolled in 2016 to over 1650 students enrolled for the 2018 spring session. Between 2017 to 2018 there has been an 80% increase in youth participation. This valued collaboration between 4-H, ANR, and Richmond Public Schools has developed into a cohesive program to provide students with the skills that will aid them throughout life.

DECISION MAKING TOOLS

Bowling, B.[1]; Aaron Smith[2]; Andrew Griffith[3]
[1]Extension Specialist I, University of Tennessee Extension, Knoxville, TN, 37996-4518
[2]Assistant Professor, University of Tennessee Extension, Knoxville, TN, 37996
[3]Assistant Professor, University of Tennessee Extension, Knoxville, TN, 37996

With today's ever present uncertainty in the agricultural industry, it is important for producers to know their cost of production. The University of Tennessee Extension Service has developed several decision-making tools to help producers. The tools are Excel spreadsheets that were designed to be user-friendly through the use of buttons and macros. Producers can input their information into the decision-aid tools to estimate their total cost of production. Decision-aid tools have been developed for field crops, beef, dairy and machinery. The field crop budget tool has been developed to assist producers and other agricultural decision makers to evaluate returns of different row crop alternatives. The tool allows users to change yields, input quantities, input prices, machinery costs, and additional costs that are specific to a field or enterprise. The beef tools were developed to assist Tennessee cattle producers in estimating the costs of production and net return to land and management. Users are encouraged to enter information into the tool to reflect

their individual situation and production practices. There are tools for Cow/Calf and Stocker/Backgrounding. The Dairy Margin Protection Program Calculator is an Excel-based tool that will help dairy producers estimate potential payments under the new Dairy Margin Protection Program established in the Agricultural Act of 2014. The Machinery Cost Calculator (MCC) was developed to allow producers to estimate machinery costs for various agricultural processes. These decision-aid tools were developed to be help producers determine their costs of production for various enterprises. Knowledge of cost of production is important and essential in making informed decisions about one's farming operation.

FEASIBILITY & ECONOMIC IMPACT OF A SMALL FEDERALLY INSPECTED CATTLE HARVEST FACILITY

Hughes, D.[1]; Wright, H.[2]; Griffith, A.[3]; Pepper, H.[4]
[1]Ag Economics Specialist and Professor, University of Tennessee, Knoxville, TN, 37996
[2]Ag Economics Specialist, University of Tennessee, Knoxville, TN, 37996
[3]Ag Economics Specialist and Assistant Professor, University of Tennessee, Knoxville, TN, 37796
[4]Financial Analysis Specialist, University of Tennessee, Knoxville, TN, 37996

Abstract: Anecdotal evidence and a variety of studies indicate interest in smaller, locally oriented livestock slaughter facilities. However, there are many barriers to developing such a facility. Accordingly, the feasibility of a custom-slaughter, federally inspected cattle processing facility (providing slaughter, deboning, cutting and wrapping of major cuts of meat and grinding other cuts into hamburger) in Tennessee is examined.

Major Barriers include financial feasibility i.e., profitably and cash flow; adequate and steady-supply of cattle for cash flow and steady work; cost of and access to proper offal disposal (render pickup, compost, incinerate, landfill); treatment of wastewater to meet government effluent standards; humane animal treatment (also legally required); effective ergonomic programs and retaining workers; and application of proper sanitation techniques for food safety.

Findings: A well-managed custom livestock facility harvesting 1,800 cattle annually would have an annual estimated pre-tax profit of $80,049 based on annual revenues of $752,400 and costs of $672,351. A prior study indicates strong potential interest in supplying such a facility. A rendering pickup charge of $50 per load ($7,500 annual cost) is assumed based on discussions with current in-state operations (using a renderer is less problematic in Tennessee). Access to municipal city water and sewage for wastewater (and other) disposal is assumed. Management must follow USDA-FSIS regulations for humane handling including appropriate stunning methods. Current Hazard Analysis Critical Control Point (HACCP) program, Sanitation Standard Operating Procedures (SSOPs), and Good Manufacturing Practices (GMPs) are required for food safety.

An IMPLAN model of the Tennessee economy is used to evaluate potential economic impacts. Impacts are not large (14 total jobs, $2.295 million in output and $1.061 million in gross state product) but would be important for Tennessee rural communities where growth is lacking, especially strike force counties.

Conclusions:

The facility is profitable assuming excellent management.

Economic impacts are small but potentially important for many rural areas.

We are currently working with several producers groups and local leaders across the state in helping to determine whether to move forward with a facility.

FENCING BUDGETS CALCULATOR

Bilderback, D. C.[1]; Bowling, B.[2]
[1]Extension Area Specialist - Farm Management, University of Tennessee, Loudon, TN, 37774
[2]Extension Specialist I, University of Tennessee, Knoxville, TN, 37996

The Fencing Budgets Calculator was developed as a decision aid tool to help Tennessee landowners estimating the cost of fencing their land. The calculator will assist in developing budgets for barbed wire, woven wire, high tensile fixed knot, high tensile electric, and poly fence. To navigate the calculator there is a directory on the top right corner of every page. To begin using the calculator, start at the input prices page, it will allow you to edit the prices for material. Any number that is green can be changed. If you change the price and want to revert back to the original price, just click the reset to defaults button at the bottom right of the page. In each budget, the user will select the length, number of gates, and strands. The calculator will automatically calculate the number of braces and the supply needs. However, because the calculations are based on straight flat areas, the users can adjust the number of braces and supply needs to fit their operation. Since 2012, the calculator has been through a few revisions and has been presented at 16 meetings throughout East Tennessee. Over 600 farmers, fencing contractors, NRCS agents and Extension Agents were in attendance. The calculator has been emailed to over 100 individuals and Extension agents and is located on the University of Tennessee Agricultural Economics website for free download. Currently the calculator is being utilized in a presentation called "Fencing 101". This presentation focuses on planning and building fences for livestock.

GARDEN TALK ... HORTICULTURE FOR THE HOMEOWNER

Dismukes, A. L.[1]
[1]Extension Agent III, UT / TSU Williamson County Extension, Franklin, TN, 37064

The demand for current, research-based, horticulture related information has taken off in middle Tennessee over the past few years. Williamson County, is currently the 6th most populated county in Tennessee, with approximately 219,107 residents. Over the last eight years, population has grown at a 19.6% growth rate. Growth and rapid urbanization translate into new homes and in turn, new homeowners. With continued urban sprawl, many new residents are not familiar with gardening in Tennessee. Collective observations and documentation of topic requests points to an ever-growing need (and desire) for information. Additionally, current local economic conditions, fluctuations in environmental trend (weather, etc.), the growing popularity of organic foods and an increased interest in «growing your own» confirm this need. Extension educators are tasked with address traditional horticulture issues while keeping up with innovative techniques to address them. Homeowners want up-to-date, non-biased, research-based best management practices and as a result, GARDEN TALK grew.

GROWING DIGITAL: ADVANCED ONLINE MARKETING STRATEGIES FOR DIRECT FARM MARKETERS

Leffew, M. B.[1]; Grigsby, C.[2]; Yates, D. A.[3]
[1]Extension Specialist III, University of Tennessee Extension, SPRING HILL, TN, 37174
[2]Extension Specialist I, University of Tennessee Extension, Spring Hill, TN, 37174
[3]Extension Area Specialist, University of Tennessee Extension, Knoxville, TN, 37919

Digital marketing strategies are growing in importance as the number of adults using the Internet increases. The changes in available tools, use of mobile technologies, and emergence of graphics and video in marketing present opportunities for direct farm marketers but also require new knowledge and skills.

The Growing Digital program was developed to help Tennessee farmers in value-added, direct marketing and agritourism enterprises learn, evaluate and implement advanced online marketing strategies. The program included the development and delivery of three curricula via 20 educational programs to help participants reach potential customers and make sales transactions: 1) E-commerce options for direct farm marketing 2) Advanced social media/digital marketing and 3) Video content creation and marketing.

Four Extension publications about e-commerce options were also developed and made available online at **https://tiny.utk.edu/CPAPubs.** Notifications of their availability were posted to the departmental Facebook page and sent to more than 4,000 e-news list members, including all agriculture Extension agents and specialists.

Growing Digital reached 567 people through educational programs and/or individual technical assistance. A total of 250 out of 252 participants (99 percent) completing evaluations reported increases in knowledge of digital marketing strategies to enhance their online marketing efforts. The following impacts were also reported at the end of workshops:

- 92 participants learned tools and techniques to improve the effectiveness of their social media/digital marketing strategies
- 89 participants developed written goals for implementing new digital marketing strategies
- 80 participants increased their knowledge of e-commerce tools and strategies
- 79 participants increased knowledge of video content creation tools, techniques and marketing
- 73 participants developed goals to create and release a video marketing their products

All 52 participants completing a follow-up evaluation six months after attending a workshop indicated they had implemented at least one practice or procedure learned:

- 28 participants implemented advanced social media/digital marketing strategies
- 20 participants created and promoted at least one video marketing their products
- 14 participants decided whether or not to incorporate an e-commerce strategy into their marketing plan
- 11 participants established an e-commerce strategy for their operation

This material is based upon work supported by USDA/NIFA under Award Number 2015-49200-24228.

HAPPY COWS ON SITE-SPECIFIC CATTLE LANES

Reynolds, Lena Beth[1]; Walker, Forbes[2]
[1]Area Specialist III, University of Tennessee Extension, Athens, TN, 37303-3502
[2]Environmental Soils Specialist, Biosystems Engineering and Soils Science Department, University of Tennessee Extension, Knoxville, TN, 37996

Oostanaula Creek Watershed, located in southeast Tennessee, has a pasture-dominated landscape. The Oostanaula was listed for impaired water quality due to high bacterial (E. coli) levels. The City of Athens, and subsequent modeling efforts by the University of Tennessee, suggested that high E. coli levels in the creek were in part due to livestock operations.

Therefore, face-to-face contact with beef and dairy producers was initiated to reduce bacteria levels by reducing direct livestock access to the stream, managing cattle movement, and improving pastures. Design and construction of several Best Management Practices (BMPs) were a collaborative effort between farmers, the City of Athens, the University of Tennessee Extension, and the University of Tennessee, Knoxville.

Three farms faced various difficult situations due to cattle numbers and management, topography, bedrock, drainage, and erosion. Each site received independent consideration, while working to provide the producer with easier management. The University of Tennessee Extension utilized personnel, BMP information, and site-specific design to implement successful BMPs in three very different situations.

- At the "Ravine" location, cattle had walked down the steep ravine to enter a large culvert and travel under the county road for decades. The solution involved diverting the cattle to a limited walkway reminiscent of a handicapped ramp.

- The "Cattle Crossing" location required thinking out-of-the-box to find a workable solution due to bedrock in the stream, drainage from cattle traffic lanes, and property boundary.

- Another farm had successful projects with a stream crossing, waterer, and fenced riparian area. However, evaluation of their "Cattle Lane" after installation and a major storm, caused re-working a design and installation of three more features.

Recently the three farmers who use these designs have voluntarily expressed their appreciation for BMPs that resulted in fewer cow injuries, safer tractor and equipment crossings, reduced erosion and sediment from streambanks, cleaner water for livestock consumption, less erosion from cattle traffic lanes, easier and safer livestock management, and beautification of the stream for family enjoyment.

MIDDLE TENNESSEE LANDSCAPE SHORT COURSE (A MULTI-COUNTY COMMERCIAL HORTICULTURE IN-DEPTH WORKSHOP)

Mote, Mitchell G.[1]; Dismukes, Amy L.[2]; Cook, David L.[3]; Ary, Bob[4]; Kean, Karla[5]; Knaus, Sierra[6]; Smith, Wendel[7]
[1]Extension Agent III, UT / TSU Rutherford County Extension, Murfreesboro, TN, 37129
[2]Extension Agent II, UT / TSU Williamson County Extension, Franklin, TN, 37064
[3]Extension Agent III, UT / TSU Davidson County Extension, Nashville, TN, 37219
[4]County Director and Extension Agent III, UT / TSU Sumner County Extension, Gallatin, TN, 37066
[5]Extension Agent III, UT / TSU Montgomery County Extension, Clarksville, TN, 37040
[6]Extension Agent III, UT / TSU Cheatham County Extension, Ashland City, TN, 37015
[7]Extension Agent II, UT / TSU Lawrence County Extension, Lawrenceburg, TN, 38464

Green industry professionals are constantly adapting to an ever-expanding clientele base. As a result, Extension educators in Middle Tennessee were tasked with addressing these growing commercial horticulture needs in the area and the Middle Tennessee Green Team was established. With the continued rapid urbanization of certain counties in and around Nashville, TN, the demand on green industry professionals for updated, research-based best management practices also continues growing at a rapid rate. Non-biased and affordable educational programs can be difficult if not impossible to locate; thus, the Middle Tennessee Landscape Management Short Course (LSC) was born. The LSC is an annual, 2-day workshop geared for those employed in the green industry. Each program and its speaker are carefully selected via survey results from previous year's program and according to industry hot topics, etc. Each year, over 200 professionals are in attendance each day. As a result of the Landscape Short Course, 2018 making its 14th year, professionals not only gained valuable points for certification and licensing, but also confidence in insect and pest identification, control methods and applications, plant selections for sustainability and much more.

POLLINATOR HEALTH GARDEN WORKSHOP

Cook, D.[1]; Barry, M.[2]
[1]Extension Agent II, UT-TSU Extension - Davidson County, Nashville, TN, 37219-6300
[2]Extension Director, UT-TSU Extension - Davidson County, Nashville, TN, 37219-6300

Main objective and rationale

With a decline in both wild and managed bee communities, a Davidson County needs assessment revealed that a program to promote pollinator health is vital to the sustainability of bee populations in the urban area. A change in land uses,

agricultural pesticide misuse, and an increased urban sprawl have led to bee communities being diminished. On June 20, 2014, the White House released a Presidential Memorandum titled "Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators." The memorandum detailed next steps to strengthen existing federal efforts and create new ones to mitigate pollinator loss and help restore pollinator populations. One of the key components is a public education plan. As part of the Land Grant University System, Extension is a natural resource to carry out the Presidential Memorandum. The agent designed an educational program to accomplish the public education portion of the Presidential Memorandum.

Methods to accomplish objective

The Extension Agent developed a workshop to educate the interested public about establishing a pollinator health garden in their urban environment. The workshop consisted of poster displays, insect collections, a PowerPoint presentation, and a tour of a newly-installed pollinator health garden. In addition, workshop participants were provided training on how to design, plant, and maintain a pollinator garden. The participants were also give 25 native flowering plants to take home to use in the establishment of their garden.

Educational program results

The agent utilized post workshop surveys to gain an indication of impact. Participants revealed that they gained knowledge in the several areas of pollinators, native flowering plants, and in designing and maintaining pollinator health gardens. All participants agreed to install a pollinator health garden in their own landscape with the supplied plants.

Raw conclusions about the implications of the educational program

Conclusions garnered from the workshop show that the pollinator health garden workshop created an educational impact on the participants. Programs along this topic will continue to be relevant due to the decline of pollinators and the charge from the education plan component of the Presidential Memorandum.

CLEMSON EXTENSION MEET AND GREET

Dailey, M.K.[1]; McConnell, C.A.[2]
[1]4-H Extension Agent, Clemson Extension, Walhalla, SC, 29691
[2]Water Resources Extension Agent, Clemson Extension, Clemson, SC, 29634

Clemson University's roots started in agriculture, however as the University continues to grow, the focus has turned to business and engineering. In order to make sure students don't stray too far from their roots, a new program was developed, the 'Clemson Extension Meet & Greet'. The main objective is to introduce college students to the Clemson Cooperative Extension Service by providing the opportunity for the students to meet professionals in their perspective fields, and allow them to learn more about the programs and opportunities that Clemson Extension has to offer. The students learn what programs Extension Agents are involved in, job and internship opportunities, and 4-H Volunteer opportunities. To date, this program has been offered twice, with 157 students participating, representing 17 different majors, and 4 colleges at Clemson University. Based off a post survey that was sent to participants at the 2017 event, 100% of the participants' knowledge and awareness of the Clemson Cooperative Extension Service increased or remained the same. 93% said that they benefited from attending the 'Clemson Extension Meet and Greet.' 73% indicated that they would be interested in becoming an 4-H Volunteer or interning for Clemson Extension in the future. The event has also resulted in the hire of a full-time Extension Agent. Because of its success, The 'Clemson Extension Meet and Greet' has now become an annual event, and is essential in promoting agriculture and Extension in South Carolina, and moving the Cooperative Extension Service forward.

INTEGRATED PEST MANEGEMENT FOR COMMERCIAL GREEN INDUSTRY PROFESSIONALS; A HANDS ON APPROACH

Roach, K.[1]
[1]Extension Agent, Agriculture - Horticulture, Clemson Extension, Walhalla, SC, 29691

Integrated pest management (IPM) is an integral part of any green industry professional's daily activities. Unbiased and research based education supporting these best practices for IPM along with providing pesticide recertification credits can be cost prohibitive and difficult to find and/or attend. By providing a short, concise, applicable, and timely training, we as Extension agents can fulfill the needs of the industry professional with limited cost of time and resources. Kerrie has developed a two-hour course framework that provides timely, real-world samples with commercial landscape based IPM solutions. Each workshop begins with thirty minutes of sample and pest identification by the participant. The agent then reviews the identity of each plant sample and pest, and discusses management options for the green industry beginning with the least environmentally invasive and moving lastly to chemical control. This workshop format has been well received by industry professionals, is easy to replicate for Extension agents throughout the year, is timely, and shows very good results for knowledge and behavior changes.

SOUTH CAROLINA MANURE APPLICATION CALIBRATION TRAINING FIELD DAYS

Smith, W. B.[1]; Beer, B. L.[2]; van Vlake, L.[3]
[1]Area Extension Agent - Agricultural Engineer, Clemson Extension Service, LAURENS, SC, 29360
[2]Area Livestock Agent, Clemson Extension Service, Lancaster, SC, 29720
[3]Area Livestock Agent, Clemson Extension Service, Florence, SC, 29505

In 1996 the South Carolina Legislature passed H.1446, which established regulation of confined animal feeding operations. The South Carolina Department of Health and Environmental Control (SCDHEC) subsequently developed regulation R.61-43 in 1998, which established the actual regulations used for confined animal feeding operations. Sections 100.100.B.5 and 200.100.B.5 of these regulations require growers to calibrate their manure application equipment at least once annually. The increasing cost of commercial fertilization products over the past several years has also made the utilization of animal manure as a nutrient source a very attractive alternative. Due to this growers would like to apply animal manure as accurately as possible to their land to obtain the maximum benefit from this nutrient source.

Many South Carolina growers have little background or hands-on training in the proper calibration of liquid or solid manure application systems. Brian Beer and Bryan Smith first worked with the SCDHEC, the Natural Resources Conservation Service, and local growers to develop an application calibration field day for solid manure in Lancaster County, SC. Lee van Vlake later worked with Brian Beer, Bryan Smith, local growers, and the Natural Resources Conservation Service to develop the first application calibration field day for liquid manure in Marion County, SC.

To date three calibration field days for liquid manure systems and seven calibration field days for solid manure systems have been held in eight locations in South Carolina, training 144 growers and manure brokers in proper calibration techniques. An on-line solid manure calibration factsheet has been developed and is now available, and step-by-step calibration procedures are included in the Confined Animal Manure Manager manual. These field days have provided the necessary tools to allow growers to properly utilize their manure and stay in compliance with South Carolina regulations.

BEEF CATTLE DECISION SUPPORT TOOLS AND FACTSHEET RESOURCES TO IMPROVE RESILIENCY

Sutherland, Albert[1]; Amber Campbell[2]
[1]Mesonet Ag Program Coordinator, Oklahoma State University, Norman, OK, 73072-7305
[2]Grazing CAP Project Manager, Kansas State University, Manhattan, KS, 66506

Beef production can be influenced by widespread drought, record high and low precipitation and grain/feed prices, and economic uncertainties. Capturing value, managing returns and least-cost production is crucial for beef cattle operators. As part of the USDA Great Plains Grazing Coordinated Agricultural Project, decision support tools and factsheets have been produced to help farmers and ranchers make science-based production decisions and deal with weather and climate extremes. Since 2014, 5 phone apps, 2 desktop tools, 18 factsheets, and 37 webinars, have been released. Downloads and views of these products provide insights into current producer needs and interests. Factsheet downloads (as of 03/15/18) ranged from 149 for weather forecasts to 6,711 for confined feeding in drought. YouTube webinar views (as of 03/15/18) ranged from 19 for Cattle Comfort heat and cold stress to 1,700 for multi-species cover crops for grazing. Support for these decision support tools are part of USDA AFRI Grazing Coordinated Agricultural Project #2012-02355 and 2013-69002-23146 focused on beef production sustainability and resilience in the southern Great Plains states of Kansas, Oklahoma, and Texas. More information on these tools and factsheets are available at http://GreatPlainsGrazing.org. Webinars are on Great Plains Grazing YouTube channel.

ANNUAL HORTICULTURE INDUSTRY IPM SYMPOSIUM

Bundy, H.[1]; Ruth, C.[2]; Scott, S.[3]; Lebude, A.[4]; Pettis, S.[5]
[1]Horticulture Extension Agent, NC State Extension Service, Spindale, NC, 28160
[2]Area Specialized Agent, NC State Extension Service, Asheville, NC, 28806
[3]Horticulture Extension Agent, NC State Extension Service, Waynesville, NC, 28786
[4]Extension Nursery Specialist, NC Stae Extension Service, Mills River, NC, 28739
[5]Horticulture Extension Agent, NC State Extension Service, Hendersonville, NC, 28792

The Western North Carolina 'Green Team' works in conjunction with the North Carolina Arboretum in Asheville, NC annually to put on an Integrated Pest Management (IPM) symposium with a full day of lectures for landscapers, nurserymen and greenhouse growers. The day started off with a keynote speaker and then growers had the chance to choose

between three tracks: Landscape and Nursery, Greenhouse Track A or Greenhouse Track B for the remainder of the day. Experts in the industry from all parts of the east coast gave lectures on new research information, new pest problems and treatment options and integrating beneficial insects into management practices. The option between the two greenhouse tracks was provided so that both beginning and more advanced growers had information provided that was pertinent to their needs. Presenters stayed for the entire day so that growers had a chance to ask them questions and representatives from companies leading the industry in IPM products and strategies were present for the entire day. Allowing participants to take away a multi-faceted amount of information to improve their IPM understanding and strategies in their operations. There were 125 attendees for the day and pesticide credits were offered for North Carolina, South Carolina, Tennessee and Georgia. Out of these participants, we had close to 70 who received pesticide credits and 14 contractors who received Landscape Contractor credits. This was the 7thannual symposium. For many professionals who do not have time throughout the year to attend multiple classes, this Symposium is their one-stop-shop for their credits and education for the year.

DEVELOPING MARKETING PLANS AND STRATEGIES FOR LIMITED RESOURCE PRODUCERS IN NORTH CAROLINA STRIKE FORCE COUNTIES

Brownlee, N.[1]; Hartsfield, J[2]
[1]Farm Management Agent, NC Cooperative Extension, Lumberton, NC, 28359
[2]Farm Management Agent, NC Cooperative Extension, Clinton/NC, no state given, 28328

Managing risk continues to be a challenge for small and limited-resource farmers. They need the ability to deal with risks that come with new attractive farming opportunities. To assist small and limited-resource farmers with this challenge, two teams of extension agents, in partnership with National Crop Insurance Services, conducted a series of workshops in Southeastern North Carolina to help these farmers respond to marketing risk. This risk management education program is a follow-up to the series of risk management workshops conducted in 2014.

The delivery of program consisted of two major components: 1) workshops and 2) individual study. Three day-long sequential workshops (18 hours) supplemented by personal assignments and individualized counseling was delivered to 62 producers via a partnership of subject matter experts and extension agents. Participants were expected to spend at least 20 hours completing homework assignments after each workshop for a total of 60 hours. After each workshop, participants were contacted by phone, farm visit, office visit, or e-mail for progress updates or to answer questions regarding homework assignments and encourage them in their efforts. The primary outcome was for participants to understand marketing principles well enough to establish a written goal for each decision variable of marketing risk specific to their farm.

There were 47 participants who completed a Personal Marketing Plans. At the end of the reporting period 17 participants had accomplished all actions they had specified in their plans, and 32 had completed at least 10 tasks each. Examples of these actions included: creating social media and personal web pages, developing a customer list, selling at local farmers' markets, adding and marketing new enterprises, and becoming certified in good agricultural practices. Six months after the completion of the last workshops in July 2017, follow-up interviews and surveys with 32 of these participants showed that they increased their income collectively by $134,000.

With these risk management tools local farmers can build the confidence they need to deal with future risks and opportunities. Small and limited-resource will continue to benefit from Cooperative Extension Programs.

DON'T LET FSMA'S PRODUCE SAFETY RULE GET IN THE WAY OF YOUR SMALL FARM FOOD SAFETY PROGRAM

Rogers, E. T.[1]; Ayers, E.[2]; Boylan, R.[3]; Snyder, E.[4]; Vigardt, A.[5]
[1]Area Specialized Agent, Food Safety- Fresh Produce, North Carolina State University, Lenoir, NC, 28645
[2]Extension Agent, Agriculture, NCSU Madison County, Marshall, NC, 28753
[3]Area Specialized Agent, Agriculture, NC A&T University, Boone, NC, 28607
[4]Extension Agent, Agriculture - Commercial and Consumer Horticulture, NCSU Caldwell County, Lenoir, NC, 28645
[5]Extension Agent, Agriculture- Local Foods, NCSU Catawba County, Newton, NC, 28658

The Produce Safety Rule (PSR) set standards for growing, harvesting, packing and holding of produce for farms. These standards seek to prevent microbial contamination and reduce the risk of foodborne illness associated with contaminated produce. While this regulation directly targets "covered farms" (farms selling more than $500,000 in food sales over the past three years or those farms that sell most of the food they grow, pack or hold to buyers that are not qualified end users), small farmers are often confused of where they fall in the PSR and what are the requirements to comply with this regulation. On the other hand, some small farmers have heard they are "exempt" and therefore should not worry about food safety practices in their farm. To address this issue, an educational program was designed to help small farms understand where they fall in the Rule, relevance of practices in the PSR regardless of farm size and discussion of Good Agricultural Practices certifications. This class was designed to be interactive and to last no longer than three hours. A pilot workshop was offered in four counties in Western NC. Approximately 60

farmers attended these workshops. As a result, growers were able to understand the basics of the PSR, how it may affect them and were provided templates and resources to help them comply with this regulation. The workshops allowed growers to understand the importance of implementing food safety practices, generated requests from farmer market managers for additional trainings and addressed farmers concerns over farm inspections. This program has also resulted in growers deciding to attend a Produce Safety Alliance training to gain a deeper understanding of the PSR. Overall, this program helps growers understand that food safety practices are relevant to all produce farms regardless of where they fall in the PSR.

INCREASING FRESH FOOD OPPORTUNITIES IN A FOOD DESERT INITIATIVE HENDERSON COUNTY BOUNTIFUL HARVEST COMMUNITY GARDEN

Pettis, S.[1]; Kelley, W[2]; Blaedow, K.[3]
[1]Horticulture Agent, Henderson County Cooperative Extension, Hendersonville, NC, 28792
[2]County Extension Director, Henderson County Cooperative Extension, Hendersonville, NC, 28792
[3]Horticulture Agent, Henderson County Cooperative Extension, Hendersonville, NC, 28792

Henderson County Cooperative Extension has created new fresh food opportunities by bringing the Henderson County community together to learn about how eating fresh food impacts their health, to encourage the creation of new fresh vegetable farms and markets and to support farms already producing vegetables locally. Educational outreach has focused on the health benefits of consuming fresh produce for consumers, home vegetable gardening, starting a small vegetable farm, community/school gardens, and reducing pesticide use by utilizing low input and organic fruit and vegetable production. Outreach programs include the Bountiful Harvest Community Garden.

Community Gardening came into national prominence in the mid-2000's. In 2008 Henderson County Master Gardener Volunteer Janet Gardener saw a need for a place where local community members could grow their own vegetables. The Bountiful Harvest Community Garden was established in 2009 by the Extension Master Gardener Volunteers of Henderson County (EMGV). The garden will have its 10th anniversary in 2019.

LOCAL FOODS PROGRAM TEAM ECONOMIC IMPACTS WORK GROUP 2016 ?EUR" 2017 PROJECTS

Lenhardt, M.[1]; Laufer, L.W.[2]; Bowen, B.L.[3]; Stout, R.D.[4]; Traywick, G.B.[5]
[1]Agriculture Agent, Horticulture, NC Cooperative Extension, NCSU, Statesville, NC, 28687
[2]Extension and Outreach Program Manager, Center for Environmental Farming Systems, NC State University, Raleigh, NC 27529, no state given,
[3]Program Manager, Cultivate NC - Community Rural Development, NC State University, Raleigh, NC 27695, no state given,
[4]NC 10% Campaign State Program Coordinator, NC State University, Raleigh, NC, 27695, no state given,
[5]County Extension Director, NC Cooperative Extension, NCSU, Shelby, NC 28152

Small farm operations are always looking for opportunities to enhance their farming income. To help achieve these goals, Extension professionals created programs to enhance the local food system(s) of North Carolina and facilitate regional economic development. The Economic Work Group created three outreach programs, including training for Extension Agents on Organic Certification and Business Planning to then help growers with getting organic certification, record keeping, products pricing, marketing and social media. Another training for Extension agents in Agribusiness Development to help them work with their growers on how to launch an agritourism business, and a county-based local food brochure and online farmer profile was created. To date, four Agribusiness Development to 55 participants, and two Organic Certification and Business Planning trainings have been delivered, and two counties have online profiles of several growers to help promote local grower's farms. This effort expects great impacts in the future as an integral part of a comprehensive, cross-programmatic educational program for overall economic development.

PROVIDING AGRICULTURAL TRAINING FOR THE US MILITARY

Lahti, L. K.[1]
[1]Extension Agent-Livestock, NC Cooperative Extension, Fayetteville, NC, 28306

Cumberland County is home to Fort Bragg, one of the nation's largest military bases with over 52,000 troops. Civil Affairs soldiers are often called upon to help indigenous populations rebuild and improve their quality of life in war-torn regions. They also conduct area assessments, social network analyses, and network development to prevent vulnerable populations from being infiltrated and influenced by outside radical influences. Most of the areas the soldiers are deployed to are agrarian, however very few of the soldiers have an agricultural background.

The Rural Engagement and Mapping Course (REMC) was started in September of 2015 as a one-week agricultural immersion course. There have now been seven trainings that have been expanded to span two weeks. Civil Affairs soldiers from the 83rd, 92nd, 96th, and 98th Civil Affairs Battalions have participated in the training. The focus of this training is to increase basic agricultural knowledge through exposure to agriculture, smallholder farms, and farm culture. It provides real-world experience through engaging with real farmers and developing solutions to real problems as well as fosters self-awareness and personal development. This course gives the soldiers another capability that can be utilized to make them more credible and allow them to access areas they normally would not. This training takes soldiers to farms where they are able to learn directly from the farmers.

Since the start, 119 soldiers have completed this training course. Soldiers who participated in the training courses were given a self-assessment of their agricultural knowledge before and after completing the training course. The average pre-assessment score was 3.1 out of 10 and the average post-assessment data was 6.8 out of 10 with 10 being the greatest knowledge gained. The soldiers who have gone through this training course get deployed all over the world and are able to take the knowledge and skills gained with them back to their units. A soldier who attended a previous training course reported that he was able to utilize the agricultural knowledge he gained during the training to successfully complete his mission when recently deployed.

PLANNING FOR FAMILY FINANCIAL TRANSITIONS

Harned, L.[1]; Campbell, M.[2]; Jenkins, C.[3]
[1]Boyd County Extension Agent for Agriculture and Natural Resources, University of Kentucky, CATLETTSBURG, KY, 41129
[2]Mason County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Maysville, KY, 41056-6808
[3]Magoffin County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Salyersville, KY, 41465-8438

Planning for successful financial transitions is a challenge for many American families, especially rural and farm families. Open family communication, as well as knowledge about current financial and legal regulations regarding wills, trusts, and property is critical, but unfortunately, is not typically addressed within most family units. District 1 ANR & FCS extension agents at the University of Kentucky collaborated to provide "Planning for Family Financial Transitions," a series which enabled families the resources to know how, when, and where to seek advice, thereby lessening family stress and resulting in considerable cost-savings.

Each program session originated via SKYPE for Business, a web-based application, from a single host county with the presentation being broadcast live to 18 of the 20 counties in the district. University specialists, along with government, legal, and healthcare professionals were arranged to present and share information and resources in one virtual educational setting. Session topics included: Basic Estate Planning; Social Security Benefits; Medicaid Benefits; Understanding Wills and Powers of Attorney; Trusts; Transitioning the Family Farm and Property; Funeral Planning, Insurance Types, and Needs; and End of Life Planning and Care. This program offered more than 200 families the opportunity to learn at their own pace, ask questions of experts free of charge, and overcome the fear and isolation surrounding stressful family decision-making.

A follow-up survey conducted eleven months after the conclusion of the program indicated the series to be very successful: 92% of the respondents reported having conversations with family members about end-of-life planning, 70% had started developing a living will, will, or trust, and 50% recognized that implementing a trust—an uncommon practice in rural Kentucky—could be beneficial in transitioning a farm.

HIGH TUNNEL FIELD DAY FOR SMALL AND BEGINNING FARMERS

Sheffield, M.[1]; Pearce, M.[2]
[1]County Extension Coordinator, University of Georgia, Dallas, GA, 30132
[2]Consultant, UGA Small Business Development Center, Rome, GA 30161, no state given,

UGA Extension and the UGA Small Business Development Center in Northwest Georgia are working to help farmers and consumers understand concepts and communicate best practices for food production, food safety, and conservation of our soil and water resources, and to provide appropriate business management training. One of the pressures that farmers face in urban and suburban areas is that small acreages limit production. Urban and suburban areas are in need of fresh locally grown produce, but the pressures of development and urban land use make it difficult for farmers and potential farmers to grow vegetables on small acreages. Demand for local produce continues to increase. High Tunnels have been implemented on small farms to increase yields, reduce pest pressures, control the growing environment and lengthen the growing season. Many small and beginning farmers have been granted cost share for High Tunnels through Natural Resource Conservation Service programs. However, some are very new to agriculture and are unaware of the farm and business management practices needed to be successful. Therefore, training was needed.

IMPLEMENTATION AND EVALUATION OF ON FARM ADVANCED IRRIGATION SCHEDULING

Mcallister, S.[1]; Anderson, H.[2]; Kichler, J.[3]; Kicklighter, J.[4]; Mallard, J.[5]; Miller, J.[6]; Sapp, P.[7]; Starr, W.[8]; Taylor, J.[9]; Torrance, T.[10]; Tyson, B.[11]; Ward, B.[12]; Parker, W.[13]; Utley, S.[14]; Perry, C.D.[15]; Vellidis, G.[16]; Perry-Johnson, L.[17]; McCann, M.[18]; Porter, W.[19]

[1]Terrell County Extension Agent, University of Georgia Extension, Dawson, GA, 39842

[2]Ben Hill County Extension Agent, University of Georgia Extension, Fitzgerald, GA, 31750

[3]Colquitt County Extension Agent, University of Georgia Extension, Moultrie, GA, 31768

[4]Colquitt County Extension Agent, University of Georgia Extension, Moultrie, GA, 31768

[5]Jenkins County Extension Agent, University of Georgia Extension, Millen, GA, 30442

[6]Jeff Davis County Agent, University of Georgia Extension, Hazlehurst, GA, 31539

[7]Burke County Extension Agent, University of Georgia Extension, Waynesboro, GA, 30830

[8]Sumter County Extension Agent, University of Georgia Extension, Americus, GA, 31709

[9]Coffee County Extension Agent, University of Georgia Extension, Douglas, GA, 31533

[10]Decatur County Extension Agent, University of Georgia Extension, Bainbridge, GA, 39817

[11]Bulloch County Extension Agent, University of Georgia Extension, Statesboro, GA, 30458

[12]Miller County Extension Agent, University of Georgia Extension, Colquitt, GA, 39837

[13]Southeast District Program Development Coordinator, University of Georgia Extension, Statesboro, GA, 30458

[14]Southwest District Program Development Coordinator, University of Georgia Extension, Tifton, GA, 31794

[15]Superintendent of UGA Stripling Irrigation Research Park, UGA Stripling Irrigation Research Park, Camilla, GA, 31730

[16]University of Georgia Professor, Crop and Soil Sciences, University of Georgia, Tifton, GA, 31794

[17]Associate Dean for Extension, University of Georgia, University of Georgia Extension, Athens, GA, 30606

[18]Assistant Dean for Extension, University of Georgia, University of Georgia Extension, Athens, GA, 30606

[19]Extension Precision Ag Specialist, University of Georgia, Crop and Soil Sciences, University of Georgia, Tifton, GA, 31794

The main goal of this project was to implement and evaluate the efficacy of advanced irrigation scheduling tools at the farm level. The specific objectives of this study were to select appropriate farmers who were growing cotton to work as collaborators, install soil moisture sensors in their fields, schedule irrigation utilizing the sensors, calculate water use efficiency of the crop from the sensors and from the conventionally utilized farmer method, and to compare the water use efficiency of both methods. Thirteen UGA extension agents were tasked with selecting two farmers from each of their counties for collaboration on this project. Twenty-two farmers were selected in eleven counties across southern Georgia to participate in this state-wide extension research effort. The counties selected were Burke, Bulloch, Coffee, Colquitt, Decatur, Jeff Davis, Jenkins, Irwin, Miller, Sumter, and Terrell. Three sensor locations per field were selected based on the producers' knowledge of the field, agents' experience, and available field data such as aerial imagery. Each sensor location was selected due to variability apparent in each of the fields. The sensors utilized WaterMark sensors integrated into a probe at six and fourteen inches below the soil surface. Irrigation was triggered once a weighted average soil water tension level of 45 kPa was reached. Weighting was applied to each of the sensors based on its location in the field, and the approximate percentage of the field each sensor covered. The soil moisture sensor data was sent to the internet from the field using telemetry and loaded into the sensor company's (Trellis https://mytrellis.com) online dashboard. The data was viewed in two formats, an icon of the average sensor data and a graph over time of the sensor data collected and updated hourly. Irrigation events were tracked by the agents and rainfall data were collected via in-field rain gages with data loggers. Irrigation events were verified by in-field rain gages.

SOUTHERN WOMEN IN AGRICULTURE

Hammond, K.[1]; Butcher, S.[2]; Cheely, T.[3]; Knight, C.[4]; Sapp, P.[5]; Ray, L.[6]

[1]County Extension Agent, University of Georgia, Trenton, GA, 30752

[2]County Extension Agent, University of Georgia, Newnan, GA, 30263

[3]County Extension Agent, University of Georgia, Warrenton, GA, 30828

[4]County Extension Agent, University of Georgia, Statesboro, GA, 30458

[5]County Extension Agent, University of Georgia, Louisville, GA, 30434

[6]County Extension Agent, University of Georgia, Madison, GA, 30650

Animal agriculture, specifically cattle production, is a male-dominated industry. According to statistics from a 2014 U.S. Bureau of Labor report, 76% of farmers or ranchers were male. It is not from lack of skill that women are not more prevalent in the industry – but perhaps lack of confidence. To address this problem in Georgia, six female ag agents within UGA Extension collaborated with the UGA Animal and Dairy Science Department to develop the Southern Women in Agriculture Workshop. This program is designed to give females interested or involved in the industry an opportunity to gain hands-on experience in agriculture, more specifically

cattle production. Ideally, the experience would give the participants confidence to take a larger role in their personal/family agricultural operation; perhaps decreasing the need for hired labor. Three workshops have been held, one in Athens, GA at the UGA Livestock Instructional Arena, the second in Calhoun, GA at the Northwest Georgia Livestock Pavilion, and the third at the UGA Bull Evaluation Center in Irwinville. These three workshops have reached 101 women in agriculture from five states.

STAYING IN THE KNOW: UGA EXTENSION GWINNETT EDUCATION PROGRAMS ADDRESSING ISSUES OF CONCERN OF GREEN INDUSTRY PROFESSIONALS

Daly, T.[1]
[1]County Extension Agent, University of Georgia, Lawrenceville, GA, 30046-4804

Gwinnett County has a population of 900,000, which is the second highest in Georgia. It has many significant commercial and residential developments that provide clientele for more than 400 green industry enterprises. An attractive, well-maintained landscape can significantly contribute to the property values and economic potential of a community. The industry is becoming more competitive, and professionals are turning to Cooperative Extension for specialized training and required certifications. These changes require continuous educational updates to keep employees informed of new methods and technologies. Green industry professionals who apply pesticides for pay must have the Georgia commercial applicator pesticide license issued by the Georgia Department of Agriculture, which requires them passing an exam and then receiving ten credit hours every five years to stay in compliance. A preparatory class has been developed to help them take and pass the test, and also educational events that offer continuing education credits. Since 2016, UGA Extension Gwinnett has offered 16 programs for 664 participants. Written and verbal methods were used to query program participants as to the effectiveness of the material presented and instructional practices used. Extension evaluated the participant's apparent demand to determine if more educational opportunities were needed. In a post-class survey, 90% of the participants said that they felt confident in passing the exam because of the program. Several wrote favorable comments on the survey including "The instructors were confident in their knowledge of the subject material and offered suggestions on where to locate other useful information."

"WELCOME TO FLORIDA" LESSONS LEARNED FROM AN ONLINE GARDENING COURSE

Hobbs, W.[1]; Harlow, L.[2]
[1]Environmental Horticulture Agent I, UF/IFAS Extension, Green Cove Springs, FL, 32043
[2]Agriculture and Natural Resources Agent I, UF/IFAS Extension, Green Cove Springs, FL, 32043

With a population projected to increase by 100,000 in the next 25 years, Clay County, Florida is seeing dynamic growth through an influx of new residents. Many of these citizens are new to Florida and the unique challenges that gardeners face in our climate and our precious resources that will become even more strained in the future. To address the needs of the citizens of Clay County to successfully and sustainably garden in Florida, a 4-week synchronous online course was developed to teach about vegetable gardening, sustainable Florida-Friendly Landscaping, turfgrass management, and the climate and natural resources of the area. The course was run three times in the fall and winter of 2017 into 2018 and data was collected that showed general knowledge gain but there were several challenges that need to be addressed in further online course development such as participants not following through with the course once registered and lowered participation over the length of the course. However, these issues provide an opportunity to strengthen similar courses in the future and for other agents to avoid problems that this course design presented. Throughout the development and implementation of this course, many ideas and methods were tested, leading to strategies to be shared with other extension faculty in how to design and successfully run online courses.

AN INTEGRATED APPROACH TO QUALITY, EFFECTIVE EXTENSION PROGRAMMING

Walter, J.[1]; Gamble, S.[2]; Mudge, D.[3]; Hersom, M.[4]; Yarborough, J.[5]; Justesen, B.[6]; Wilson, T.[7]; Bosques, J.[8]; Mann, M.[9]; Shuffitt, M.[10]; Jennings, E.[11]; Rivera, F.[12]; Cooper, C.[13]; Bainum, C.[14]; Bennett, L.[15]
[1]Program Extension Agent III, University of Florida/IFAS, Cocoa, FL, 32926
[2]Extension Agent IV, University of Florida/IFAS, DeLand, FL, 32724
[3]Extension Agent III, University of Florida/IFAS, DeLand, FL, 32724
[4]Associate Professor, Beef Cattle Specialist, University of Florida/IFAS, Gainesville, FL, 32603
[5]Extension Agent I, University of Florida/IFAS, Orlando, FL, 32812
[6]Extension Agent I, University of Florida/IFAS, Kissimmee, FL, 34744
[7]Extension Agent III, University of Florida/IFAS, St. Augustine, FL, 32092
[8]Extension Agent II, University of Florida/IFAS, Wauchula,

FL, 33873
[9]Extension Agent II, University of Florida/IFAS, Tavares, FL, 32778
[10]Extension Agent IV, University of Florida/IFAS, Ocala, FL, 34470
[11]Extension Agent IV, University of Florida/IFAS, Bronson, FL, 32621
[12]Extension Agent I, University of Florida/IFAS, Seffner, FL, 33584
[13]Extension Agent I, University of Florida/IFAS, Lecanto, FL, 34461
[14]Extension Agent I, University of Florida/IFAS, Ocala, FL, 34470
[15]Extension Agent I, University of Florida/IFAS, Dade City, FL, 33525

Objective: To provide high quality needed education to producers at a reasonable cost. **Methods:** A group of Extension Agents formed a team to provide programming using a more centralized approach. The centralized approach should increase the number of attendees per event, reduce the time demand on state specialists, increase quality of programming, and be more cost effective. The team charges fees to offset the cost of programming and provide some funding for agent expenses. **Results:** The Central Florida Livestock Agents Group, CFLAG, was formed in 1998. Recognizing the success of cost effective high quality programming, additional counties have joined the team. State specialists are able to speak to producers at events having 50 to 300 attendees. Allied industry is more willing to participate at larger events. The quality of educational events has benefited from the integration of presentations of state specialists, county agents, local veterinarians, producers, and industry professionals. Events have drawn participants from all across Florida, other states, and foreign countries. Money has been generated to finance programming as well as provide financial assistance for member needs no longer funded by UF or their counties. Agents and specialists have been able to create a support network that provides immediate information to clients and producers. **Conclusions:** Agent groups can be an effective means of providing high quality specialized educational programming to Extension clientele while operating in a cost efficient manner for both the agent group and the clientele.

APPLICATIONS OF STEM EDUCATION IN BLUEBERRY PRODUCTION WITH YOUTH

Fletcher, Evelyn[1]; McCazzio, Crystal[2]; Lynch, Wendy[3]
[1]Horticulture Extension Agent (MS), UF/IFAS Putnam County Extension, E. Palatka, Fl, 32131-1262
[2]Putnam County 4-H Extension Agent, UF/IFAS Putnam County Extension, E. Palatka, Fl, 32131
[3]Putnam County FCS Extension Agent, UF/IFAS Putnam County Extension, E. Palatka, Fl, 32131

Putnam County, Florida is known for silviculture, ferneries, blueberry farms and cattle. With such a wealth of agriculture and horticulture, the county extension agents found it imperative to find ways to connect youth to the commodities coming from their community. The "Blueberry Project" has been a successful, reoccurring event since 2014, and a collaborative effort between the 4-H, FCS and Horticulture Agents. Youth participants ages have ranged from 6-13 years old, with a total of 63 kids having participated since the founding of the project. With 44.5% of youth living in poverty in Putnam County, it was also important for this project to be inexpensive. The more economically fortunate youth may spend hundreds of dollars showing a hog or steer at the fair, while someone in the Blueberry Project can get involved for only $25.

With STEM (science, technology, engineering and mathematics) components being a priority for the education standards, horticultural sciences are a convenient and fun way to apply basic mathematics and sciences outside of the classroom. Within this project, each participant starts out with four blueberry bushes. Youth learn how to calculate fertilizer rates, determine the acidity of their irrigation water and its impacts of nutrient availability, pruning methods, cross pollination and flower development, and measure potting media according to a given ratio. After six months, the youth demonstrate their containerized bushes at the fair in the Horticulture Show, and then may auction their plants. Along the way, they learn about marketing, budgeting their finances, food safety, and end their project with a tour of a local blueberry farm.

After four years of participation in this project, 65% (n=63) of youth were able to present established blueberry plants with flowers and/berries produced in time for the county fair in the spring. Of the surveyed youth (n=40), 90% reported a knowledge gain in the horticultural sciences. As of 2018, strawberries are being incorporated into the project to diversify the topics and provide an extra challenge. The agents look forward to seeing how well this crop fits into the program.

COVER CROP ECONOMICS

Prevatt, C.[1]; Mullenix, K.[2]; Tucker, J.[3]
[1]State Specialized Agent, University of Florida/IFAS, Ona, Fl, 33865
[2]Assistant Professor, Auburn University, Auburn, AL, 36849
[3]Assistant Professor, University of Georgia, Tifton, GA, 31794

Many soils throughout the United States have been eroded and degraded from continuous crop production or overgrazing from livestock. Despite the widespread recognition of cover crops as a means for increasing soil health by reducing soil erosion and nutrient loss, many producers have yet to adopt cover crops. One common perspective from producers is that while cover crops are good for the soil, they are not a cost-effective production practice for their operation. While long-term benefits to the land from planting and grazing cover crops are hard to determine, we can calculate the short-run costs and benefits for producers who chose to graze their cover crops. During 2017 basic cover crop production data were collected from producers in Florida. An electronic spreadsheet was developed to compare and analyze the costs and returns for planting and grazing various winter and summer annual cover crops. The spreadsheet helps producers determine if cover crops are an economically viable production practice for their operation. The economic factors included in the spreadsheet are a) forage yield, b) cost of production, c) animal gain, and d) value of gain. The cost of production, projected breakeven level, and value of gain were calculated by the spreadsheet. The cost of production ranged from $75 to $250 per acre. The breakeven level for animal gains ranged from 63 to 417 pounds of gain per acre. The value of gain ranged from $0.60 to $1.20 per pound of gain. The most sensitive factor in the data set was animal gain.

CULTIVATING NEW BEEKEEPERS BY PROVIDING BEGINNER BEEKEEPER SHORT COURSES

Harlow, L.[1]
[1]Agriculture/Natural Resources, UF/IFAS, Green Cove Springs, FL, 32043

Over the last decade, the keeping of honey bees has been on the rise as a hobby and as an alternative agricultural enterprise and beginner beekeepers need to understand the basic mechanics and practices for honey bee and hive management. Additionally, increased attention has been placed on various stressors that may negatively impact bees such as weak nutrition, diseases, pests, and poor management practices. **Objective:** To provide new beekeepers with the relevant methods and research-based information needed to start beekeeping successfully and economically. **Methods:** I deliver a Beginner Beekeeper's Short Course twice per seasons. This seven-hour course was developed to provide the basic knowledge of beekeeping equipment, resources, and management practices to prospective beginner beekeepers. Professional speakers are brought in to give educational lectures including the local Florida Department of Agriculture (FDACS) Apiary Inspectors, Master Beekeepers, and myself on topics of bee nutrition, starting a hive, bee biology, hive organization, and the Best Management Requirements (BMR's) of beekeeping. I provide hands-on activities for attendees such as equipment demonstrations, honey tasting, and an open hive demonstration where attendees get a chance to interact with fully-functional honey bee hives that are housed at our extension office**. Impacts:** This season, 65 participants attended the short course. According to post program evaluations, 100% of responding participants (n=65) who attended the Beginner Beekeeping Short Course, indicated that they increased their knowledge of beekeeping as an alternative agricultural enterprise. According to a six-month follow-up survey, five attendees started managing hives and self-indicated that the information provided in this program saved them a combine total of $2500 on purchasing the correct equipment needed to start their beehives. **Conclusion:** This short course provides new beekeepers the knowledge and experiences to start their own hives and manage their honey bee colonies successfully and properly.

EMPOWERING FARMERS THROUGH A FARMER NETWORK

Sanchez, T.[1]; DeValerio, J.[2]; Athearn, K.[3]; Stofer, K.[4]; Perez, J.[5]; Prizzia, A.[6]; Treadwell, D.[7]
[1]Commercial Horticulture Agent, UF/IFAS Extension Alachua County, Gainesville, FL, 32609
[2]Extension Agent, UF/IFAS Extension Bradford County, Bradford, FL, 32091
[3]Regional Specialized Agent, Rural & Agribusiness Development, UF/IFAS North Florida Research & Education Center, Live Oak, FL, 32060
[4]Research Assistant Professor, Department of Agricultural Education and Communication, UF/IFAS, Gainesville, FL, 32611
[5]Small Farms Extension Coordinator, Department of Horticultural Sciences, UF/IFAS, Gainesville, FL, 32611
[6]Field and Fork Program Director and Campus Food Systems Coordinator, UF/IFAS College of Agricultural and Life Sciences, Gainesville, FL, 32611
[7]Associate Professor, Department of Horticultural Sciences, UF/IFAS, Gainesville, FL, 32611

Partially supported by a Southern SARE grant, the Florida Agricultural Network (FAN) evolved from a social network analysis to reality in 2016 through the efforts of research and extension professionals. The purpose of the network is to support the success of farmers in north-central Florida by facilitating networking, knowledge sharing, and partnerships among farmers, Extension, and other agricultural stakeholders. Farmers prioritized topics and meeting format with emphasis on farmer-to-farmer networking opportunities during the first

event. Hitherto, FAN organized six meetings on organic crop production/certification, selling produce to schools, growing/marketing leafy greens locally, grass-fed beef, and agritourism. On-farm and classroom teaching methods included tours by a hosting farmer, demonstrations, panelists from industry and farms, skits, group discussions, and lectures. Meetings were promoted with social and mass media, email listserv and, mail communications. The agent co-hosting/organizing each meeting, prepared pre/post-event evaluations and farmer testimonies. For long-term evaluation, Stofer will repeat the social-network analysis as the network grows. Participants (159) from multiple counties (13) learned skills in environmental stewardship (integrated pest management, variety selection, cover cropping, cost-share programs), economic stability (improved marketing strategies for organic products and grass-fed beef, selling produce to schools/restaurants, agritourism), improved production practices (grazing practices, suitable livestock breed, pasture management for fertility and weed suppression), and collaboration (building relationships with surrounding farmers). A hosting farmer from Lawtey, FL, reported increased produce sales. A participating chef identified new sources of local produce and gained local awareness for his restaurant, and organic farmers benefited from key connections with other farmers.

EXTENSION EFFORTS TO MANAGE FUSARIUM WILT OF LETTUCE, A NEW THREAT TO FLORIDA LETTUCE GROWERS

Miller, C.F.[1]; German Sandoya[2]; William Wadlington[3]; Eugene McAvoy[4]; Matthew Bardin[5]; Richard Raid[6]
[1]Agent II. Commercial Vegetables & Fruit, UF/IFAS Palm Beach County Cooperative Extension, West Palm Beach, Fl, 33415
[2]Assistant Professor, UF/IFAS Everglades Research and Education Center, Belle Glade, FL, 33430
[3]Post Doc. Associate, UF/IFAS Everglades Research and Education Center, Belle Glade, FL, 33430
[4]Regional Vegetable Agent IV, UF/IFAS Hendry County Cooperative Extension, Labelle, FL, 33935
[5]Certified Crop Advisor, Glades Crop Care, Jupiter, FL, 33458
[6]Associate Professor, UF/IFAS Everglades Research and Education Center, Belle Glade, FL, 33430

Fusarium wilt of lettuce is caused by the fungal pathogen *Fusarium oxysporum* f. sp. *lactucae*. The disease was confirmed for the first time in Florida on lettuce plants displaying characteristic wilt symptoms and vascular discoloration in 2016. The Everglades Agricultural Area in Palm Beach County, Florida is the state's major lettuce growing region where approximately 15,000 acres is farmed annually. Concern about the arrival of this new disease threatening the state's lettuce industry prompted University of Florida research and extension personnel to collaborate with local scouts and area lettuce growers to gauge the presence of Fusarium wilt in the lettuce growing region and develop a practical management plan to limit the disease's impact. Fusarium wilt of lettuce was first reported in the U.S. in 1990 and may have arrived in south Florida on infected seed. The pathogen is known to be seedborne and is widespread in the lettuce growing regions of California and Arizona. UF/IFAS researchers and extension personnel recently conducted a grower workshop highlighted by Steve Koike, former Farm Advisor with the University of California at Salinas. The invited expert addressed the current state of Furarium wilt of lettuce in the western U.S. while local extension efforts focused on sharing with the audience prospects for breeding host-plant resistance in Florida adapted lettuce varieties, pesticide efficacy, sanitation procedures, and other cultural controls to mitigate the local impact and spread of Fusarium wilt. The post-reflective survey completed by the meeting's attendees indicate a high degree of knowledge gained through grower participation in the extension program.

FLORIDA ARBOR DAY TREE GIVEAWAY

Freeman, T.[1]
[1]Urban & Commercial Horticulture Extension Agent, UF/IFAS, St. Augustine, Fl, 32092

The Florida Arbor Day Tree Giveaway program aims to ameliorate the loss of urban tree canopy St. Johns County experienced due to Hurricanes Matthew and Irma by distributing free native bareroot trees to county residents while educating them about proper planting methods and species selection. Objective is to for 50% of trees to establish successfully, determined through a 9 month follow-up survey.

To accomplish this objective, I trained Master Gardener volunteers on the Florida-Friendly principle of "right plant, right place" and proper tree planting methods so they could effectively educate the tree recipients through consultation and distribution of literature. 1,000 trees were distributed to over 100 residents in 2017, and 1,500 trees were distributed to over 180 residents in 2018, at 5 locations throughout the county by over 20 volunteers.

A follow-up survey was distributed 9 months after the 2017 event, and will be distributed to the 2018 tree recipients in October 2018. Survey results from the 2017 event showed significant outcomes, including 80% of the trees from 23 survey respondents were still alive 9 months (and another hurricane) later; 30% reported the event enabled them to replace trees that were lost due to a hurricane or major storm; and 100% plan to acquire new trees at future Arbor Day Tree Giveaway events.

Impacts of this program include significant monetary value for homeowners. A mature tree can appraise from $1,000 to $10,000; thus, the value of trees reported to have successfully established will increase to $57,000 to $570,000 at maturity. If all 1,000 trees distributed at the event survive to maturity, they will be valued at $1,000,000.00 to $10,000,000.00. Additionally,

the trees will reduce energy costs for heating and air conditioning homes, improve property values, absorb carbon dioxide, and provide erosion control. Implications of this program are positive economic and environmental impacts to the community, therefore this event will be replicated annually.

FLORIDA'S RESPONSE TO TAR SPOT, A NEW DISEASE OF CORN IN THE U.S.

McAvoy, E.[1]; Miller, C.[2]; Bardin, M.[3]; Beiriger, R.[4]; Dufault, N.[5]; Romberg, M.[6]; Zhang, S.[7]; Hodges, A.[8]; Raid, R.[9]
[1]County Extension Director/Regional Vegetable Extension Agent IV, University of Florida IFAS Hendry County Extension, LaBelle, FL, 33975
[2]Vegetable Extension Agent III, University of Florida IFAS Palm Beach County Extension, West Palm Beach,, FL, 33415
[3]Crop Consultant, Glades Crop Care, Jupiter, FL, 33477
[4]Sr. Biological Science III, University of Florida IFAS Everglades Research and Education Center, Belle Glade, FL, 33430
[5]Assistant Professor, University of Florida IFAS Department of Plant Pathology, Gainesville, FL, 32611
[6]Plant Pathologist, U.S. Department of Agriculture APHIS PPQ PHP NIS, Beltsville, MD, 20705
[7]Associate Professor, University of Florida IFAS Tropical Research and Education Center, Homestead, FL, 33031
[8]Professor, University of Florida IFAS Department of Entomology and Nematology, Gainesville, FL, 32611
[9]Professor, University of Florida IFAS Everglades Research and Education Center, Belle Glade, FL, 33430

During early June of 2016, a diseased corn specimen was delivered to the Everglades Research and Education Center (EREC) in Belle Glade. The diseased leaves were from a field of highly infected field corn located approximately 10 miles southeast of Belle Glade. Symptoms consisted of small, slightly raised black spots resembling flecks of tar, a microscopic examination revealed subglobose perithecia. Asci were narrow and cylindrical, holding hyaline, broadly ellipsoidal ascospores. A sample was sent to the USDA APHIS lab in Beltsville, MD and the pathogen was confirmed as *Phyllachora maydis*, an obligate ascomycete fungus which is part of a disease complex known as Tar Spot. Not previously reported in Florida, and only reported for the first time in the U.S. the previous year in Indiana and Illinois, the disease is native to Mexico, Central America and the Caribbean. Extension specialists with UF in Gainesville, county extension agents, and the Florida Dept. of Agriculture and Consumer Services (FDACS) were all immediately notified of the outbreak and symptoms and notified local growers and neighboring states of the disease through electronic newsletters and pest alerts for the disease. Personnel from the EREC performed follow-up field surveys to determine the range and severity of the outbreak. Observations revealed that the disease was widespread throughout a 1,350 acre planting of field corn, with 100% of cornstalks exhibiting symptoms. Some fields had severities of up to 80%. The oldest plantings displayed significant necrosis caused by the disease, with successively younger plantings showing less disease. Presence of the disease was re-confirmed in Homestead, FL in 2018, suggesting that the disease may not be a one-time occurrence. Repeated observations of tar spot in the upper midwest from 2015 through 2017 seem to support this observation. A First Alert Workshop coordinated by UF and FDACS pathologists and extension faculty was conducted to educate growers, scouts, extension agents and other first responders about tar spot. Known to be favored by cooler (17-22 C) rather than warm temperatures, it is conjectured that the disease may not thrive during Florida's hot summers, but this remains uncertain.

HOW TO INITIATE BUSINESS IN VEGETABLE PRODUCTION

Wang, Q.[1]
[1]Vegetable & Pesticide Extension agent, UF/IFAS, Homestead, fl, 33030

There are always opportunities for potential vegetable growers interested in winter fresh market vegetable farming because of favorable weather in south Florida. However, it is commonly frustrating to start a new farming business on fresh produce of vegetables due to a number of concerns and uncertainties, governmental regulations, and technical problems. Therefore, the purpose of this program is to help new vegetable growers succeed by following the general guidelines to start their business. The guidelines include budget planning, marketing strategies, food safety compliance, scientific sound management programs, and risk prevention. For example, in marketing, a rule of thumb is that "do not try to grow anything before knowing where the customers are". To successfully carry out this program, a series of workshops, and field day events were carried out by focusing on budget planning, food safety, farm management, pest control and cold protection. These activities included 126 newsletters and factsheets, and 62 group learning activities that reached 1,923 participants over the past 3 years. Among the growers participating in the program, 95% indicated the knowledge gain, and 86% showed practice changes based on the follow-up survey 3-6 months after the program. The changes included marketing plan, food safety, hydroponic, and organic pursuance. These growers can provide safe and healthy produce to our citizens and residents in addition to generate local revenues, create job opportunities, improve the productivity and quality, and protect our environment for a sustainable development of agriculture.

INCREASING PARTICIPATION OF 4-H YOUTH IN BEEF CATTLE SHOWING BEYOND THE COUNTY LEVEL

Simmons, N.[1]; Schortinghouse, A.[2]
[1]County Extension Director and Commercial Livestock Agent II, UF/IFAS Extension Escambia County, Cantonment, FL, 32533
[2]Extension Agent I, 4-H Youth Development-Livestock, Escambia County 4-H, Cantonment, FL, 32533-7792

To increase interest by youth exhibiting beef cattle at the county level and beyond, the Escambia County 4-H Program established a livestock showing team in June of 2017. The objectives of the Escambia County Livestock Show Team are to: 1. Educate 4-H youth on safe care and handling of animals at home and at shows, 2. Demonstrate the uses and care of livestock showing equipment, 3. Increase youth's knowledge of their animal projects and showing opportunities in the region. This program is composed of two teaching methods: 1. Hands-on learning workshop series and 2. Livestock show participation with project records. Through the hands-on workshop series, youth learn about equipment use and care, proper animal handling techniques, effective showmanship skills, and showing opportunities. Throughout these hands-on workshops, youth worked with Escambia County Agriculture Agents and community partners who have experience showing beef cattle on the state and national levels. During and after the completion of the workshop series, youth were encouraged to compete in regional livestock shows. Youth coordinated with other participants to find shows they were interested in showing at, then coordinated travel and equipment use. At the beginning of the workshop series, two youth were showing at more than one show beyond the county level. Currently there are eight youth participating in more than one show beyond the county level. Through recent observation of youth exhibiting animals, participants show an increased confidence in their ability to highlight animal qualities, have more in-depth knowledge of their project, and handle animals in a safe manner.

INCREASING PROFITS THROUGH REPRODUCTIVE EFFICIENCY

Kirby, C. L.[1]; Bosques, J.[2]; Butler, L.[3]; Crawford, S[4]; Hersom, M[5]; Larson, C[6]; Moriel, P[7]; Pohl, T[8]; Prevatt, C.[9]; Stam, A.[10]; Stice, B.[11]; Thompson, D.[12]; Thrift, T.[13]; Wiggins, L.[14]
[1]Extension Agent III Livestock, UF/IFAS Extension, Palmetto, FL, 34221
[2]CED & Extension Agent I, Ag & Livestock, UF/IFAS Extension, Wauchula, FL, 33873
[3]CED & Extension Agent II, Ag & Livesstock, UF/IFAS Extension, Okeechobee, FL, 34972
[4]Extension Agent III, 4-H & Youth Development, UF/IFAS Extension, Labelle, FL, 33935
[5]State Specialist, UF/IFAS Department of Animal Science, Gainesville, FL, 32608
[6]RSA & Extension Agent II, Agriculture, UF/IFAS Extension, Okeechobee, FL, 34972
[7]State Specialist, UF/IFAS Range Cattle REC, Ona, FL, 33865
[8]Extension Agent I, Ag/Natural Resources, UF/IFAS Extension, Sebring, FL, 33875
[9]State Specialized Agent, UF/IFAS Extension, Ona, FL, 33865
[10]Extension Agent I, 4-H & Youth Development & Agriculture, UF/IFAS Extension, Okeechobee, FL, 34974
[11]Extension Agent III, Livestock, UF/IFAS Extension, Bartow, FL, 33830
[12]Extension Agent I, Livestock, UF/IFAS Extension, Arcadia, FL, 34266
[13]State Specialist, UF/IFAS Department of Animal Science, Gainesville, FL, 32608
[14]Extension Agent II, Livestock, UF/IFAS Extension, Labelle, FL, 33935

Reproductive efficiency has long been recognized as the most important factor influencing the economic viability of commercial cattle operations in Florida. The income structure of the Florida beef cattle operation is based on pounds of weaned calves sold annually. Therefore, profits are directly correlated to the reproductive efficiency of the cow herd. Studies have indicated that by implementing recommended management practices in nutrition, forage management, reproduction, herd health, calf husbandry, and performance records a producer can increase their reproductive efficiency by 5% and up to 20%. **Objectives**: To increase knowledge of reproductive management principles and adoption of management practices. **Methods:** A total of 53 South Florida cattle ranchers, representing 12,780 head of cattle on approximately 83,687 acres in the southeastern U.S. attended a Reproductive Management School that lasted 3 days over the past three years. Students are introduced to topics in a classroom setting and topics are reinforced with a lab including topics such as reproductive physiology, obstetrics, and bull soundness exams, just to name a few. Each day the students also participate in an on-ranch pregnancy diagnosis lab utilizing live beef cattle. **Results:** Program evaluations have indicated a 59% overall increase in knowledge of the participants. Of those participants surveyed, 86% indicated that they have adopted one or more management practices following the school. **Conclusions:** As a result of participant's knowledge gain and subsequent adoption of management practices, reproductive efficiency in their herds have the opportunity to increase between 5% and 20%. This translates to approximately 192,339* more pounds of calves weaned annually with a 5% increase in reproductive efficiency. With current day cattle market prices, this could translate to an annual economic increase of $309,666**. With a 20% increase in reproductive efficiency this would translate to an increase of 769,356* pounds of weaned calves with an economic increase of $1,238,663 for the number of cattle represented in our program over the past three years. These figures are based on

a 70% calf crop. As producers increase the use of profitable management practices, they will improve reproductive efficiency therefore improving the profitability of their beef cattle operation.

INTERACTIVE POULTRY EXHIBITS FOR COUNTY FAIR-GOERS- A UNIQUE EDUCATIONAL AND MARKETING TOOL

Halbritter, A.[1]
[1]Livestock/Forage Extension Agent, UF/IFAS Duval County Extension, Jacksonville, Fl, 32254

Backyard poultry is gaining popularity in Duval County, FL, as a result the local extension office is in a unique position to target interested poultry owners. As part of a City of Jacksonville (metropolitan Duval County) ordinance, those wishing to legally own backyard chickens must first attend a course at the extension office titled "Backyard Poultry Seminar" and then apply for a hen permit. Although inexpensive to attend, this class garners the most monetary impact annually for the livestock agent. On average, the Backyard Poultry Seminar has approximately 250 attendees annually which brings in $1250 annually in revenue enhancement. In order to increase awareness and interest in the Backyard Poultry program the agent created an interactive backyard poultry exhibit at the local county fair. The agent purchased and decorated a new chicken coop to display and personally painted wooden chickens and eggs to go inside. The chicken coop was interactive as fair-goers could open doors and hatches to learn different facts about chickens. Next to the coop a game of "Name That Breed" allowed people to match breed names with identifying characteristics, these breeds were labeled and pictured on the board and correlated to the painted wooden chickens in the coop. Based on fair attendance, approximately 28,178 people viewed the display in 2017. 100 Educational handouts were distributed on poultry management and 45 cards with contact information and poultry class information were given out. The display can be used for years to come with varying informational content each year. Not only is it a great educational tool but also a marketing tool. The physical display attracts adults and youth alike, while they interact with the exhibit they learn about chickens and possibly gain enough interest to attend the Backyard Poultry Seminar and get their own chickens. View pictures of the exhibit here: https://uflorida-my.sharepoint.com/:w:/g/personal/aliciah1221_ufl_edu/EVXz9sq8Vb1GqedPFG9e67AB7vOGcZ4WmgIAXWIaq_7uZw?e=uwxSXV

INTRODUCING NEW RESIDENTS TO FLORIDA'S NATURAL RESOURCES THROUGH INTERPRETATIVE NATURE HIKES

Davis, J. E.[1]
[1]Multi-County Extension Director, UF/IFAS Sumter County Extension, BUSHNELL, FL, 335138716

Sumter County is one of the fastest growing counties in Florida and contains one of the fastest growing cities in the United States, The Villages. Increasing population and development puts a strain on natural resources. Extension objectives were to bring awareness to natural resources and conservation through interpretative nature walks. Hike Sumter was developed to target new Florida residents. Participants not only learned about natural resources and conservation, but wildlife identification, track and scat identification, ethnobotany, native plant identification, invasive plant identification, environmental ethics and natural history. Interpretive hikes were led by the extension agent and were about four hours long, travelling no more than four miles in length. In 2016, hikers participated in a follow-up survey after one or more of their trips. 71% (n=25) of participants have lived in Florida for five years or less. Over 85% of participants stated they would recommend one or more of their hikes to a friend. Each participant polled (n=32) named three things they learned to encourage or conserve native species in their landscape. 100% (n=32) of participants learned something new on each trip. After Hike Sumter, 100% (n=32) plan on hiking other Florida trails and over 80% participants stated they would re-hike each site they visited. The knowledge learned from Hike Sumter resulted in positive behavior change towards natural resource conservation and awareness by new Florida residents. Hike Sumter can easily be replicated throughout the state to help new residents be stewards and ambassadors to Florida's unique ecosystems, flora and fauna.

MANAGING HEALTH FOR SUSTAINABILITY IN THE BEEF CATTLE HERD

Stice, B.[1]; Butler, L.[2]; Kirby, C.[3]; Thompson, D.[4]; Wiggins, L.[5]
[1]EXTENSION AGENT - LIVESTOCK III, UF/IFAS Extension Polk County, BARTOW, FL, 338319005
[2]Extension Agent/CED - Livestock, UF/IFAS Extension Okeechobee, Okeechobee, FL, 34972
[3]Extension Agent - Livestock, UF/IFAS Extension Manatee, Palmetto, FL, 34221
[4]Extension Agent - Ag, UF/IFAS Extension DeSoto, Arcadia, FL, 34266
[5]Extension Agent - Livestock, UF/IFAS Extension Hendry, LaBelle, FL, 33935

Antibiotic stewardship involves prudent use of antimicrobials, with the ultimate goal of preserving their effectiveness for serious and life-threatening illnesses in animals and humans. Responsible and sustainable beef herd management includes disease prevention and judicious

use of antibiotics. Cattle operators that prevent disease outbreak through a strategic vaccination program and, when necessary, utilize antimicrobials with the consultation of their veterinarian will save unnecessary treatment dollars, reduce pain and suffering as well as minimize losses due to disease. Each year, the UF/IFAS South Florida Beef Forage Program's Herd Health Seminar addresses herd health management strategies. Nationally recognized University Specialists and Industry Professionals assist in the delivery of these programs. In 2017, the purpose of the program was to increase participant knowledge and awareness of health management practices to prevent disease and judicious treatment practices in the event of disease; and to increase adoption of management practices that will prevent disease and reduce antibiotic use. The seminar focused on addressing the topics of vaccination programs and antibiotic stewardship on the ranch. The seminar had thirty-nine participants from Central and South Florida that represented nearly 34,000 head of cattle on nearly 120,000 acres. Program evaluation through post-program surveys indicated that participants experienced a 70% increase in knowledge of vaccination program planning and a 72% increase in knowledge of antibiotic stewardship. As a result of the information presented, 62% indicated that they would adopt new management practices and/or change existing practices. Examples of adopted practices include decreasing stress in herds, evaluating and improving vaccine protocols, developing a VCPR and utilizing antimicrobials only when necessary. Cattle that are managed under a well-designed vaccination program and treated appropriately in the event of a disease will be more productive and remain in the herd longer. More importantly, preventative measures for disease and judicious use of antibiotics will preserve the availability and effectiveness of antibiotics for future generations.

MOTIVATING AND CHANGING BEHAVIORS IN EXTENSION VOLUNTEERS THROUGH ENEWSLETTERS

Wilber, W.[1]; Emily Eubanks[2]; Jennifer Sykes[3]; Laura Warner[4]
[1]EXTENSION AGENT III ENVIR HORT, University of Florida IFAS, GAINESVILLE, FL, 32611
[2]Communication Specialist, University of Florida IFAS, Gainesville, FL, 32611
[3]Web Designer, University of Florida IFAS, Gainesville, FL, 32611
[4]Associate Professor, UF/IFAS, Gainesville, FL, 32611

The Neighborhood Gardener is the e-newsletter for Florida Master Gardener Volunteers and gardening enthusiasts it has over 6,500 subscribers. This newsletter is supported by the UF/IFAS website Gardening Solutions and social media pages such as Facebook Instagram and Pinterest. In 2016 and 2017 a survey was administered to the readership in order to discover if and how they were using the information to make positive changes in their landscape practices as well as to better focus our writing to the target audience.

The readers reported they used the information provided in the newsletter mostly on specific plant cultural requirements such as putting the right plant in the right place, matching plants to growing conditions, and knowing which plants are invasive exotics. They also strongly agreed that the information provided in the newsletter helped in trouble shooting and diagnosing landscape maintenance issues around fertilizing and pest control. The most popular segment is month by month gardening which covers timely gardening activities.

Extension volunteer newsletters can be used to keep volunteers engaged and up to date on horticultural information. These newsletters can continue to support the training that Master Gardeners receive in the classroom and help them to make their own landscapes and gardens environmentally sound.

In addition to the direct reader's survey, the newsletter manager Constant Contact generates data and analytics so we can know how long readers are looking at article or if they follow links for more information. This type of data allows us to constantly adjust the newsletter content for enhanced education and readability.

NUTRITION FOR BEEF FEMALES

Crawford, S. C.[1]; Butler, L.[2]; Kirby, C.[3]; Larson, C.[4]; Moriel, P.[5]; Stice, B.[6]; Thompson, D.[7]; Vendramini, J.[8]; Wiggins, L.[9]
[1]Extension Agent - 4H/Livestock, UF/IFAS/Hendry County, LaBelle, FL, 33975-0068
[2]Extension Agent - CED/Livestock, UF/IFAS/Okeechobee County, Okeechobee, FL, 34972
[3]Extension Agent - Livestock, UF/IFAS/Manatee County, Palmetto, FL, 34221
[4]Regional Specialized Agent - Dairy, UF/IFAS/Desoto, Hardee, Highlands & Okeechobee Counties, Okeechobee, FL, 34972
[5]Assistant Professor - Animal Science, UF/IFAS/RCREC, Ona, FL, 33865
[6]Extension Agent - Livestock, UF/IFAS/Polk County, Bartow, FL, 33831
[7]Extension Agent - CED/Livestock, UF/IFAS/Desoto County, Arcadia, FL, 34266
[8]Associate Professor - Agronomy, UF/IFAS/RCREC, Ona, FL, 33865
[9]Multi County Extension Agent - Livestock, UF/IFAS/ Charlotte, Collier, Glades, Hendry & Lee Counties, LaBelle, FL, 33975

The First Annual Nutrition for Beef Females Workshop was presented in three of the 12 counties served by the South Florida Beef Forage Program. The South Florida Beef Forage Program represents over 770,000 head of cattle representing approximately 45% of Florida's total number of cattle. Studies have shown that body condition score (BCS) is positively correlated with reproductive performance and this correlation is consistent across several cattle breeds. The purpose of

this educational program was developed from the increased demand by livestock producers to better evaluate cattle nutritional status before supplementing the herd along with optimizing cow performance by utilizing a better nutritional management program. Topics highlighted by state specialist were basic concepts of nutrition, multiple supplementation strategies for beef females, impact of BCS on reproduction of beef females, BCS training, impact of stocking rate on animal performance, stockpiling forage options and bailage and hay production. By securing grants and sponsors participants were able to attend these programs free of charge. Each location was able to provide a meal to attract producers to the program. The three locations across South Florida recorded 116 participants in attendance. The interactive pre/posttest surveys were conducted using Turning Technologies software and equipment. Results revealed a 26% knowledge gain when selecting the proper BCS of beef cows. As a result, 91% of the 63 participants surveyed will implement at least one of the supplementation strategies presented. This leads to an increase in reproductive performance of cows along with improving calf development during gestation. Increasing cow fertility and calf performance will in turn increase the profitability of cow-calf producers in South Florida.

PROMOTING AGRICULTURE AS AN OCCUPATION AND FOOD SYSTEMS AWARNESS TO EDUCATE FUTURE FARMERS

Maddox, M. B.[1]; Strickland, J.S.[2]; Taylor, K.A.[3]; Jennings, E.W.[4]
[1]Extension Agent IV, Alachua County FCS, UF/IFAS Extension, Center Hill, FL, 33514
[2]County Extension Director Osceola, UF/IFAS Extension, Kissimmee, FL, 34744
[3]Extension Agent I, Sumter County 4-H, UF/IFAS Extension, Bushnell, FL, 33513
[4]County Extension Director Bronson, UF/IFAS Extension, Bronson, FL, 32621

Sumter County is a unique county. With over 1,300 farms, most would consider it a rural county, but it has the fastest growing town in the United States (The Villages). With these two distinct populations, it is very important youth continue to learn about the importance of agriculture, especially local agriculture and career opportunities. Youth who learn and understand agriculture along with the importance of local and state agriculture industry and career opportunities available to them become informed citizens who are able to participate in making informed policies that will support agriculture. Increasing youth's knowledge about agriculture, along with the importance of locally grown foods, local food systems, and food safety helps youth make informed decisions about their diets and overall health. In 2015, 2016, and 2017, three summer camps were conducted – Fresh from Sumter County, Farm to Table and Know Your Farmers Market/Role of the Farmers. The purpose of all three camps was to increase participants' knowledge about local food systems, career opportunities, healthy eating habits, and food safety. It also taught youth the significance of the local farmer's market and livestock market. Delivery methods of educational materials included: lectures, PowerPoints, group discussions and activities, educational games, field trips, handouts, and hands-on learning activities. Pre and post-tests were conducted in all three camps with the following results: 112% knowledge gain (n=36). In conclusion, the success of this program was due to the partnerships with local agriculture producers, agricultural organizations, business owners and extension staff. Due to these partnerships, we were able to visit the following locations: Sumter County Farmers Market, Sumter County Livestock Market, Milk-A-Way Dairy, Speedling Inc., Fussell Farms, Maddox Farms, Maddox Spraying and Fertilizer Service, Beasley Farms, JG Ranch, Buck Fuller Farm, FWC Florida Bass Hatchery, Florida Forestry Service and Farmers Market Restaurant.

PROTECTING THE FUTURE OF AGRICULTURE THROUGH CONSERVATION EASEMENTS

Sullivan, J.[1]; Boughton, R.[2]; Demers, C.[3]; Pienaar, E.F.[4]
[1]Extension Agent - Agriculture, University of Florida IFAS Extension-Osceola County, KISSIMMEE, FL, 34744-6107
[2]Assistant Professor, University of Florida IFAS Range Cattle Research and Education Center, Ona, FL, 33865
[3]Forest Stewardship Coordinator, University of Florida IFAS School of Forest Resources and Conservation, Gainesville, FL, 32611
[4]Assistant Professor, University of Florida IFAS Department of Wildlife Ecology and Conservation, Gainesville, FL, 32611

Florida agricultural lands are under intense pressure from urbanization. These lands benefit society by providing ecosystem services including food production, flood protection, and outdoor recreation, while protecting biodiversity. Conservation easements provide landowners with financial incentives to remove development rights from their agricultural working lands, thereby maintaining the viability of Florida agriculture, protecting ecosystem services and preserving cultural heritage. Extension Faculty designed a pilot program on conservation easements with the following objectives: 1) increase landowner knowledge of the benefits and logistics of enrolling in easements; 2) inform landowners about resources for identifying the best easement programs for their needs; and 3) preserve Florida agricultural lands. An Agent and Specialists coordinated a five-hour Conservation Easement Workshop that was promoted statewide. Experts presented on: how conservation easements protect the agricultural uses and conservation value of land; the logistics of enrolling in easements (tax implications, obtaining property appraisals, and easement monitoring); and different easement programs available to landowners. Government agencies and non-profit organizations that offer easement programs participated in a panel discussion and answered participants' questions. Forty-five landowners, industry and agency representatives, and Extension Agents attended the pilot workshop. Participating

landowners own 350,000 acres of land. Post-event surveys (n=32) indicated that 90% of participants learned a "moderate" to "considerable" amount of new information, and 69% identified useful resources for pursuing an easement by attending the workshop. In promoting the workshop, coordinators found substantial misunderstanding among Extension Agents and landowners regarding conservation easements, and identified further training needs to educate people on this complex topic. Additional workshops and in-service trainings will be implemented around the state. Follow-up surveys will be sent to landowners after six and 12 months to determine whether they have enrolled in easements. Conservation easement education offered by Extension provides unbiased information that landowners need to make informed decisions about conservation easements.

SOIL MOISTURE SENSORS HELP SUWANNEE VALLEY GROWERS MANAGE IRRIGATION

Troy, P.[1]; Kevin Athearn[2]; Bob Hochmuth[3]
[1]Regional Specialized Agent Row Crops,, UF/IFAS, Live Oak, FL, 32060
[2]RSA Agribusiness, UF/IFAS, Live Oak, FL, 32060
[3]RSA Vegetables, UF/IFAS, Live Oak, FL, 32060

Soil Moisture Sensors (or SMS) are a precision agriculture technology on the rise in North Florida. With the help of a grower survey, agents at the North Florida Research and Education Center -Suwannee Valley evaluated the advantages and challenges of their use over the summer of 2017. Though soil moisture sensors have been around for over a decade, new equipment now provide 24-hour, multi-depth sensing that can help guide irrigation timing and amounts. Overwhelmingly, growers shared positive comments on the productive role SMS play in their field management, especially for irrigation scheduling.

Our survey found that over 600 sensors are in operation in the region, representing almost 85,000 acres served by 8 vendors. Most growers indicated they have changed how they irrigate, and 89% are beginning to see savings in water, fuel, fertilizer, or electricity. Collectively, the survey participants are using 125 probes (~21% of all probes in the SRWMD) and collectively farm around 17,000 acres (~12% of SRWMD irrigated acres). One grower commented "I now have piece of mind, to worry less about watering my crops". Another said probes "take the guesswork out" and figures he is saving 50,000 gallons of water each day.

Benefits varied for each farm, but most noted that mobile access allows for closer management of fields, especially geographically distant ones. It is evident by the survey, that soil moisture sensors are now widely used in the area, and they are helping manage irrigation more efficiently. Long-term goals include quantifying the impact SMS have on yields, crop quality, water conservation, and nutrient management. One corn grower summarized an important message for the public, "Farmers are doing their best with new technologies, to protect groundwater and producing the best crop with the least inputs". With such feedback, UF/IFAS will continue to document both practical and economics aspects of this BMP technology.

STATEWIDE SMALL FARMS HYDROPONIC PROGRAM

Rivera, F.[1]; J. Bosques[2]; E.V. Camporverde[3]; E. Pabon[4]; T. Sanchez[5]; N. Pinson[6]; S. Steed[7]
[1]Small Farms/Alternative, UF/IFAS Hillsborough County, Seffner, FL, 33584
[2]County Extension Director, UF/IFAS Hillsborough County, Wauchula, FL, 33873
[3]Ornamental Plant Nurseries County, UF/IFAS Miami-Dade, Homestead, FL, 33030
[4]Residential Horticulture Agent, no affiliation given, Kissimmee, FL, 34744
[5]Commercial Horticulture Agent, UF/IFAs Alachua County, Alachua, Fl, 32611
[6]Home Horticulture, UF/IFAS Hillsborough County, Seffner, FL, 33584
[7]Commercial Ornamental Production Agent, UF/IFAS Hillsborough County, Seffner, FL, 33584

Situation: Hydroponic programs were conducted as a statewide initiative between Extension agents in Hillsborough, Hardee, Alachua, Osceola, and Miami-Dade counties. Program participants (n = 310) represented farmers (11.43%), homeowners/Master Gardeners (83.57%) and students (5.00%). Challenges for food production in Florida include a reduction in available agricultural land, the average age of farmers (58+) and an increase in the number of beginner small farmers who need assistance in developing agricultural skills. Recommendations for small and beginning farmers include starting with hands-on learning and equipment use that helps them to develop agricultural skills and competencies. Additionally, it is essential for them to identify market niches, develop a sales strategy, and take corrective measures that result in a sustainable operation. Growing hydroponically is an alternative that may produce high quality and profitable specialty crops such as herbs, greens and cut flowers in places that are unsuitable for cultivation. Hydroponics also have the advantage of increased production per square foot in comparison with traditional agriculture. **Objectives:** Teach farmers and homeowners general concepts about hydroponic systems to help them develop an agricultural business, acquire agricultural skills or learn the competencies necessary to integrate into the agricultural industry. **Results:** 310 people attended the one-day, four-hour workshop replicated in 5 counties. Evaluations reflect knowledge gain in the areas of **hydroponic growing systems (47.65%), hydroponics growing media (20.13%) and nutrient solution management (24.83%)**. Overall, 91.43% of participants found the topics to be useful and 6.67% found the topics to be somewhat useful. In subject

matter areas, knowledge gain ranged from 4.03% to 47.65% in post-test evaluations. Opportunities exist to expand concepts about pH meters, best plants to grow hydroponically, and system components such as pumps. **Conclusions:** Participants reported increased confidence to answer questions about hydroponics and to locate resources. Fifty-eight percent (58%) were inspired to build hydroponic systems with participants' preference for 37% NFT and 63% floating bed. Due to this interest, we expanded hydroponic outreach and implemented strategies to develop new agricultural skills and experience for farmers, homeowners, students and Master Gardeners. This could improve agricultural production in the U.S. and encourage next generation farmers.

THE IMPORT OF TRANSPARENCY IN VOLUNTEER MANAGEMENT

Hunter, M.[1]
[1]Residential Horticulture Agent, UF/IFAS Extension Marion County, Ocala, Fl, 34470

Extension education provides a valuable public service by positively impacting complex social needs and issues within the state and communities through educational programming. Extension volunteers can greatly expand the reach of these educational programs, however maintaining a successful volunteer workforce, such as Master Gardener Volunteers, takes time and strong leadership. Transparency is frequently spoken of in leadership training, however the application of transparency in volunteer management is not always so straight forward. There are three main components to transparency: openness, participation, and integrity. One study completed by Houser, et al. suggests that when leaders are transparent they are more likely to maintain consistency between their words and decisions which in turn build trust in participants. The benefits of incorporating transparency include significantly improving morale, accountability, cooperation, and equality. For the Florida Master Gardener program, bringing transparency into the county level volunteer programs breaks down cliques which assists new members in getting established within the group. Transparency is essential to the health and resiliency of the volunteer organization and inclusion amongst members. By leading the volunteers in an open mannerism, the leader is more likely to achieve goals by gaining dedicated followers who are willing to be flexible to match program needs. Maxine Hunter, was the Residential Horticulture Extension Agent and Master Gardener Coordinator in Flagler County Florida for three years, she was met significant opposition when instilling transparency into this program but experienced significant positive changes in volunteer perceptions and attitudes after two years of practicing transparency and initializing a strategic plan. She has now transferred into the UF/IFAS Extension Marion County Residential Horticulture and Master Gardener and is working to instill the same practices with less resistance. These values are appreciated by volunteers and it seems to help them with change processes when they feel included because of open policies and open committee meetings.

TRAINING AGENTS IN FOOD SYSTEMS

Strickland, J.S.[1]; Maddox, M.B.[2]
[1]County Extension Director Osceola, UF/IFAS Extension, Kissimmee, FL, 34744
[2]Extension Agent IV, FCS, UF/IFAS Extension, Center Hill, FL, 33514

Situation: Often when helping farmers and ranchers a team approach will produce the best results. For far too long, agriculture agents have been focused on the production aspects with little attention to retail aspects of the products. Family and Consumer Sciences Agents are focused on the food preparation and nutrition. The critical step between production and preparation is one in which Family and Consumer Sciences Agents and Agriculture Agents can work together to better help the producer. Objective: The objective of this in-service training was to demonstrate a 100% knowledge gain in methods by which farmers and ranchers are marketing and selling their product. The target audience of FCS Agents and Agriculture Agents were taught cuts of meat, food safety, consumer preference, increasing revenue by utilizing SNAP at Farmer's Markets, and the Cottage Food Law. Outcome: Agents reported a 150% knowledge gain (n=11). The classroom instruction was reinforced by four field trips to Farmer's Markets and local farms/ranches.

UF/IFAS EXTENSION WALTON COUNTY HOBBY FARM: A SMALL SCALE, SUSTAINABLE DEMONSTRATION FARM UTILIZING INNOVATIVE TECHNIQUES FOR RESIDENTIAL APPLICATIONS

Leonard, D. J.[1]; Tiu, L.[2]; Anderson, E.[3]; Gilmore, J.B.[4]; Goodchild, M.J.[5]
[1]Horticulture Agent, University of Florida IFAS Walton County Extension, DeFuniak Springs, FL, 32433
[2]Marine Science Agent, University of Florida IFAS Okaloosa and Walton County Extension, DeFuniak Springs, FL, 32433
[3]Agriculture Agent, University of Florida IFAS Walton County Extension, DeFuniak Springs, FL, 32433
[4]4-H Agent, University of Florida IFAS Walton County Extension, DeFuniak Springs, FL, 32433
[5]County Extension Director, University of Florida IFAS Walton County Extension, DeFuniak Springs, FL, 32433

There is great interest among residential extension clientele in sustainable and innovative hobby-scale farming techniques. UF/IFAS Walton County Extension Agents established a hobby farm featuring a variety of low-input food production options to provide a solution to this need. The farm is a cooperative venture featuring the expertise of Horticulture, Aquaculture/ Marine Science, 4-H, and Agriculture Agents with plans to expand and include Family and Consumer Sciences. The farm

initially comprised a tenth acre behind the county extension office with a terraced, in-ground traditional vegetable garden, a beehive, and a greenhouse that was occasionally utilized. Agents and volunteers installed aquaponics and hydroponics systems, honeybee boxes, a chicken coop as part of the 4-H Chick Chain Program, herb garden, a raised bed system, sustainable citrus grove, muscadine trellis, shiitake mushroom structure, and berry orchard. The new facilities enabled Agents to design and conduct ongoing experiential learning workshops in 2017 featuring individual aspects of the farm (aquaponics, shiitake mushroom production, raised bed gardening, backyard beekeeping, backyard chickens, etc). Over 100 people attended the workshops, including 4 families with 9 youth participated in the 4-H Chick Chain program, and over 300 walk-in clientele and participants of other programs toured the operations on the farm. Due to the success of the workshop series, Agents have taken on an intern to assist in daily farm operations and plan to expand the program by offering monthly open house events at the Walton County Hobby Farm in summer 2018. These workshops and open house events will be designed to provide education, experiential learning demonstrations, life skill acquisition, and promote the local Extension office.

WATER WATCH: ESTABLISHING A REGIONAL CITIZEN SCIENCE WATER QUALITY MONITORING PROGRAM IN THE FLORIDA PANHANDLE

Bodrey, R.[1]; Albertin, A.[2]; Krimsky, L.[3]; Krueger, S.[4]; Jackson, S.[5]; McConnell, J.[6]; Verlinde, C.[7]; O'Connor, R.[8]
[1]Agent II - CED & Sea Grant, UF/IFAS Gulf County, Wewahitchka, FL, 32465
[2]Agent II - Water Resources RSA, UF/IFAS Northwest District, Quincy, FL, 32351
[3]Agent III - Water Resources RSA, UF/IFAS Southeast District & Sea Grant, Miami, FL, 33149
[4]Agent I - Sea Grant, UF/IFAS Monroe County, Key West, FL, 33040
[5]Agent IV - Sea Gant RSA, UF/IFAS Bay County, Panama City, FL, 32401
[6]Agent I - Horticulture, UF/IFAS Bay County, Panama City, FL, 32401
[7]Agent II - Sea Grant, UF/IFAS Santa Rosa County, Milton, FL, 32570
[8]Agent III - Sea Grant, UF/IFAS Escambia County, Cantonment, FL, 32533

Multiple stressors, such as pathogens, nutrients, sediments and harmful algal blooms, negatively impact water quality in coastal areas of the Gulf of Mexico. This is a region of remarkable ecological diversity and economic importance. Its commercial fishing industry represents one-third of the US seafood harvest and tourism has created more than 1.7 million jobs across the region. The population of the coastal Florida Panhandle is also growing at a significant rate and marine water quality concerns are at the forefront. Through land development practices and other environmental concerns, nonpoint source pollution impacts from stormwater, dysfunctional septic systems and other mechanisms can influence unfavorable water quality conditions that affect fragile ocean and bay ecosystems, as well as human health. Poor marine water quality is not only an environmental threat; negative impacts on fisheries can have a significant impact on tourism, the primary economic driver for many coastal communities.

In 2018, UF/IFAS Extension Northwest District counties of Bay, Escambia, Gulf & Santa Rosa embarked on a citizen scientist water quality program to help investigate critical data gaps and manage water quality data by tracking trends over time. UF/IFAS Water Watch is a community-based volunteer coastal water quality-monitoring program created in 2014 by UF/IFAS Sea Grant extension agents in the Florida Keys and Biscayne Bay. The program is tasked with volunteer recruitment and training, for the monitoring and analysis of key marine water quality parameters, such as nutrient levels, dissolved oxygen, temperature, salinity, pH, visibility and emerging contaminants such as microplastics. Water Watch partnered with state & local agencies to assist in planning and the selection of monitoring sites.

The primary objective is to create and strengthen community partnerships between citizens and local agencies and bolster coastal water quality monitoring efforts. The Water Watch program will promote awareness of the importance of water quality monitoring and coastal ecosystem health. The water quality data will also be compiled on a centralized Florida Water Watch website. The Extension team will communicate project outcomes to local and regional stakeholders and decision makers. By expanding the initiative, Water Watch is becoming a statewide program.

WINTER SUPPLEMENTATION SEMINAR

Thompson, D.[1]; Arthington, J.[2]; Crawford, S.[3]; Davis, T.[4]; Hersom, M.[5]; Kirby, C.[6]; Prevatt, C.[7]; Stice, B.[8]; Wiggins, L.[9]
[1]Agriculture Extension Agent, UF/IFAS, Arcadia, FL, 34266
[2]Extension Specialist and Center Director, UF/IFAS, Ona, FL, 33865
[3]4H/Livestock Extension Agent, UF/IFAS, LaBelle, FL, 33935
[4]Livestock Extension Agent, UF/IFAS, Sebring, FL, 33875
[5]Extension Specialist, UF/IFAS, Gainesville, Fl, 32611
[6]Livestock Extension Agent, UF/IFAS, Palmetto, FL, 34221
[7]State Specialized Agent, UF/IFAS, Ona, Fl, 33865
[8]Livestock Extension Agent, UF/IFAS, Bartow, FL, 33830
[9]Regional Livestock Extension Agent, UF/IFAS, LaBelle, FL, 33935

The Winter Supplementation Seminar was presented by the UF/IFAS South Florida Beef Forage Program and was hosted by the Arcadia Stockyard. This program was designed to provide beef cattle operators with the knowledge and

tools to economically and efficiently manage nutritional requirements of the cow herd. Using the stockyard as a venue for programming allows livestock agents to relay important information to producers in a setting that they are comfortable with and in a location that they will come to more readily than a local extension office. This seminar featured Extension Specialists from the University of Florida and industry experts speaking about supplementation for a beef cattle herd in preparation for the winter and animal traceability. Topics included: troubleshooting mineral supplementation, seasonal forage deficits and animal traceability. The stockyard sponsored a steak dinner at no charge to the participants attending the program. This seminar was attended by fifty producers from DeSoto and surrounding counties. Surveyed participants expressed a 91% increase in knowledge gain on the topic of mineral supplementation as a direct result of attending the seminar. There was also an increase in knowledge gain of 74% for seasonal forage deficits and of 66% for animal ID and traceability. As a result of the information presented during the program, 54% of surveyed participants stated that they plan to change an existing practice or begin a new one. All participants indicated that the seminar was beneficial and would attend similar sessions in the future. Producers that address nutritional needs of the cow herd will maintain body condition in the cow herd and improve productivity.

BAXTER COUNTY JAIL SALES TAX ELECTION

Keaton, M.[1]; Higgins, K.[2]; McCullough, S.[3]; Miller, W.[4]; Thompson, J.[5]
[1]CEA-Staff Chair, U of A Division of Agriculture Cooperative Extension Service, Mountain Home, AR, 72653
[2]Public Policy Center Program Associate, U of A Division of Agriculture Cooperative Extension Service, Little Rock, AR, 72204
[3]Assistant Director-CED, U of A Division of Agriculture Cooperative Extension Service, Little Rock, AR, 72204
[4]Professor- Extension Economist, U of A Division of Agriculture Cooperative Extension Service, Little Rock, AR, 72204
[5]Communications Design/Support Specialist, U of A Division of Agriculture Cooperative Extension Service, Little Rock, AR, 72204

Citizens of Baxter County have the opportunity to vote on issues that will directly impact their lives. Unfortunately, ballot issues are written in legal, complex terms that can sometimes give voters problems understanding the issues they are voting on. This makes it difficult for voters to make a wise and informed vote.

U of A Division of Agriculture Cooperative Extension Service's Public Policy Center was established to provide Arkansans with timely, credible, unbiased and research-based information and education about public issues. Each ballot issue goes through a vetting process that includes reviews by attorneys, supporters, opponents and experts on the issue to insure its accuracy. The ballot issue fact sheet gives voters non-partisan information in a simplified manner.

Baxter County was considering a sales tax election for the county jail. There would be two separate sales taxes. One sales tax would be a temporary one percent sales tax to pay for jail expansion. This sales tax would last for eight months. The second sales tax would be a quarter-percent sales tax and would not expire unless repealed by voters. The quarter-percent sales tax would be used to maintain the jail, housing prisoners and paying jail employees.

The Baxter County judge requested the Baxter County Cooperative Extension Service develop a ballot issue fact sheet on the Baxter County jail sales tax election. Working with the Cooperative Extension Service Public Policy Center, a fact sheet was developed. There were over 1200 fact sheets distributed to voters and the fact sheet was posted on the Baxter County government website and the Baxter County Cooperative Extension Service website.

CONTROLLING BERMUDA STEM MAGGOT

Davis, T.[1]
[1]CEA - Agriculture, UofA Division of Agriculture Research & Extension, Murfreesboro, AR, 71958

Pike County, Arkansas is a rural county in Southwestern Arkansas. According to the 2010 Bureau of Economic Analysis's Regional Economic Information System, 96% of agricultural income in the county comes from Livestock and Agricultural Products. A large majority of livestock production is beef cattle. Greater than 90% of Pike County cattlemen produce the hay needed for their herd. In June 2017, several producers in the county reported a major yield decline in their Bermudagrass fields after their first cutting of hay. After visiting these fields and taking forage samples, it was determined that the Bermuda Stem Maggot, "*Atherigona reversura*", was our pest. A demonstration protocol was written and installed at an eight acre field of Cheyanne Bermuda. Four acres were left untreated to serve as a control. The other four acres were treated 7 days post-harvest with 2.6 oz/ac Lambda- cyhalothrin. Observations were documented weekly for 4 weeks. Forage samples were collected at 28 days post treatment and sent off for nutrient analysis. The analysis proved that there was no nutritional differences between the samples. However, forage measurements taken at 28 days post-harvest revealed twice as much yield on the treated plots versus the control. Demonstration results were shared via social media and at the Pike County Cattlemen's meeting, along with Arkansas Ag Agents at statewide trainings. Several producers indicated that they would implement the control methods used in the demonstration. Additional demonstrations throughout the area are planned for the next growing season.

FARM TO TABLE 4-H FUNDRAISER EVENT

Ham, C. M.[1]
[1]CEA-4-H/Agriculture, University of Arkansas Cooperative Extension Service, Arkadelphia, AR, 71923

The Farm to Table event was held to increase awareness of our local 4-H youth program and agriculture. It was designed to spotlight local farms and serve as fundraiser for the Clark County 4-H program. The event was hosted by our 4-H youth and volunteers and utilized locally grown food as the menu. The 4-H youth learned about local farms and met with others involved in agriculture business. The Farm to Table event was held in June at the Barn at Richwoods, a beautiful venue in a farm setting. Antique tractors were on display from the Tractors of the Past Club as part of the event. The program consisted of a slide show recognizing the businesses that sponsored tables at the event and the families and farms that grew the food on the menu. Individuals participating in the Farm to Table event also had the opportunity to share with others in attendance about the impact 4-H had on their lives. Over 150 people from area businesses and general public enjoyed the bounty of locally grown and prepared foods served by our Clark County 4-H youth. In addition to raising over $4000 for the county 4-H program, the event was an evening of community fellowship that highlighted the difference the 4-H program is making in the lives of youth in our county.

HOT SPRING COUNTY 4-H VETERINARY SCIENCE

Bearden, R.[1]
[1]CEA - Agriculture, UofA Division of Agriculture Research & Extension, Malvern, AR, 72104

There is a large shortage of food animal veterinarians in Arkansas, which is a burden for many producers who do not have access to one when they need services. Arkansas does not have a veterinary college, but we have contracts with only 4 out of the 33 veterinary colleges in the US. This makes admission to veterinary school very competitive for our 4-Hers, many of whom come from rural areas.

The Veterinary Science 4-H program is a solution to help our 4-Hers get a leg up. 4-Hers complete our program to hopefully become a Certified Veterinary Assistant. This will help them get a job making higher pay, a better chance at scholarships, and a better chance at veterinary school admission. I also encourage my members that it gives them a safe place to decide if it is what they really want to do. Currently, 4-Hers can be certified through the Texas Veterinary Medical Association. Hopefully the Arkansas certification will be in place by summer of 2018.

The primary goal of this program is to have our 4-Hers capable of becoming a certified veterinary assistant. This includes completing the three year curriculum program and a skills check off. The curriculum was developed by Texas AgriLife Extension. To achieve this goal we have several smaller goals. We have at least two county field trips to different types of veterinary practices. We pair each 4-Her with a one of our four partner veterinarians, once they have completed their first year of curriculum. We also have at least one hands-on demonstration each month.

This has been a great piece of recruitment and PR for our county 4-H program. We have grown from 7 members to 22. I have been able to work with agriculture teachers to help their competitive veterinary science teams understand the material. We have even dual enrolled several of these students.

PERRY COUNTY FIRE ANT EDUCATION

Lawson, K.[1]
[1]County Extension Agent - Staff Chair, University of Arkansas Cooperative Extension Service, Perryville, AR, 72126

2017 started out as an interesting year in Perry County in Central Arkansas. There was a combination of a very warm winter in late 2016 and a very early warm up in February and March of 2017. These two factors lead to an increase in fire ant numbers in Perry County. Citizens started coming into the Perry County Extension Service Office as early as March 16 asking about fire ant control. Fire ants have been in the county for around 20 years. There was a significant education effort when fire ants first came to the county, but over the years that education effort had slowed down. But the fire ant numbers in 2017 caused an increase of questions coming from homeowners and producers. To help with these questions, a demonstration was put together by the Perry County Extension Agent – Agriculture. This demonstration was placed at the Perryville High School and consisted of 3 treatments and an untreated check. Initial counts were taken on June 1 and baits were spread on June 8 and consisted of 1.5 lbs/ac of Advion, 1.5 lbs/ac of Extinguish Plus and 1.5 lbs/ac of Amdro. Counts were then taken at 7 and 22 DAT. The Advion and Extinguish Plus showed good results after 7 days. A field day was held on June 15 and 42 people participated. The participants were surveyed and 20 of the 42 stated that they would change the way they treated fire ants, going from individual mound treatment to area wide bait treatments. The demonstration reached 4,200 people through office visits, home visits, the field day and social media.

SAVING GROWERS WATER WITH MULTIPLE INLET RICE IRRIGATION

Gordon, B.[1]; Baker, R.[2]
[1]CEA-Agri, University of Arkansas System Division of Agriculture Cooperative Extension Service, Augusta, AR, 72006
[2]Rice Verification Coordinator, University of Arkansas Crop, Soil, and Environmental Science, Piggott, AR, 72454

Fifty percent of the crop producing region of White County has been deemed a critical groundwater area, with

water table declines as much as one foot per year. The main objective of this program was to assist the producers of White County decrease the amount of irrigation water used in rice production by implementing a technique called Multiple Inlet Rice Irrigation (MIRI). MIRI is the practice of evenly distributing irrigation water over the entire rice field at one time. This is accomplished by placing polypipe tubing across each rice paddy (area between the levees) and releasing water into each paddy at the same time through holes or gates in the tubing. Research in Arkansas suggests MIRI can save producers an average of 25% in irrigation water. Growers surveyed at meetings/workshops, water monitoring equipment from demonstrations, yield data, and producer testimonials were the main tools used in program evaluation. Over the course of three years, four on-farm demonstrations were conducted to evaluate MIRI in White County rice fields. Based on flow meter readings from demonstrations, MIRI saved growers 20-60% of irrigation water compared fields traditionally irrigated. Results from demonstrations utilizing MIRI were shared in White County Row Crop Newsletters (150 readers), three crop production meetings (123 attendees), a field tour (20 attendees), and Twitter (82 followers). In the 2018 growing season, cooperating producers intend to expand their rice acreage utilizing MIRI to an additional 1,500 acres.

VOTING IN FAVOR OF CLEAN WATER WITH BALLOT BINS

Massey, C.[1]
[1]County Agent II-Agriculture & Water Quality, University of Arkansas Division of Agriculture Cooperative Extension, Fayettville, AR, 72704

Fayetteville, AR residents now have an engaging and educational way to properly dispose of cigarette butts. According to Keep America Beautiful (2009), cigarette butts are the most littered item in the United States, and 32% of litter found in storm drains is tobacco waste. In 2016, volunteers collected 20 pounds of cigarette butts from streets, sidewalks, and storefronts in the Fayetteville Entertainment District in just three hours. Cigarette butts float and are easily carried to local streams where they can leach harmful chemicals and be mistaken for food by wildlife. In response, Extension staff used funding from an existing EPA 319 grant to purchase Ballot Bins (Hubbub, UK) to address cigarette butt litter. Ballot bins engage users to properly dispose of cigarette butts in the receptacle by asking a question and encouraging users to "vote" with the butt in a public opinion poll, while also raising awareness on environmental impacts of litter that may flow through storm drains into local waterways. Two bins were initially installed in 2016. Due to positive response from local businesses and local media, ten additional bins were purchased for installation in 2017. To date, seven local businesses have agreed to host and maintain a Ballot Bin. Volunteers supplement these demonstrations by participating in urban cleanups to collect cigarette butts and litter. Through these combined efforts, 447 volunteers and Ballot Bins collected over 54 pounds of improperly disposed butts. Promotion on social media has generated a reach of 97,600, 464 likes, 456 shares, and 17,416 unique clicks. City staff and partners familiar with the project have commented that Ballot Bins are making a noticeable impact and are helping raise awareness about litter prevention and resident's impact on local water quality.

YOUNG CATTLEMEN SERIES

Foster, O. M.[1]; Bearden, R[2]
[1]County Extension Agent- Staff Chair, University of Arkansas, Berryville, AR, 72616
[2]County Extension Agent- Staff Chair, University of Arkansas, Malvern, AR, 72104

A need arose for a program to assist younger producers in learning best management practices for their beef cattle operations that explained the techniques they had used before strictly because their parents and grandparents did. A base curriculum was developed that targeted the following areas: finances, resources (FSA, NRCS, UA, etc.,) herd management and improvement, forage management, pest management, and marketing. Two counties implemented the program Carroll County in the northwest corner of the state and Hot Spring County in the southwest. Carroll County met once a month from November to February for six hour sessions and limited the class size to fifteen. Hot Spring met once a month from September to April for four sessions and limited the class size to twenty-five. There were farm visits conducted with all participants and an end of course survey. Carroll County has already concluded the program and according to the end of course survey and exit interviews 100% of the participates plan to implement a new practice learned from the class that wasn't present in their operation before. 100% of participants plan to utilize extension resources when moving forward. One producer even stated he changed his feed rations at the beginning of December after a class and has already saved several hundred dollars in feed cost. Although Hot Spring County is still in the middle of the series, participants have noted that they plan to implement new best management practices into their existing operations. According to survey results extension educators played an important role in demonstrating the benefits and need of best management practices in all aspects of an operation.

FIRE ANTS AT THE FAIR: LAST MINUTE ACTION SAVES THE DAY!

Palmer, K. R.[1]; Kevan Tucker[2]
[1]REGIONAL EXTENSION AGENT - ANIMAL SCIENCE/FORAGES, ALABAMA COOPERATIVE EXTENSION SYSTEM, BAY MINETTE, AL, 36507
[2]County Extension Coordinator-Clark County, Alabama Cooperative Extension System, Grove Hill, AL, 36451

Fire ants are highly invasive pests having serious economic, agricultural, and health impacts in the regions they inhabit. In Alabama, fire ants are found in all 67 counties, with populations that typically range between 40-60 mounds per acre. Fire ants present a major public health concern, with approximately 1% of the U.S. population highly allergic to fire ant venom. With these concerns, managing fire ants in urban environments, where there is a high probability of human-fire ant interaction, is critical.

On 24 October, 2017, the Clarke County Extension office was contacted about a serious fire ant problem on the Clarke/Washington County Fairgrounds in Jackson, AL. With the fair beginning on 30 October, time and options were limited to get adequate control. On 28 October, Kevan Tucker (Clarke County Extension Coordinator) and Kelly Palmer (Regional Extension Agent) collected pretreatment mound counts, which indicated fire ant populations of 92 mounds per acre. The grounds were treated that same day using Advion Fire Ant Bait, applied with a Herd Seeder at labelled rates.

The fair coordinator noted that only 2 mounds were found on peripheral areas of the fairgrounds post application. No incidents involving fair goers and fire ants were noted. Fair attendees were surveyed about their experience at the fair, and 100% said they had not noticed any ants on the grounds, which made their experience enjoyable. 98% noted that fire ant control on the grounds was a vast improvement from previous years. Post-treatment mound counts were taken, with 0 mounds found in the monitored plots.

Due to a quick and coordinated effort between the Alabama Cooperative Extension System, Sygenta Chemical Company Representatives, and local fair officials fire ants were controlled in a timely manner. This resulted in a pleasant and fun fair environment for stakeholders. A win for all parties involved.

HANDS-ON ALABAMA BEEF QUALITY ASSURANCE TRAINING

Glover, B. S.[1]; Elmore, M.F.[2]; Dickinson, S.E.[3]; Elmore, J.B.[4]; Gladney, J.B.[5]; Hudson, R.G.[6]; Marks, M.L.[7]; Palmer, K.R.[8]; Thompson, G.L.[9]; Miller, D.S.[10]; Stanford, M.K.[11]; Kriese-Anderson, L.A.[12]; Rodning, S.P.[13]
[1]Regional Extension Agent, Alabama Cooperative Extension System, Greensboro, AL, 36744
[2]Extension Animal Scientist, Alabama Cooperative Extension System, Clanton, AL, 35045
[3]Graduate Research Assistant, Department of Animal Sciences, Auburn University, AL, 34849
[4]Regional Extension Agent, Alabama Cooperative Extension System, Clanton, AL, 35045
[5]Regional Extension Agent, Alabama Cooperative Extension System, Tuscaloosa, AL, 35401
[6]Regional Extension Agent, Alabama Cooperative Extension System, Headland, AL, 36345
[7]Regional Extension Agent, Alabama Cooperative Extension System, Centre, AL, 35960
[8]Regional Extension Agent, Alabama Cooperative Extension System, Bay Minette, AL, 36507
[9]Regional Extension Agent, Alabama Cooperative Extension System, Belle Mina, AL, 35615
[10]Cherokee County Extension Coordinator, Alabama Cooperative Extension System, Centre, AL, 35960
[11]Extension Nutrient Management Specialist,Alabama Cooperative Extension System, Crossville, AL, 35962
[12]Extension Beef Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849
[13]Extension Veterinarian, Alabama Cooperative Extension System, Auburn University, AL, 36849

The Alabama Cooperative Extension System Animal Science and Forages Team conducted seven hands-on Beef Quality Assurance (BQA) training programs during 2017 in an attempt to provide cattlemen and women the on-farm skills necessary to continue producing safe, wholesome beef. The programs were conducted at six Alabama Agricultural Experiment Station Research and Extension Centers, and at the Auburn University Beef Teaching Center.

Participants (n=153) engaged in four interactive rotations to learn how to:

1) Implement animal identification and record keeping systems.

2) Effectively manage production data for improved profitability.

3) Evaluate brood cows annually based on 'Seven Quality Checks'.

4) Safely handle and haul cattle.

5) Properly administer all animal health products to beef cattle.

Pre- and post-tests were administered to assess the level of BQA knowledge prior to and following each hands-on program. The average pre-test score was 72% (range = 15-100%), while the average post-test score was 95% (range = 80-100%), indicating that participant knowledge increased as a result of the programs.

Post-program surveys were administered immediately following each program to assess overall participant satisfaction and program impact. The results were as follows:

1) 100% indicated that the information learned would be useful on the farm.

2) 100% indicated that they would recommend this program to others.

3) When asked whether or not the program met their expectations, two participants volunteered that it exceeded expectations, one responded 'Maybe', and all others indicated 'Yes'.

4) When asked to assign an economic impact to the knowledge and skills gained by attending one of the hands-on BQA training programs, the average response was $7,422.

5) When asked how likely an individual was to adopt some of the information and skills learned during the program during the next 12 months, the average response was 4.6 (Rating Scale: 1=very unlikely, 5=very likely).

Based on pre-tests, post-tests, and post-program surveys, the hands-on BQA programs effectively led to greater knowledge about how on-farm cattle management impacts meat quality and safety. Participants indicated that they were likely to adopt some of the BQA guidelines they learned over the next 12 months, and deemed the programs economically valuable.

HANDS-ON ESTRUS SYNCHRONIZATION DEMONSTRATIONS IN ALABAMA

Elmore, J. B.[1]; Elmore, M.F.[2]; Dickinson, S.E.[3]; Gamble, B.E.[4]; Pegues, M.D.[5]; Yeager, J.J.[6]; Hudson, R.G.[7]; Gard, J.A.[8]; Rodning, S.P.[9]
[1]REGIONAL EXTENSION AGENT, ALABAMA COOPERATIVE EXTENSION SYSTEM, CLANTON, AL, 35045
[2]Extension Animal Scientist, Alabama Cooperative Extension System, Clanton, AL, 35045
[3]Graduate Research Assistant, Department of Animal Sciences, Auburn University, AL, 36849
[4]Associate Director Wiregrass and Research Extension Center, Alabama Agricultural Experiment Station, Headland, AL, 36345
[5]Director Gulf Coast Research and Extension Center, Alabama Agricultural Experiment Station, Fairhope, AL, 36532
[6]Director Blackbelt Research and Extension Center, Alabama Agricultural Experiment Station, Marion Junction, AL, 36759
[7]Regional Extension Agent, Alabama Cooperative Extension System, Headland, AL, 36345
[8]Professor, Food Animal Section, Department of Clinical Sciences, Auburn University, AL, 36849
[9]Extension Veterinarian, Alabama Cooperative Extension System, Auburn University, AL, 36849

Artificial insemination (AI) is a reproductive tool that facilitates the use of genetically superior sires, leading to rapid improvement in economically important traits. Despite the fact that AI is considered a great innovation in cattle management, relatively few Alabama cattle producers utilize this technology. According to the February 2009 USDA National Animal Health Monitoring System Beef Report, only about 5.5% of beef cattle farms in the Southeastern United States utilize AI. One of the main reasons for this is that historically, effective estrus (heat) detection was critical for successful AI. Heat detection is labor intense, and thus not possible for many Alabama cattle producers that have jobs off the farm. However, developments in fixed-time artificial insemination (FTAI) protocols offer new opportunities to implement AI when effective heat detection is not possible.

In an effort to help Alabama cattle producers benefit from AI, members of the Alabama Cooperative Extension System Animal Science and Forages Team conducted multiple hands-on estrus synchronization training programs from 2011-2017. The goal of these programs was to provide cattle producers the on-farm skills necessary to successfully plan and implement estrus synchronization protocols in beef cattle to facilitate FTAI. The programs were conducted at three Alabama Agricultural Experiment Station Research and Extension Centers: 1) Gulf Coast (GCREC), 2) Black Belt (BBREC), and 3) Wiregrass (WREC).

Participants learned how to use two estrus synchronization planners available through the Beef Reproduction Task Force (https://beefrepro.unl.edu/) and the Southeast Cattle Advisor (http://estrussynch.com/), and then implemented the 7-day CO-Synch + CIDR® protocol on replacement heifers at GCREC, BBREC, and WREC. The FTAI was conducted 54±2 hours after CIDR® removal. The overall FTAI pregnancy rate for all years and all centers was 50% (216/432), with a range of 22-67% annually.

Cattle producers quickly learned how to effectively plan an estrus synchronization protocol, and had no difficulty learning how to properly insert a CIDR® or administer a hormone injection following Beef Quality Assurance guidelines. Prevalent impediments to more widespread adoption of AI appear to be the inconsistent and often less than desirable FTAI pregnancy rates and appropriate facilities.

IRRIGATION EFFICIENCY EDUCATION

Bouselmi, A.[1]; Balkcom, K.B.[2]; Birdsong, W.[3]; Dillard, B.A.[4]; Jones, J.[5]; Kelton, J.A.[6]
[1]Regional Agent- Row Crops, Alabama Cooperative Extension System, Abbeville, AL, 36310
[2]Research Associate, Auburn University, Headland, AL, 36345
[3]Extension Specialist, Alabama Cooperative Extension System, Headland, AL, 36345
[4]Regional Agent-Row Crops, Alabama Cooperative Extension System, Geneva, AL, 36340
[5]County Extension Coordinator, Alabama Cooperative Extension System, Abbeville, AL, 36310
[6]Regional Agent-Farm and Agribusiness Management, Alabama Cooperative Extension System, Headland, AL, 36345

For many Alabama farmers, irrigation is a new practice, so they are looking for training, technology and information to increase water-use efficiency while maintaining or increasing

yields. The project was designed and planned by Extension Agents to educate farmers and consultants on the use of irrigation water management strategies and irrigation scheduling. The knowledge gained through research and demonstration was transferred to farmers and consultants by Regional extension Agents. Four workshops conducted in this project on irrigation water management and irrigation scheduling. Topics provided an introductory overview of the basic topics needed to effectively and efficiently schedule irrigation for row crops including: soil moisture sensors technologies, catchment management, water quality, irrigation systems distribution uniformity and application rates. The workshops were evaluated by using pre-and post-questionnaires for participants in order to compare their knowledge and practices on irrigation before and after the meeting. The returned pre-survey rate "Irrigation scheduling" as the priority topic preferred by participants. Forty-two percent of participants plan to use soil moisture sensors to schedule their irrigation according to the returned post-survey. Overall, workshops improved understanding of irrigation scheduling practices, general irrigation knowledge, and water use efficiency. In addition, nine design recommendations were provided in this project. These recommendations helped farmers to improve their knowledge on flow rate, pipe size, pump size and the best irrigation system for their farms. To estimate the potential profitability increase for row crops we used midpoint price and yield for returns above variable expenses for irrigated minus midpoint for dryland, based on 2017 budgets to be irrigated and this gave us the 'potential profit increase' for each design. The estimated potential profit increase for 329.59 acres, was $153,749.67. The estimated Return On Investment (ROI) is 42 to 1.

PREPARING ALABAMA'S FARMERS FOR THE 2018 CROP SEASON THROUGH STATEWIDE AGRICULTURAL OUTLOOK SEMINARS

Kelton, J.A.[1]; Burkett, K.[2]; Goodrich, B.[3]; Kelley, W.[4]; Page, R.[5]; Runge, M.[6]
[1]Regional Agent- Farm and Agribusiness Management, Alabama Cooperative Extension System, Headland, AL, 36345
[2]Regional Agent-Farm and Agribusiness Management, Alabama Cooperative Extension System, Clanton, AL, 35045
[3]Extension Specialist, Alabama Cooperative Extension System, Auburn, AL, 36801
[4]Regional Agent-Farm and Agribusiness Management, Alabama Cooperative Extension System, Brewton, AL, 36426
[5]Regional Agent-Farm and Agribusiness Management, Alabama Cooperative Extension, Crossville, AL, 35962
[6]Extension Specialist, Alabama Cooperative Extension, Auburn, AL, 36801

The agricultural and forestry industry generate over $70 billion to Alabama's economy annually. Given the importance of this industry, in both dollars contributed to the economy and employment created, it is imperative to offer timely educational programming to help mitigate financial loss for the state's producers. To that end, the Alabama Cooperative Extension's Farm and Agribusiness Management Team developed a series of workshops held across the state to provide Alabama's agricultural stakeholders with information to successfully manage risk in 2018. Attendees to each session were introduced to a variety of topics including livestock and row crop price outlooks, 2018 tax law changes, and a US economic overview. The sessions also presented material related to the importance of recordkeeping and whole farm revenue protection. Workshops were designed to engage a broad audience, particularly new and beginning farm operators and producers transitioning into retirement. Program evaluations from workshop attendees showed an 86% increase in knowledge after attending.

REDUCING WATER USE AND INCREASING YIELDS THROUGH MICRO AND DRIP IRRIGATION

Schavey, E. T.[1]; McBrayer, R.H.[2]; Crow, T.[3]; Coon, D.[4]
[1]Regional Extension Agent - Home Grounds, Gardens & Home Pests, Alabama Cooperative Extension System, Gadsden, AL, 35904
[2]Regional Extension Agent- Home Grounds, Alabama Cooperative Extension System, Guntersville, AL, 35976
[3]Regional Extension Agent- Home Grounds, Alabama Cooperative Extension System, Cullman, AL, 35055
[4]Regional Extension Agent- Home Grounds, Alabama Cooperative Extension System, Eufaula, AL, 36027

The Alabama Cooperative Extensions System's Home Grounds Team strives to educate homeowners on smart water use and disease prevention through proper watering techniques.

The Alabama Cooperative Extension System's Home Grounds regional agents partnered with the Marshall County Master Gardeners to install a drip irrigation system at a community garden. The CASA Garden, as it is called, is located in Guntersville Alabama and provides fresh produce for the elderly home-bound of Marshall County. Roughly 1/3 of an acre, the CASA Garden provides a great environment for hands-on workshops and volunteer projects for Master Gardeners.

In 2014 and 2015 the garden was primarily watered by rainfall and over-head impact sprinklers. This was very time consuming and also increased leaf wetness resulting in foliar diseases the directly affected yield. Master Gardeners were spending multiple hours pulling weeds, spraying fungicides, and manually moving the over-head sprinklers.

In 2016 ACES and Marshall County Master Gardeners installed a drip irrigation system throughout the garden. This year was a special year due to the fact that our area was in extreme drought with only 39 inches of total rainfall. The irrigation system provided 16 inches of water along with the 39 inches of rain, bringing the total water to 55

inches. How does this make an impact? Disease pressure was decreased by 20%, weed pressure was decreased by 80% and the production increased by 3700 pounds.

In conclusion the addition of drip irrigation not only conserves water but also increases plant health resulting in greater food quality and increased production.

THE 2017 ALABAMA FORAGE CONFERENCE: A PROGRAM FOR HIGHLIGHTING PROGRESSIVE FORAGE MANAGEMENT STRATEGIES TO FARMERS

Mullenix, K. C.[1]; Dillard, S.L.[2]; Stanford, M.K.[3]
[1]Extension Specialist - Animal Science, Alabama Cooperative Extension System, Auburn University, AL, 368495625
[2]Forage Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849
[3]Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

The Alabama Forage Conference is a biennial, statewide program focused on showcasing technologies related to improving Alabama grassland management. The conference consists of a field tour highlighting current research efforts at a Alabama Agricultural Experiment Station research farms in the area of forage management, followed by a one-day educational conference. In November 2017, the Wiregrass Research and Extension Center hosted an interactive field tour focused on irrigation techniques for hayfields, limit-grazing cool-season annuals, use of a sod-based rotation for integrating livestock into row crop-based systems, and the establishment and management of alfalfa-bermudagrass mixtures in the Southeast. Attendees expanded on their knowledge on extending the grazing season, use of temporary electric fencing, and soil health in the classroom portion of the program at Lakepoint State Park in Eufaula, AL. A post-program survey was conducted with participants (n = 45 respondents; 72 registered attendees) to evaluate potential application and impact of the program information on Alabama farms. While the majority of participants had more than 20 years of experience in the forage/hay industry, the next largest group was new and beginning farmers (36%), which illustrates an emerging area of educational need. Attendees indicated that 88% planned to implement one or more of the forage management practices discussed at the meeting in their operation in the next 12 months. Participants ranked the three most useful topics as use of temporary fencing (28%), new technologies in grazing management (21%) and soil health (18%). There were 14,577 acres and 7,008 head of beef cattle reached by the information presented at this meeting. The total economic impact of this program was $410,683, and participants estimated an average of $58 savings per head of cattle from the information provided. Results indicate that combining field days and in-classroom learning experiences help solidify and demonstrate new technologies in forage management to stakeholders, and is a sustainable program model for the future.

Northeast Region Entries

CREATING COLLABORATIONS, STRIVING FOR SUCCESS: A PROMOTION AND TENURE EXPERIENCE

Little, N.G.[1]; Chan, A.E.[2]; Ketterman, J.M.[3]; Kness, A.A.[4]; Kenton-Morris, J.[5]
[1]Urban Agriculture Extension Agent, University of Maryland Extension, Baltimore, MD, 21215
[2]4-H Youth Development Agent, University of Maryland Extension, Clinton, MD, 20735
[3]Extension Agent, Family and Consumer Sciences, Financial Capability, University of Maryland Extension, Cumberland, MD, 21502
[4]Extension Agent, Agriculture, University of Maryland Extension, Forest Hill, MD, 21050
[5]4-H Specialist Volunteer Systems & Development, University of Maryland Extension, College Park, MD, 20740

Achieving promotion and/or tenure within Extension can be a daunting task. Most tenure/promotion processes at land grant universities focus on Scholarship, Teaching and Service. Extension work affords a myriad of opportunities to teach dozens of programs and serve on a wide variety of committees. Being mindful of the scholarship piece and finding ways to collaborate with others can be a challenge, especially for field based faculty. This poster will document the initial steps of a collaborative cohort on the tenure track at the University of Maryland and demonstrate a plan to assist in making the promotion/tenure process less daunting.

Cross curricular faculty members with the University of Maryland Extension have created a collaborative and supportive cohort to help navigate the tenure path, negotiate obstacles and provide support for each other through the promotion/tenure process. The delivery method involved regular meetings, either in person or via conference call, scheduling of speakers to share advice and thoughts with the cohort, and sharing of training knowledge and information.

The collaborative cohort was designed around the idea of a community of practice. It is a joint enterprise of mutual engagement. Although this cohort is designed to collaborate and share resources, they are developing communal resources together including a tip sheet of their shared experiences to assist other faculty members on the tenure track.

IMPACTS OF COMMERCIAL FLOCK BIOSECURITY EDUCATIONAL PROGRAMS

Rhodes, J.[1]; Moyle, J. R.[2]; Tablante, N. L.[3]
[1]AGENT, AGRICULTURE & NATURAL RESOURCES, University of Maryland Extension, CENTREVILLE, MD, 21617-1138
[2]Agent, Poultry Specialist, University of Maryland Extension, Salisbury, MD, 21801
[3]Extension Poultry Veterinarian, University of Maryland Extension, College Park, MD, 20742

Commercial poultry production accounts for approximately 70% of the total economic value of agriculture in the Delmarva area. The success of contract broiler production is directly related to the success of poultry companies, allied industries and grain farmers located in the region. A disease outbreak, such as Avian Influenza (AI), on Delmarva would economically impact poultry growers, processors and allied industries. Additionally, the Delmarva Peninsula ranks as one of the top ten largest broiler producing areas in the United States and has some of the highest poultry density in the nation.

In order to determine the needs the poultry industry, the Poultry Extension Team at the University of Maryland conducted a survey to better understand the challenges the industry faces. As part of this survey, questions were asked to determine the success of a USDA-NIFA Smith-Lever Special Needs grant that developed biosecurity educational programs which included biosecurity videos for poultry farmers and allied industries.

The survey revealed that 95% of commercial poultry farmers indicated Extension programs were beneficial, 60% had improved biosecurity, 62% had written biosecurity plans, and 55% had seen the biosecurity videos.

KIDS GROWING WITH GRAINS

Travis, A.[1]; Bayer, R.[2]
[1]4-H Extension Educator, University of Maryland Extension 4-H Youth Development, Boonsboro, MD, 21713
[2]4-H Extension Educator, University of Maryland Extension 4-H Youth Development, Frederick, MD, 21702

A survey conducted by U.S. Farmers & Ranchers Alliance (USFRA) found that 72 percent of consumers know nothing, or very little about farming and ranching. As our world, and our country, continue to rapidly urbanize, citizens are becoming farther removed from agriculture, and the role it plays in their daily lives. The Washington County and Frederick County 4-H Youth Development Programs, a part of the University of Maryland Extension (UME), presents Kids Growing with Grains, an agricultural education program that is offered as a field trip, and made available to all schools in Frederick and Washington Counties. This program targets primarily 4th grade students. The field trip is held at the Western Maryland Research and Education Center, which is maintained and operated by Maryland Agricultural Experiment Station (MAES). MAES is part of the research component of the University of Maryland, College of Agriculture and Natural Resources. In addition to collaborating with the Western Maryland Research and Center and its staff, Washington and Frederick County 4-H also partner with local FFA chapters, and County Farm Bureaus to make the Kids Growing with Grains program a success. This program is partially funded through a grant from the Maryland Grain Producers Utilization Board. Since 2012, 4,250 students have taken part in this field trip, which has provided over 25,500 contact hours of positive youth development and experiential agricultural education. The program is comprised of five sessions that are designed to educate youth about the importance of agriculture, the utilization of grains in the diets of people and livestock, the nutritional value of whole grains, and how to identify food products made from grains. This educational experience helps to increase the connection and understanding between agricultural areas and urban/suburban areas, as well as enlighten youth to the health benefits and importance of wise food decisions. Long-term impacts are achieved through students understanding the lifelong health benefits of consuming grain, and the importance of agriculture in their daily lives.

North Central Region Entries

BUILDING HEALTHY SOILS IN DUNN COUNTY THROUGH THE RED CEDAR DEMONSTRATION FARM

Wantoch, K. L.[1]
[1]Agriculture Agent, Specializing in Economic Development, University of Wisconsin-Extension, Dunn County, Menomonie, WI, 54751

Farmers and community members have expressed concerns regarding soil erosion, improving conservation practices and better water management in Dunn County, WI and the Red Cedar Watershed. After discussions with agency staff, the Dunn County Soil and Water Health Partnership was formed in 2014 to better promote soil health and water quality through education and on-farm demonstrations. As a county educator, I took the lead role in pursuing the rental of 150 acres of county and city-owned farmland that was previously rented to local farmers. The local technical college farm business program was approved for a five-year lease agreement on this property and members of the Partnership assist with management of the Red Cedar Demonstration Farm. The technical college students are able to use the farm for an outdoor learning environment while agency staff from NRCS, county land and water conservation division, and UW-Extension utilize small plots for on-farm demonstration and research.

Conservation practices help growers retain the soils'

productivity while making the best use of resources (land, labor and capital). Several of these practices are being implemented on the Red Cedar Demonstration Farm, including crop rotation, conservation tillage, and cover crops. This project allows partnership members to demonstrate to clientele the potential for increased crop yields utilizing fewer inputs, including commercial fertilizer application, fuel for implements, etc. In addition, the project looks to demonstrate increased water efficiency and improve water quality within the Red Cedar Watershed.

Several educational events have provided outreach to area farmers, crop consultants, conservation staff, educators, students, elected government officials and area community members. Short-term impacts of this project have been noted in Dunn County and the Red Cedar Watershed. Partnership members are also seeing a notable change in no-till practices, increased planting of a variety of cover crop species, and increased adaption of precision agriculture equipment and technology.

WISCONSIN SWINE VETERINARIAN MAP

Seefeldt, L.[1]
[1]Agriculture Agent, UW-Extension, Montello, WI, 53949

Increasing interest in preventing the development of antibiotic resistant bacteria and protecting the effectiveness of the antimicrobials that we currently have fueled the initiative behind the Veterinary Feed Directive (VFD) rule changes. The VFD regulation changes on medically important antimicrobials, previously available as over-the-counter medications came into effect January 2017.

Being a swine farmer in Wisconsin can mean that it is a challenge to find veterinary care for pigs. There have been situations where a veterinarian is willing to be the veterinarian of record for someone's beef animals, but not their pigs. There have been people in the northern part of the state that are having challenges connecting with a veterinarian that is even willing to look at pigs due to the sparse population.

To assist farmers in locating a veterinarian willing to work on swine, a map of clinics in Wisconsin and neighboring states that are licensed to work with swine clients was created. The map can be accessed on the UW-Extension Swine Team website at http://pigconnect.uwex.edu. Included with each point on the map is contact information for the clinic, which veterinarians work with swine, what services that clinic offers for swine clients, and how far the veterinarians are willing to travel.

The map has received over 1,300 views over the course of a year. Feedback was received from a swine owner in the northern half of the state that indicated with the help of this map, they now have a swine veterinarian (where they had none before). This map has the potential to continue to be useful in 2018 as a swine health rule implemented by the Wisconsin Department of Agriculture, Trade and Consumer Protection will sometimes require additional involvement of a veterinarian versed in swine.

ASSESSING POTENTIAL ENERGY DEMAND MANAGEMENT STRATEGIES IN AGRICULTURE

Romich, E.[1]; Zoller, C.T.[2]; Barnes, T[3]; Lewandowski, R.[4]; Ricker, D.[5]
[1]Extension Field Specialist, Energy Education, Ohio State University Extension, Marion, OH, 43302
[2]Extension Educator, ANR, Ohio State University Extension, New Philadelphia, OH, 44663
[3]Extension Educator, ANR, Ohio State University Extension, Marion, OH, 43302
[4]Extension Educator, ANR, Ohio State University Extension, Wooster, OH, 44691
[5]Swine Extension Associate, Ohio State University Extension, Ottawa, OH, 45875

High demand charges can dramatically increase electricity prices for many commercial electrical consumers. The effect of demand charges on electric bills is significant, but many electric consumers are uninformed of these costs, how demand charges are calculated, and the impacts of their usage patterns. The overriding goal of this project is to assess how peak electric demand affects agricultural facilities and, in turn, the manner by which farmers can implement energy management plans, production strategies, make investments in equipment to minimize costs, and foster long-term sustainable benefits for their operations. Six university owned and/or private farms are enrolled in this project to facilitate research that addresses current knowledge gaps related to electricity usage in agriculture. The project team received a $91,000 Ohio State University Connect and Collaborate Grant. Additionally, $20,000 of in-kind support was provided by Ohio State University Extension, Ohio Agricultural Research and Development Center, and Ohio State University Electrical and Computer Engineering. This poster will provide an overview of the project concept, objectives of the project, outreach and engagement efforts, and project data collected to date.

BUILDING AND MAINTAINING A SPOTTED WING DROSOPHILA MONITORING NETWORK IN OHIO

Jasinski, J.[1]; Welty, C.[2]; Long, E.[3]
[1]Extension Educator, OSU EXTENSION, URBANA, OH, 43078
[2]Extension Entomologist, Ohio State University Dept. of Entomology, Columbus, OH, 43210
[3]Assistant Professor, Ohio State University Dept. of Entomology, Wooster, OH, 44691

Since the first detection of spotted wing Drosophila (*Drosophila suzukii* (Matsumura)) in September 2011, the Ohio State University Extension Integrated Pest Management (IPM)

Program and the Department of Entomology have joined forces to create a statewide monitoring network to determine the distribution of this invasive pest so that growers can take effective measures once this pest has been detected on their farm. This network has mostly been run by trained Extension educators who monitor for this pest on a weekly basis at grower farms in their county from June through September on crops such as raspberry, strawberry, blueberry, blackberry, grapes, and peaches. The cooperators use baited traps to attract adult SWD flies and upon the first positive capture on each farm, communicate that information to the grower who can initiate a control program at the appropriate time. We have monitored for spotted wing Drosophila (SWD) across the state during the past six years using the best trap and bait combinations available, but over time, as more accurate information was learned about the biology, behavior and management of this pest from national research programs, we provided those updates through articles in the VegNet newsletter or blog, pesticide applicator training sessions, or grower focused workshops across the state. Results from the workshops in 2016 and 2017 indicated that 58-65% of growers felt confident and 21-27% of growers felt very confident in their ability to manage SWD after the training. Viewed in the context of a multi-year effort, teaching both Extension educators and growers how to monitor for this pest allowed them to manage a significant economic pest using a recommended integrated pest management approach instead of resorting to a calendar spray program. In 2017, the monitoring network consisted of 19 counties representing 40 sites; currently SWD has been positively identified in 28 counties and suspected in 19 additional counties.

DEVELOPING AN EXTENSION MASTER GARDENER VOLUNTEER COMMUNITY GARDEN SPECIALIZATION

Kowalski, J.[1]; Bennett, P2[2]; Hogan, M.[3]; Johnson, D.[4]; Neikirk, H.[5]
[1]Extension Educator, Ohio State University, Stow, OH, 44224
[2]Associate Professor, Ohio State University Extension, Springfield, OH, 48505
[3]Associate Professor, Ohio State University Extension, Columbus, OH, 43215
[4]Program Manager, Ohio State University, Columbus, OH, 43215
[5]Extension Educator, Ohio State University Extension, Massillon, OH, 44646

The number of community gardens in the United States has tripled since 2008. Extension is often called upon to assist with community garden establishment and management. Extension Master Gardener Volunteers (EMGV) assist Ohio State University Extension with research-based horticultural outreach. While the projects they engage in vary greatly, recently more Volunteers are initiating and/or participating in community garden/food projects. These projects require a different skill set than traditional EMGV projects. The purpose of this program is to equip EMGVs with community engagement skills in order to successfully sustain community garden/food projects. Four day-long training sessions and two web-based check-ins were held. Topics included asset mapping, community engagement, liability, etc. Participating volunteers were required to complete ten volunteer hours toward community food projects of their choice and were required to submit a brief final project report. Through this targeted training program over 65 EMGV from 29 Ohio Counties partnered with 55+ agencies based throughout Ohio. Over four thousand hours of volunteer service were contributed overall to the volunteers' individual projects valued at $101,741. As a result of this training program, participating volunteers increased their knowledge of food insecurity in Ohio, understanding of working with limited resource individuals, and community engagement. This project was made possible via funding from the 2016 round of funding from the newly established Ohio State University Connect and Collaborate Implementation Grant.

ENRICHING THE LIVES OF LOW INCOME YOUTH WITH PHYSICAL ACTIVITY AND NUTRITION EDUCATION THROUGH RAISED BED GARDENING

Mccartney, M.[1]; Kroll, Sara[2]
[1]Ext. Educ., ANR, Ohio State University Extension, Marietta, OH, 45750
[2]SNAP-ED Program Assistant, Ohio State University Extension, Marietta, OH, 45750

Growing up in poverty can significantly affect the health, wellbeing, and development of children and adolescents. Due to rising rates of obesity, especially among youth, much attention is currently being focused to address this epidemic. Programs which incorporate gardening provide opportunities for hands-on food, nutrition and physical activity education for children. For students, school or club gardens serve as living classrooms that teach lessons as simple as "where our food comes from" to complex lessons on ecology, resource management, nutrition and healthy lifestyles.

The Learning Gardens is a horticulture and nutrition program implemented at the Boys and Girls Club of Washington County where 62.2% of youth are limited income. During the spring semester, students participated in a one hour session once per week for seven weeks. During the summer semester, the students participated in a three hour session twice per week on Tuesdays and Fridays. Tuesday sessions were focused on horticulture and gardening while the Friday sessions focused on nutrition and healthy living. The summer session lasted 11 weeks.

At the end of the summer session, a survey was conducted

to measure the students' gardening aspirations and attitudes. One hundred percent of the students viewed gardening as a healthy activity, 85% felt gardening and growing plants was fun, 92.5% indicated they learned a lot from the gardens, and 70.3% want to raise their own garden. Also, a pretest-posttest was conducted to measure the students' increased knowledge on nutrition. There was a 21% increase in choosing and identifying healthy snacks among eight and nine year olds and a 15% increase in choosing and identifying healthy drinks among 10 year olds.

The Learning Gardens provided many physical activities for students, provided heathy nutritious food for students to consume, and provided the opportunity to learn about healthy eating, healthy choices, and horticulture. According to the director of the Boys and Girls Club, the students absolutely loved the gardens and enjoyed it because it was different; different in a good way. Many of the children have never been exposed to something like this and this new experience was intriguing for them.

KINDRED GARDENS: GARDENING FOR SENIORS

Gelley, C.[1]
[1]Extension Educator, ANR, The Ohio State University, Caldwell, OH, 43724

Kindred Gardens: Gardening for Seniors is a program that was developed in 2017 and continued in 2018 in an effort to offer stimulating gardening activities to seniors in Noble County, Ohio. The main objective is to make gardening programs accessible that will have a positive influence in participants' lives. The program is offered as a series of hands-on classes with no fee to register. Kindred Gardens was initially funded by The Ohio State University Southeast Region Endowment Grant, which is designated to support programs that address current community needs in Southeast Ohio. Senior citizens represent 24 percent of the county population. Gardening is an activity that can be immensely beneficial for senior physical and mental health. Topics presented include indoor, outdoor, flower, fruit, and vegetable gardening. All sessions were taught by the county educator with resources from cooperative extension services in the Midwest. Take home materials are provided to the participants in a variety of forms that include factsheets, note cards, journals, cookbooks, potted plants, and more. Five class sessions are offered each year on staggered dates at the Joyce M. Davis Senior Center in Caldwell, OH. The 2017 program was evaluated using a university formatted evaluation and an audience survey. Results indicated that 100 percent of surveyed attendees enjoyed the program, made a new friend, tried a new recipe, would recommend the program to others, and would attend in subsequent years. Of them, 83 percent grew a new type of plant and 67 percent made changes to their lifestyles. Teaching evaluations indicated that 100 percent of attendees were stimulated to learn in class, felt respected, and were taught information that will help them in the future. Based on this feedback, the educator determined that the program should continue to be offered with new topics at the same location in 2018.

LIGHTS, CAMERA, RESEARCH! ENGAGING FARMERS THROUGH VIDEOS

Griffith, M.[1]; Hamilton, C.[2]; Leeds, R.[3]; Smith, J.[4]
[1]Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140
[2]Extension Educator, Community Developement, Ohio State University Extension, Delaware, OH, 43015
[3]Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Delaware, OH, 43015
[4]Extension Educator, Agriculture & Natural Resources and 4-H, Ohio State University Extension, Delaware, OH, 43015

Ohio State University Extension's Agronomic Crops Team has developed an extensive on-farm research effort, with 574 peer-reviewed on-farm research reports written by 51 different lead authors published since 1997. The team has investigated a wide variety of research questions in partnership with collaborating farmers in all corners of the state. On-farm research allows Extension to provide credible, research-based information that is based on practical considerations that producers encounter. On-farm research can also strengthen relationships between county extension educators, state specialists, and farmers as they work side by side to identify key research questions, design and implement plots, collect data, and interpret and share results. Traditionally, the on-farm research team has provided a peer review process to publish results in journal article format. While this format is preferred in academic circles, it may not be the most effective or relevant tool to communicate with clientele. On-farm research offers the potential for Extension to address localized issues by helping farmers make informed decisions about best management practices. However, in order to have practical impact, research findings must be available in formats that appeal to clientele. In 2017, team members converted two on-farm research projects into video format as pilot projects and presented videos at fertilizer applicator trainings. The videos were similar in content to the traditional journal articles, identifying the problem, testing procedure and results. The collaborating farmers and Extension professionals were both featured presenters in videos. After watching videos, participants were surveyed on their learning preferences. This poster summarizes key findings regarding learning preferences.

TEACHING AGRICULTURAL TAX MANAGEMENT TO OHIO FARMERS AND TAX PREPARERS

Bruynis, C.L.[1]; Marrison, D.L.[2]
[1]Associate Professor, Extension Educator & County Extension Director, Ohio State University Extension, Chillicothe, OH, 45601
[2]Associate Professor, Extension Educator & County Extension Director, Ohio State University Extension, Jefferson, OH, 44047

Volatility continues to increase in many management areas in agriculture. During the past four years, OSU Extension has increased the number and type of tax management programs offered to assist both farmers and tax professionals in addressing the Income and Estate tax regulations risk. During the Ohio Income Tax Schools, that reaches more than 650 practitioners annually, our team has enhanced the agricultural teaching curriculum of the Land Grant University Tax Education Foundation to provide practical application and ramification of rules changes which have an impact on the agriculture sector. Evaluation data from participants at one of the nine tax practitioner income tax schools, indicated that their level of knowledge of Agricultural and Natural Resource Issues increased from 2.9 to 3.6 based on a 5 point Likert scale. Additional feedback from practitioners indicates their increased knowledge is allowing them to better assist their clientele in making strategic tax management decisions.

Income taxes have been taught by incorporating revenue and expense scenarios into tax regulation so farm owners/operator understand their tax management options. Likewise, examples of how the changes in estate tax and Ohio property tax laws effect different management decision outcome have been taught. By incorporating a tax decision outcome strategy into teaching, there are notable impacts reported by the 750 farm owners/managers that attended the twenty-eight OSU Extension Outlook Meetings and local county programs. Examples of evaluation data include: seventy percent of participants indicated they increased their understanding of the tax law updates and the implications for agriculture; ninety-eight percent of the participants reported they gained a moderate to high level of knowledge regarding the presentation on farm and estate tax laws; and program evaluation showed 100% of the attendees indicated they learned new information related to farm taxes and 100% indicated that they learned information that would help them when completing their taxes.

TEACHING BASIC AGRONOMIC PRINCIPLES ENHANCED WITH NEW TECHNOLOGY

Barker, F. John[1]
[1]Extension Educator, Agriculture, OSU Extension Knox County, MT. VERNON, OH, 43050

Sound agronomic decisions based upon best management practices have always been an integral part of production agriculture. Principles such as crop scouting and economic thresholds; soil testing and crop nutrient removal rates; crop replant decisions, pesticide application and timing and many more continue to evolve with agriculture.

Agricultural technology continues to develop at a rapid pace. The adoption of new technology is creating vast and sweeping changes on many Ohio farms. Unmanned Aerial Vehicle (UAV) technology allows farmers to collect real-time field specific data such as weed, insect and disease pressure. UAV technology and other sources of imagery can be used to evaluate plant stand and crop health issues.

Today's Global Positioning Systems (GPS) based technology allows farmers to document the exact location of collectible data within a field. Graphic Information System (GIS) software allows the collectible data to be combined and analyzed to improve in-season crop management decisions.

Today's soaring input prices coupled with significantly lower crop prices have placed a renewed emphasis on technology to improve economic efficiencies. Many farmers have expressed an interest in learning how this technology can be incorporated into their operations.

To remain viable to our clientele, our programs must change as their needs change. Utilizing today's technology coupled with existing agronomic principles provide Educators an excellent platform to teach agronomic best management practices. The objective of this poster is to highlight educational teaching opportunities this new technology offers Extension Educators.

ENHANCING AND EXTENDING HAIL DAMAGE AND RECOVERY INFORMATION FOR CROPS IN TRADITIONAL AND SOCIAL MEDIA

Williams, T.[1]; Mueller, A.[2]; Mueller, N.[3]; Elmore, R.[4]
[1]Extension Educator, University of Nebraska-Lincoln, Lincoln, NE, 68528
[2]Extension Educator, University of Nebraska - Lincoln, Fremont, NE, 68025
[3]Extension Educator, University of Nebraska - Lincoln, Fremont, NE, 68025
[4]Professor of Agronomy, University of Nebraska - Lincoln, Lincoln, NE, 68503

County and state Extension personnel need hail-related information they can deliver to clients and stakeholders through multiple platforms: websites, blogs, social media, video, audio, and print. These resources need to appeal to all types of learners, and they must be developed with the targeted audience's limited time in mind. Consumers of Extension information need resources they can read, watch, and/or listen to quickly, so they can move into the decision-making phase confidently and in a timely manner. The Nebraska Extension Hail Know team identified six stages in the hail recovery

process to guide resource development. The team worked with Jactht Ad Lab, a student-led agency, to develop an identity package recognizable by the user. Using this identity, six, three-minute videos and six infographics were created for each stage in the hail recovery process. These provide a quick-overview of the most critical information sought out by the user. Our mobile-friendly webpage provides a home for these resources, as well as avenues for additional supporting, research-based information.

MAKING STORMWATER RUNOFF RUN ONLINE: EXPLAINNG WHY AND HOW STORMWATER EDUCATION MOVES ONLINE

Pekarek, K.[1]
[1]Extension Educator-Water Quality, University of Nebraska-Lincoln Extension, Lincoln, NE, 68583-0996

Early-career stormwater professionals and practitioners often need a readily available curriculum for stormwater management training which can be utilized at any time, any place, any path, and any pace. The Online *Stormwater Core Curriculum* (SWCC) fills this education need by providing a five-module, online course which aids stormwater professionals and educators in improving and optimizing their local stormwater operations. The course, initially started in the 12 state North Central Region, can help many of the current 7500+ Municipal Separate Storm Sewer System (MS4) permittees to meet required educational and training needs. A significant *Enhanced Curriculum Development* project directed development of the SWCC online resources, created storytelling messaging, developed course resources and the interactive activities, and provided learner engagement activities to reinforce concepts of the course.

Course participants gain knowledge, skills, confidence, and grow professional capacity for engaging in stormwater management. Participants also have the opportunity to improve and shape the SWCC through a built-in feedback loop. Students graduating from the SWCC are prepared to transition from early-career professionals into leaders in the stormwater field as they are *empowered to learn stormwater basics and teach others,* ultimately improving and optimizing their local stormwater operations.

This presentation discusses the SWCC target and beneficiary audiences, the approaches and methods used in course development and delivery, the evaluation approach, and how target audiences are finding this course relevant to their jobs. Outcomes and course impacts from current and past participants will be presented.

NEBRASKA EXTENSION RESISTANT/INVASIVE ISSUE TEAM #IRPESTS

Timmerman, A.[1]; James, Terri[2]; Sivits, Sarah[3]; Jackson-Ziems, Tamra[4]; Jarvi, Keith[5]; Ogg, Clyde[6]; Schild, Jim[7]
[1]Extension Educator, University of Nebraska-Lincoln, O'Neill, NE, 68763
[2]Extension Educator, University of Nebraska, Lincoln, NE, 68583
[3]Extension Educator, University of Nebraska, Lexington, NE, 68850
[4]Extension Specialist, University of Nebraska, Lincoln, NE, 68583
[5]Extension Educator, University of Nebraska, Concord, NE, 68728
[6]Extension Educator, University of Nebraska, Lincoln, NE, 68583
[7]Extension Educator, University of Nebraska, Scottsbluff, NE, 69361

In 2015 Nebraska Extension surveyed stakeholders, extension staff and faculty to gauge, what was considered, critical issues within the state; eighteen issues were defined. Multi-disciplinary teams were formed to create demand-driven, focused content on the specific issues prevalent in the state. One issue team Resistant/Invasive Pests has an interdisciplinary team consisting of: agronomists, entomologists, pathologists, horticulturists, community vitality specialists, integrated pest management specialists, pesticide safety education specialists, and soil scientists.

In 2017 the team wanted to evaluate the impact it has had in two years of education and training on invasive/resistant pests. A general knowledge survey was developed. This survey includes; 1) general knowledge questions on invasive/resistant pests, 2) photo identification of invasive/resistant/beneficial species and 3) practices of integrated pest management. This survey was first initiated to the general public, during the Nebraska State Fair, to establish a baseline. Fair goers were asked to take the survey, with Extension Educators on hand to help answer missed questions and respond to questions about invasive/resistant pests.

A total of 105 individuals completed the survey. 84% of participants stated that they understand how invasive and resistant pests affect biodiversity. A total of 67% have attempted to control an invasive or resistant pest. However 48% are unconfident in implementing an integrated pest management (IPM) strategy. With 53% not confident in implementing an IPM strategy for invasive and resistant pests. The next step is to administer the same survey to clients who have gone through training administered by our programs (i.e. Crop Production clinics, Extension Master Gardener Volunteer programs, Pesticide Applicators classes. etc.). At completion of the assessment strategies and goals for extension program will be created to address the areas of concern regarding knowledge related to invasive and resistant pests.

GARDENING WITH THE ELDERLY

Schutter, J.[1]
[1]Horticultlure Specialist, University of Missouri Extension, Kirksville, MO, 63501

The purpose of this educational program is to engage elderly adults in horticulture related activities for health benefits. I started "Gardening For The Elderly" programs in 2002 at four nursing homes in a three counties that I serve. I contacted the activities director at each facility and explained how horticulture related activities improve the well-being of residents. Each was receptive to the idea, and monthly programs began shortly thereafter. Master Gardener volunteers assisted me with these programs for the first 10 years. Today, after 16 years, I continue these programs at two nursing homes in my headquarter county. I prepare timely horticulture programs based on what is in season and interests of the residents. Programs include: planting flowers and vegetable seeds in containers and maintenance through the summer; designing summer flower arrangements; spring and summer flower show and tell; history of apples and apple tasting; fall vegetables and cooking a vegetable stir fry; history of pumpkins and pumpkin smoothies; history of cranberries and cranberry muffins; Christmas flower arranging; and much more.

The benefits of horticulture related activities for elderly adults include: increased levels of physical activity, mobility and flexibility; is an enjoyable form of exercise; reduces stress levels and promotes relaxation; provides stimulation and interest in nature and the outdoors; improves well-being as a result of social interaction; and can provide nutritious, home-grown produce for snacking.

Verbal evaluations indicate residents enjoy being outdoors in the sunshine; enjoy working with plants; enjoy food preparation and sampling; and they get sensory enjoyment from smelling, touching, looking, listening and remembering back to their childhood. Colorful blooms, scents, and textures create a sensory experience that can help jog memories and reduce agitation. Research indicates that physical and visual access to nature helps people recover from illness quicker, reduces stress and lowers blood pressure.

MISSOURI'S REGIONAL MANAGEMENT INTENSIVE GRAZING SCHOOLS ADD MILLIONS OF DOLLARS ANNUALLY TO THE STATE ECONOMY IN INCREASED BEEF CATTLE PRODUCTION

Tate, V.G.[1]; Schmitz, E.G.[2]; Barrett, P.R.[3]; Campbell, D.L.[4]; Cole, E.W.[5]; Dhakal, D.[6]; Doty, R.[7]; Erwin, Z.L.[8]; Graham, K.K.[9]; Gundel, J.A.[10]; Halleran, W.T.[11]; Miller, P.[12]; Probert, T.R.[13]; Scheidt, J.K.[14]; Schnakenberg, T.C.[15]; Wiedmeier, R.D.[16]
[1]Agronomy Specialist, University of Missouri Extension, Linneus, MO, 64653
[2]Livestock Specialist, University of Missouri Extension, Warsaw, MO, 65355
[3]Ag Business Specialist, University of Missouri Extension, Tuscumbia, MO, 65082
[4]Ag Business Specialist, University of Missouri Extension, Lancaster, MO, 63548
[5]Livestock Specialist, University of Missouri Extension, Mt. Vernon, MO, 65712
[6]Agronomy Specialist, University of Missouri Extension, Keytesville, MO, 65261
[7]Ag Business Specialist, University of Missouri Extension, Maryville, MO, 64468
[8]Livestock Specialist, University of Missouri Extension, Kirksville, MO, 63457
[9]Livestock Specialist, University of Missouri Extension, Farmington, MO, 63640
[10]Agronomy Specialist, University of Missouri Extension, Alton, MO, 65606
[11]Agronomy Specialist, University of Missouri Extension, Hermitage, MO, 65668
[12]Agronomy Specialist, University of Missouri Extension, Nevada, MO, 64772
[13]Dairy Specialist, University of Missouri Extension, Mountain Grove, MO, 65711
[14]Agronomy Specialist, University of Missouri Extension, Lamar, MO, 64759
[15]Agronomy Specialist, University of Missouri Extension, Galena, MO, 65656
[16]Livestock Specialist, University of Missouri Extension, Gainsville, MO, 65655

Management intensive Grazing (MiG) places emphasis on the management of grazing livestock. With continuous grazing, livestock are allowed to graze pastures as one unit for the entire grazing season with little or no management. MiG involves dividing large pastures into smaller grazing cells or paddocks. Livestock graze one paddock for a short duration and then move to another paddock. This provides a recovery or rest period for the forage resulting in increased forage production and an opportunity for legumes to be competitive in a pasture. Legumes are generally higher in forage quality than grasses. Increased forage production increases carrying capacity and

improved forage quality increases individual animal weight gain. These two factors mean more beef produced per acre.

Since 1990, Missouri has been educating farmers about the principles and practices of MiG through grazing schools. The first schools were held at the University of Missouri (MU) Forage Systems Research Center in north Missouri. In an effort to make the schools more accessible to Missouri grazers, Regional Grazing Schools taught by MU Extension regional faculty and Missouri's Natural Resources Conservation Service personnel began in 1993. Over 650 regional schools have been held in all parts of the state and more than 16,000 people have been educated through this long running program. These schools are two or three days long and include classroom sessions, field exercises and a visit to a farm using MiG.

Surveys of past participants indicate that implementing MiG can increase beef cattle production by 22 percent on the same acres which had been continuously grazed. This translates in to $83 million dollars annually in Missouri beef producers' pockets.

TABLETOP EXERCISE HELPS STAKEHOLDERS PREPARE FOR AVIAN INFLUENZA OUTBREAK

Linskens, E.J.[1]; Neu, A.E.[2]; Cardona, C.J.[3]
[1]Research Associate, Dept. of Veterinary and Biomedical Sciences, University of Minnesota, St. Paul, MN, 55108
[2]Assistant Extension Professior, University of Minnesota Extension, Willmar, MN, 56201
[3]Ben Pomeroy Chair in Avian Health, College of Veterinary Medicine, University of Minnesota, St. Paul, MN, 55108

Foreign animal disease (FAD) outbreaks can have devastating impacts. The implementation of control and prevention strategies in an outbreak is critical to minimize its negative impacts. Training to proactively discuss implementation of control and prevention strategies are beneficial in that they provide stakeholders with the practical information and educational experience they will need to properly respond to an FAD. The Secure Food Systems (SFS) exercises provide scenarios of, specifically, avian influenza (AI) outbreaks in commercial poultry operations created by subject matter experts through the consolidation of epidemiology reports and risk pathway analyses.

The SFS exercises were designed as educational activities and provided scenarios of avian influenza (AI) outbreaks in commercial poultry operations. Target audiences of an exercise were the groups involved in FAD control: animal agriculture industry members, animal health regulators, and diagnosticians. Groups of industry participants seated together at tables represented fictional poultry premises and were guided by a moderator to respond to an on-farm situation within a simulated outbreak. The impact of SFS exercises was evaluated through interviews with randomized participants and selected table moderators. Descriptive statistics and qualitative analyses were performed on interview feedback.

Eleven SFS exercises occurred between December 2016 and October 2017 in multiple regions of the US. Exercises were conducted as company-wide, state-wide, or regional trainings. Nine were based on highly pathogenic avian influenza (HPAI) outbreaks and two were of co-circulating HPAI and low pathogenic avian influenza outbreaks (LPAI). Poultry industry attendees interviewed (n=13) reported they found attending an SFS exercise useful. The most commonly stated benefits of participation were its value to people without prior outbreak experience and knowledge gained about Continuity of Business (COB) permitted movement. The SFS exercises utilized multiple education strategies to help attendees problem-solve and implement critical actions and to gain experience prior to future AI outbreaks.

MAKE A DIFFERENCE? MAKE AN IPM IMPACT GRAPHIC!

Miller, F.[1]; McCornack, Brian[2]; Johnson, Wendy[3]; Boyer, Cheryl[4]; Kennelly, Megan[5]; Cloyd, Raymond[6]; Hoyle, Jared[7]; Zukoff, Sarah[8]; Teeter, Allison[9]
[1]Pesticide Safety and IPM Coordinator, K-State Research & Extension, McPherson County, McPherson, KS, 67460
[2]Associate Professor, Department of Entomology, Manhattan, KS, 66506
[3]Extension Associate, Department of Entomology, Manhattan, KS, 66506
[4]Associate Professor of Nursery Crops, Department of Horticulture and Natural Resources, Manhattan, KS, 66506
[5]Professor, Horticultural Plant Pathology, Department of Plant Pathology, Manhattan, KS, 66506
[6]Professor, Ornamental Entomology, Department of Entomology, Manhattan, KS, 66506
[7]Turfgrass Extension Specialist, Department of Horticulture and Natural Resources, Manhattan, KS, 66506
[8]Assistant Professor,, Department of Entomology, Garden City, KS, 67846
[9]Evaluator, Office of Educational Innovation and Evaluation, Manhattan, KS, 66506

The multidisciplinary Kansas State University Integrated Pest Management team develops and delivers information to stakeholders through several online platforms and other technological enhancements as well as traditional face-to-face events and print materials. To understand project impact, we have used innovative evaluation strategies and graphical tools. For example, our evaluation team surveyed project leaders and stakeholders to define how these projects are increasing collaborations, including a social network analysis to depict where our work expands connections. The process included developing evaluation instruments, collecting data, and analyzing information in order to create graphic illustrations. We used maps to display project reach within Kansas and across the nation, based on program registrations (website and conference or meeting participation) and website analytics. We developed word clouds to highlight common themes among

our multidisciplinary activities. We used a timeline to clearly show project growth and development over several years. A short booklet was developed using these program impact data to share with administrative stakeholders who have decision-making capacity related to funding IPM program funding. Overall, the evaluation process, data analysis, and creation of these impact graphics are essential for relaying the importance of our united IPM efforts through the Extension Implementation Program.

IOWA STATE UNIVERSITY WOMEN IN AG LEADERSHIP CONFERENCE BUILDS CONFIDENCE

Schultz, M. M.[1]; Scarbrough, L.F.[2]; Hyde, C.J.[3]
[1]Program Manager, Women in Ag, Iowa State University Extension and Outreach, Ames, IA, 50011
[2]Communications Specialist, Women in Ag, Iowa State University Extension and Outreach, Ames, IA, 50011
[3]Graduate Student, Iowa State University, Ames, IA, 50011

Women have influential roles in Iowa's farms and agribusinesses. To support women's leadership, a 20-member advisory committee guided the new Iowa State University Extension and Outreach Women in Ag Leadership Conference in 2017. The committee's goals were to: 1) inspire women's leadership journeys, 2) give practical skills to use, 3) increases confidence, 4) give leadership resources, and 5) expand networks and friendships. Extension team members worked with the committee to design, organize and implement a conference that drew 200 attendees. Two to three learning objectives were developed for each session. The one and one-half day conference included a pre-conference campus tour, networking event, three intensive 3-hour workshops, Women Impacting Agriculture awards, four general session speakers or panels, and ten different concurrent sessions. An online survey was emailed to participants one day after the conference; this was completed by 118 women. Results indicated 90% 'agreed' or 'strongly agreed' the women-centered environment was important to them. On average for all sessions, 31% of respondents rated their knowledge as 'greatly expanded'. For the capstone address of "How Remarkable Women Lead with Confidence," 51% rated their knowledge as 'greatly expanded', the highest for any session. Nearly three-fourths of survey respondents indicated the conference 'moderately' or 'significantly' strengthened their leadership capacity by inspiring their leadership journey, giving them practical skills they can use, increasing their confidence, giving them leadership resources, and expanding their network and friendships. The results demonstrate the advisory committee is a key part of success, the focus on leadership networking was valuable, and the women-centered learning environment was important.

CODE RED A CONTINGENCY PLANNING TOOL FOR FARMS AND FAMILIES

Overstreet, B.[1]; Kelly Heckaman[2]
[1]EXTENSION EDUCATOR, PURDUE EXTENSION, JASPER COUNTY, RENSSELAER, IN, 47978-8589
[2]Extension Educator, Purdue Extension - Kosciusko County, Warsaw, IN, 46580

The Purdue Women in Agriculture Team developed the Code Red tool to meet the need for farm families to have one central location to collect critical business information required for day-to-day business operation. The need to know where to find information about the people in the business and their contacts is critical to farm operations and businesses alike. Code Red was developed as a spreadsheet based document to become the collection point of all critical information. In the event of a crisis, the business would now be able to continue with minimal disruptions because they could easily locate this information.

It has two main sections, Personal and Farm Business with 16 related sub categories. The Code Red document is designed to be easily modified and to be flexible to fit any business or agricultural operation's needs. Since the release of Code Red in February 2015 over 400 farm families have gone through Code Red Training with over 1300 flash drives distributed across the Indiana and Midwest and at least 90 down loads from our website. A recent survey of Code Red users showed 60% are using the tool for contingency planning and 40% as a form of communication. A Code Red user shares "I think it's something everyone should be using. There is so much going on with this business that when you lose key people this program will be a good resource to their knowledge loss."

GOAT ARTIFICIAL INSEMINATION WORKSHOP

Rodgers, E.[1]
[1]Agriculture and Natural Resource Extension Educator, Purdue Extension, Auburn, IN, 46706-2381

From 2012 to 2016, there has been an 11% increase in goat ownership in Northeast Indiana according to the National Agriculture Statistics Survey. While there is an increase in small animal ownership, not many people are able to afford the live bucks that are needed to help greatly improve their overall herd genetics. Artificial Insemination helps bridge that financial gap for many small farms by providing better genetics in the form of semen for a fraction of the cost of a live buck. One of the issues goat producers are running in to is the ability of finding an individual who can perform the A.I. services. Purdue Extension in DeKalb County hosted a 1-day Goat A.I. Workshop in August 2017. B&D Genetics from Cherry Valley, AR taught the ins and outs of A.I. to 23 youth and adult participants between classroom and live handling participation. As a result of this workshop, the 23 participants walked away feeling much more confident in their ability to

perform transvaginal artificial insemination on their own does, or others does (we had 2 vets in the audience). Eighty-five percent of the participants had never performed artificial insemination before this class. As a result of the class, 79% of the participants planned to perform A.I. within the next 3 months and an additional 10% within the next 6 months. Most participants said the workshop will greatly help them improve the genetic pool of their herd by increasing the potential for better bucks through semen instead of live cover. A follow-up survey will be completed by the end of April 2018 to gauge the success of A.I. for the participants in this first class.

MOOVING LEADERS FORWARD: INDIANA 4-H DAIRY YOUTH ACADEMY

Kelly, R.[1]; Heckaman, K.[2]; Schmitz, H.[3]; Rodenhuis, M[4]
[1]Extension Educator, Purdue Extension, Goshen, IN, 46528-6898
[2]Extension Educator, Purdue Extension, Warsaw, IN, 46580
[3]Extension Educator, Purdue Extension, Mt. Veron, IN, 47620
[4]Extension Educator, Purdue Extension, Brookville, IN, 47012

4-H Members live in a fast-paced world with the dairy industry changing more rapidly every day. Some 4-H members don't even have the opportunity to experience the everyday practices of the dairy industry. The Indiana 4-H Dairy Youth Academy is combating this issue by providing real world opportunities for high school students to learn about the dairy industry and develop life skills. The program consists of a series of hands-on workshops that focus on specific facets of the dairy industry, including veterinary science, dairy nutrition, reproduction, technology, and production management. As a team, participants develop presentations on a dairy-related topic to present at the Indiana 4-H Dairy Youth Conference. Participants learn how to develop cover letters and resumes, prepare for a job interview, and complete the Indiana 4-H Accomplishment scholarship. In the first six years, 75 youth have participated in the Academy. 90% of participants increased their knowledge of the dairy industry, 83% increased communication skills. One parent stated, "It introduced them to many citizenship ideas. i.e. filling out resumes and applications, etc. to proper etiquette, and proper ways to handle themselves in public and when meeting and making new contacts whether that be friends their age or someone who could be a future job contact."

STUDY TRIP YIELDS BEST PRACTICES FOR BEGINNING FARMS, LOCAL FOOD SYSTEMS

Medic, K.[1]
[1]Extension Educator, Purdue Extension, Columbus, IN, 47201-6965

In September 2016, a delegation of Purdue Extension Educators and Specialists - paired with qualified beginning farmers - embarked on a seven-day study tour of successful small farms in Vermont and Maine. Stops also included key organizations supporting startup farms as well as markets and restaurants providing outlets for the farms' products.

As the delegation went from farm to farm, tours and conversations with producers consistently raised points and issues that tend to face most – if not all – beginning farmers. Although each farm had it's own solutions to those common questions, it became possible to organize those matters into themes that illustrate a full range of issues and solutions potentially instructive to entry-level farmers in Indiana.

The farms we visited were typically:

- clear on why they were farming, and under what conditions they would stop.
- strategic about location and land acquisition.
- clear on source and amount of needed startup funding.
- executing a marketing plan that was thought-through and tied to location.
- intentional about scale.

Conversations with food co-ops, restaurants, and support organizations shed light on the consumer side of these mature local food systems as well. Finally, technical aspects of farm operation – crop and livestock rotation, weed and pest control, fertility, and on-farm sales lent further depth to the learning experience.

This presentation will provide a study trip overview, list key points of beginning-farmer decisions and examples of solutions, describe a support system consisting of universities, government agencies and NGO's, and highlight some market-end best practices.

VENISON WORKSHOP SERIES

Ferris, J.[1]; David Osborne[2]
[1]Extension Educator, PURDUE EXTENSION, RICHMOND, IN, 47374
[2]Extension Educator, Purdue Extension, 525 W Beech Street, Osgood, IN 47037, no state given,

Hunting is a way of life for many Indiana citizens, and well over 100,000 deer are harvested during hunting seasons annually in this state. Despite this, most hunters have little or no formal training in game processing or food safety, and often waste meat or risk serving meat that has not been properly handled to their family and friends. In response to this need, Purdue Extension Educators Dave Osborne and Jonathan Ferris developed a series of venison processing workshops that have been delivered across Indiana for 14 years. From 2004-2017, 50 programs have been delivered to over 3,150 participants from 85 of Indiana's 92 counties. In addition, eight abbreviated programs were conducted over two years at the Indiana State Fair with over 500 participants. During these seminars participants watch as a deer is butchered and cooked for them, and they also learn about deer health issues and proper packaging and storage of venison. Over 90% of participants annually report that they learn about food safety, plan to change how they process their deer, and are now able to make better use of their venison. Additionally, greater than 80% report each year that this was the first Purdue Extension program they have ever attended. The Indiana Department of Natural Resources partnered with them to upload a series of video clips from one of their programs which have garnered over 74,000 views in 6 years, and their program was also featured on "Indiana Outdoors Adventures", an outdoors television show. One participant at a program in 2013 reported in a survey afterwards "If this is how Purdue does outreach, then I am very impressed."

Award Winners

2018 NACAA
103rd
Annual Meeting
and
Professional Improvement Conference

Chattanooga, Tennessee

Agriculture Awareness and Appreciation Award

National Winner

Katie L Wantoch
Agriculture Agent Specializing in Economic Development
University of Wisconsin-Extension
Dunn County

Wantoch, K.L.*[1]
[1] Agriculture Agent Specializing in Economic Development, University of Wisconsin-Extension, Menomonie, WI, 54751

The non-farm population of the Chippewa Valley area in Wisconsin (Chippewa, Dunn and Eau Claire Counties) continues to increase, though farmers only represent less than five percent of the total population. Moreover needs assessments, one-on-one conversations and a focus group discussion on agriculture economic development indicated communication to consumers regarding agriculture be further developed and placed an emphasis on developing networks and collaborations to promote agriculture economic development.

Since 2010 I have taken an active role in educating local community members on modern agricultural practices as part of the annual Chippewa Valley Farm-City Day (CVFCD). CVFCD is an educational event which invites the public to a working farm. I have chaired the CVFCD planning committee for the past five years and coordinate this event with UW-Extension educators and agriculture professionals. CVFCD is a not-for-profit event that is supported by local donations and in-kind sponsorships.

I led the efforts in 2014 to expand CVFCD from a one-day event that was open to the public to include two days of on-farm agriculture educations for community members and local school children. Invitations are sent to elementary school students from Chippewa, Dunn and Eau Claire County schools to participate in a day-long event on a local farm. In 2017 the planning committee looked to expand the CVFCD event to ensure more schools could participate and pursued additional funding opportunities to provide for school bus funding. Almost 1,000 school children, teachers and chaperones participated in the Friday event and increased their knowledge of modern agricultural practices. On Saturday, 1,000 children and adults who visited the farm were provided agricultural education in a variety of venues.

Post-event evaluation of the teachers indicated CVFCD was able to change quite a bit of their students' perception of modern agriculture practices. One teacher commented, "*It was an eye opening experience for our kids. They talked about the experience for days. Thank you for including us in this event!*" A collaborative evaluation of the effectiveness of the CVFCD Saturday event found over 70 percent of respondents increased their understanding of milk production, machinery/equipment, animal care and land conservation.

National Finalists

Jennifer Rhodes
AGENT, AGRICULTURE & NATURAL RESOURCES
University of Maryland Extension
QUEEN ANNE'S

Rhodes, J.*[1], Johnston, C.*[2], Moyle, J.*[3], Richards, N.*[4], Dill, S*[5], Webster, D.*[6]
[1] AGENT, AGRICULTURE & NATURAL RESOURCES, University of Maryland Extension, Centreville, MD, 21617
[2] Agent, 4-H, University of Maryland Extension, Centreville, MD, 21617
[3] Agent, Poultry Specialist, University of Maryland Extension, Salisbury, MD, 21801
[4] Agent Associate, Agriculture, University of Maryland Extension, Chestertown, MD, 21620
[5] Agent, Agriculture & Natural Resources, University of Maryland Extension, Easton, MD, 21601
[6] Agent, Aquaculture Specialist, State of Maryland/ University of Maryland Extension, Queenstown, MD, 21657

As the population continues to become more removed from agriculture, educational programs need to be developed to help prevent misinformation and conflicts between farmers and consumers. Queen Anne's County is the largest producer of corn, wheat and soybeans in the state. These commodities feed the largest industry in Maryland, the poultry industry. The county has 326,000 acres with 155,000 acres in production agriculture and an average farm size of 296 acres. There are 48,904 residents in the county which includes 443 full-time farmers and 800 part-time farmers.

A coalition of educators, researchers, agencies, and grassroots organizations was formed to educate all seven hundred 7thgrade students in the county. Additionally, the Board of Education and school principals were interested in educating their students about the importance of agriculture and the many career opportunities it provides. These partners created an "Agriculture Awareness Day" targeting not only the students, but the teachers and parent chaperones. The students were excited to be out of the classroom and complete hands-on structured lessons, in which they could interact with farm animals, learn about grain, drones, technology, plants, oysters, bees and much more. This allowed students to better understand agriculture's importance in feeding the world, protecting their environment, and its role in their community, thus helping to dispel myths about of the industry. The students were educated about more than 235 careers related to agriculture, which opened their eyes to the agriculture career pathway before high school. This Agriculture Awareness Day helps to open the door for the students to join 4-H and FFA, which will encourage them to join other agriculture organizations after graduation. Finally, the students participated in a pre and post-test through

Google classroom to evaluate their overall comprehension and knowledge about the topics covered. Not only were the questions asked to evaluate their agricultural knowledge, but to also dispelled agricultural myths. Participants report increased knowledge of agriculture and careers in agriculture. Myths were dispelled. Since the first year was such a success with positive impacts, the committee decided to make this an annual event.

Minda Daughtry

Daughtry, M.*[1], Stone, W.C.*[2], Taylor, Z. R.*[3]
[1] Horticulture Agent, NCCE-Lee County, Sanford, NC, 27332
[2] County Director, NCCE-Lee County, Sanford, NC, 27332
[3] Agriculture Agent, NCCE-Lee County, Sanford, NC, 27332

From the earliest days of American agriculture, women have been a cornerstone of everyday farm life. Because of recent shifts toward globalization of markets and an increased focus on operational efficiency, production, and marketing; women are now more engaged than ever in the core business of agriculture as farm operators and strategic decision-makers.

According to the USDA, over the past 30 years the number of women-operated farms has more than doubled. In 2007, women operated 14 percent of all U.S. farms, up from 5 percent in 1978 with women-operated farms increasing in all sales classes, including farms with annual sales of $1 million or more.

And this is not just a national trend. More women have been emerging as movers and shakers right here in Lee County; taking important leadership roles in local agriculture by running their family farms, helping shape public policy, owning and operating small businesses and leading numerous agricultural organizations. Women play a prominent role across Lee County's agricultural industry, and their numbers along with their influence continue to grow.

"Reshaping the Landscape" presented a mosaic of stories illustrating what women contribute to the business of farming, the diverse roles they fill and the balancing act required when managing a complex blend of responsibilities. Many of the individuals profiled in this series are breaking stereotypes and illuminating the role of women in agriculture as a whole, strengthening and guiding the next generation of agricultural and community leaders.

Susan Kerr
WSU NW Regional Livestock and Dairy Extension Specialist
Washington State University
Northwestern Research and Extension Center

Kerr, S.*[1], Hinton-Vanvalkenberg, Kristen*[2], Avery, Lisa*[3]
[1] WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273
[2] Mount Vernon, WA, 98273

Washington Ag in the Classroom (WAIC) is a program devoted to increasing agricultural knowledge and literacy in students, teachers, and citizens throughout Washington State. It is funded solely through grants and donations from individuals, organizations, and businesses. To inform the public about agriculture using fact-based information about modern farms and practices, the nine-member volunteer advisory board and one part-time paid staff member conduct year-round, state-wide outreach. Activities include distribution of a free thrice-yearly educational newsletter; partnership with The Seattle Times to produce an annual Newspapers in Education (NIE) insert focusing on Washington agriculture; distribution of educational materials through a web site (www.waic.net); communication through social media; and sponsorship of agricultural literacy activities. In 2017, WAIC sent 22,857 "Ag@School" issues to 219 4th grade classrooms. Ag@School aligns with Washington Educational Standards in six subjects. The NIE insert is included in the Seattle Sunday Times published closest to Earth Day. The eight-page, full-color insert reaches the entire 1,200,103 Sunday Times readership and is sent to 1,110 teachers and 39,000 students in 642 locations and 156 school districts in the state. Additionally, 10,000 print copies are distributed throughout the state. NIE incorporates Educational Standards and aligns with Grade 6-8 Science Standards in Application and Life Science Ecosystems standards. WAIC's goal is to help teachers, especially those with little knowledge of agriculture, integrate the study of this vital industry into existing curricula so students and the public will understand, appreciate, and support agricultural enterprises and producers in the state.

State Winners

North Central Region

Michigan - Phil Kaatz

Ohio - Michael Estadt

Northeast Region

New York - Judith L Wright

Southern Region

Alabama - W. Kenneth "Ken" Kelley

Arkansas - Jennifer Caraway

Florida - Deanna Thompson

Kentucky - Bryce Roberts

Mississippi - Christine Coker

South Carolina - Mallory Dailey

Tennessee - Lindsay Stephenson Griffin & Jake Mallard

Texas - Michael R. Hiller

Virginia - Jennifer Ligon

West Region

New Mexico - Leigh Ann Marez

Excellence in 4-H Programming

National Winner

Wendy Becker
Agent
Montana State University
Fort Peck Reservation

ADVANCING YOUR MARKET LIVESTOCK PROJECT

Becker. W.*[1], Evenson, J.[2], Hennessy, J.[3]

[1]Extension Agent-Fort Peck Reservation, Montana State University, Poplar, MT, 59255

[2]Extension Agent-Richland County, Montana State University, Sidney, MT 59270

[3]Ag Agent, Mountrail County Ag Agency, Stanley, ND 58784

In Montana, market livestock projects are one of the most popular and rewarding projects. Youth are educated about several aspects of raising livestock, however, though meat science is a topic often neglected. When meat science is discussed, we educate about loin size, tenderness, and intermuscular fat, not the lesser valued cuts. This goal of this program is to improve comprehension of food value particularly in marginal cuts, and to demonstrate and educate on meat processing techniques. Based on Kolb's Experimental Learning Model, a hands-on approach was used for 4-H market livestock project enrollees, and non-traditional 4-H programs in the classroom. The program demonstrates parts of the carcass, examines food safety, teaches the meat processing sequence, and creates ground meat products that increase the value of animal protein products. In 2017, over 434 students, leaders, and adults participated in 19 programs. They learned various cuts of meat, muscle structure, recipe framework, food safety, equipment safety and packaging. Invaluable program outcomes have been student-learned decision making, math and communications skills, and pride in their projects. Before the program, only 1% had made fresh stuffed sausage, 22% had made jerky products, and 0% had made summer sausage and snack sticks. Students were also able to transfer the education into wild game ground meat production. From evaluations, 96% of attendees wanted to learn more about meat science and forms of sausage making, and 100% remembered the correct internal temperature for ground meat products important for food safety. People that have benefited include: Tribal Programs, 4-H programs, and teachers that are mandated to include *Indian Education for All* in their classrooms. The program has gained considerable recognition and local support has grown from the initial 4-H Innovative start-up Grant to be able to provide this program for free, creating a net savings of $200 per person.

National Finalists

Peter Coffey
AGENT ASSOCIATE
University of Maryland Extension
CARROLL COUNTY

Coffey, P.*[1], Ridgeway, B.*[2], Brown, V.*[3], Butler, B.*[4], Serio, T.*[5], Coddington, C.*[6]

[1] AGENT ASSOCIATE, University of Maryland Extension, Westminster, MD, 21157

[2] AGENT, University of Maryland Extension, Westminster, MD, 21157

[3] AGENT, University of Maryland Extension, Westminster, MD, 21157

[4] AGENT, University of Maryland Extension, Westminster, MD, 21157

[5] Agent Associate, University of Maryland Extension, Westminster, Md, 21157

[6] Agent Associate, University of Maryland Extension, Westminster, MD, 21157

STEM education is an integral part of primary school curriculum. AgVenture allows Extension to teach 4th graders about the connection between STEM and agriculture through experiential learning practices. Extension Educators developed hands-on activities around animals, plant/environmental sciences, and nutrition, while linking station-specific activities back to STEM standards. Community partnerships with local agricultural businesses and producers were created to support agriculture awareness to 4th grade students throughout the county. Pretests and posttests show a statistically significant change in STEM-related knowledge by students, while feedback from teachers demonstrates the educational value of the program. Through the evaluation students have shown an increase in basic agricultural knowledge gained taught through STEM practices. Because of these results, AgVenture has grown and now has a waiting list of interested schools. The success of the AgVenture program can be replicated in other Extension programs throughout Maryland and nationwide.

Augustus Holland
EXTENSION EDUCATOR, AG/4H
OKLAHOMA STATE
DELAWARE COUNTY

Holland, G.*[1], Johnson, Nancy*[2]
[1] EXTENSION EDUCATOR, AG/4H, OKLAHOMA STATE, Jay, OK, 74346
[2] Northeast District 4-H Program Specialist, Oklahoma State, Muskogee, Ok, 74401

The purpose of this educational program was to educate 4-H youth interested in reproduction/genetics. This was a unique opportunity that prevailed itself for Oklahoma youth at a state of the art genetics facility. We accomplished this task by working with Flying Cow Genetics' owner/veterinarian/geneticist, and staff to create an environment conducive to the greatest hands on experience that youth could possibly obtain while educating them on reproduction/genetics. They obtained knowledge and received information about possible career opportunities in the field of reproduction/genetics. We were able to utilize the knowledge and experience of those at the genetics facility as well as that of OSU's state and area specialists to make this opportunity as educational and engaging as possible. This was used as an educational program for youth, parents and OSU staff. The hands on training was made available to the first 30 youth who signed up from across the 77 counties in Oklahoma. This program has also been presented to 50 Ag agents and state specialist/department heads at the 2017 Oklahoma OAEAA meeting. It was also presented at the 2018 State Extension Conference which had over 300 people in attendance. The participants in this program gained knowledge through a hands on experience in beef cow genetics, cattle handling, vet client relationships, reproductive practices, and reproductive career opportunities.

John R. Allen
County Program Director
New Mexico State University
Socorro

Allen, J.R.*[1], Hodnett, Dr. Frank*[2], Jones, Lucille*[3]
[1] County Program Director, New Mexico State University, Socorro, NM, 87825
[2] Professor, Co-Instructor, Las Cruces, NM, 88001
[3] San Juan County Adult Volunteer Leader, Teaches Native American Food portion, Farmington, NM, 87401

The outdoor cooking track at the New Mexico 4-H Home Economics School couples life skill development along with STEM components of cooking foods outdoors. Started in 2012, Outdoor Cooking has seen an enrollment of 146 youth participants, 21 youth junior institutors and 20 adult volunteer leaders. This track highlights food safety, healthy eating habits, and cultural foods and explores old cooking technologies and innovative new outdoor cooking technologies. Youth master the use of chef's knifes, Dutch ovens, and discos. Youth prepare a lunch and dinner meal for around 225 people each year. Youth walk away feeling empowered with the knowledge and skill set needed to cook healthy meals for their families. Youth practice making both Native American foods while learning the importance and histories behind these foods. New Mexican foods are also explored, including the use of our favorite fruit the red and green chile. Youth learn all about food safety from the farm to the plate. The proper use of ice chests, the right cooking and holding temperatures, and how to serve foods are examples of how food safety is taught thought out the day. The outdoor cooking track also trains adult volunteer leaders in how to organize and deliver the program so they can return home and teach these concepts to the local 4-H clubs.

Regional Winners

Brandy VanDeWalle
EXT. EDUCATOR
UNIVERSITY OF NEBRASKA

Vandewalle, B.*[1]
[1] EXT. EDUCATOR, UNIVERSITY OF NEBRASKA, Geneva, NE, 68361

Nebraska Extension recognizes the vital role agricultural education instructors have in educating tomorrow's agricultural leaders; therefore it has conducted ten years of in-services for Nebraska high school agriculture educators. This annual program, Excellence in Ag Sciences Days offers teachers the opportunity to connect with University researchers, extension faculty and discuss the latest agricultural issues to obtain ideas and resources for use in the classroom. Since its inception, nearly 89% (n=139) of Nebraska agriculture teachers have participated in at least one year of the program, impacting over 7,000 students. Topics covered include: soil science, agricultural water management, water quality, landscaping, precision agriculture, sustainable agriculture, etc. Since 2011, over $200,000 in grant funds has supported this program which has provided teachers equipment, curriculum and classroom resources. In 2017, forty-four teachers participated in the annual event, which focused on pollinators, emerald ash borer and landscape design principles. Evaluations indicate that 86% of teachers plan to implement or expand their curriculum based on what they learned at the conference and 95% of participants agree they will attend Ag Sciences Day conference in the future. A one-year follow-up survey from the 2016 Ag Sciences Day indicated that 71% of participants adopted the content and used the equipment given. One teacher reported that, "It's allowed me to incorporate cutting edge technology to my lessons as well as introduce the latest research to my students" and another said, "Lessons have definitely become more hands on as it has required students to collect data and infer from it."

Bonnie C. Wells, DPM
Extension Agent II, Commercial Agriculture
UF/IFAS Extension
St. Johns

Wells, B.C.*[1], Crystal McCazzio*[2], Amy Hedstrom*[3], Geralyn Sachs*[4], Evelyn Fletcher*[5], Wendy Lynch*[6], Scott Chambers*[7]
[1] Extension Agent II, Commercial Agriculture, UF/IFAS Extension, St. Augustine, FL, 32092
[2] Extension Agent II, 4-H, UF/IFAS Extension Putnam County, East Palatka, FL, 32131
[3] Extension Agent I, 4-H, UF/IFAS Extension Flagler County, Bunnell, FL, 32110
[4] Extension Agent III, 4-H, UF/IFAS Extension St. Johns County, St. Augustine, FL, 32092
[5] Extension Agent I, Horticulture, UF/IFAS Extension Putnam County, East Palatka, FL, 32131
[6] Extension Agent II, FCS, UF/IFAS Extension Putnam County, East Palatka, FL, 32131
[7] Farm Manager, UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, 32145

The growing interest among consumers concerning the quality and source of their food, coupled with the shortage of youth agricultural professionals trained in Science, Technology, Engineering and Mathematics (STEM) has inspired the creation of the Tri-County 4-H Potato Project. The project is a collaboration between UF/IFAS Extension agents in the Tri-County Area (St. Johns, Putnam, Flagler), the leading potato production area of Florida. The objective of the Tri-County 4-H Potato Project is to provide hands on, science-based learning experiences that will increase youth's STEM knowledge, raise awareness of the agriculture industry, and provide workforce readiness life skills. Extension 4-H, commercial agriculture, horticulture and family and consumer sciences agents held interactive field days at the UF/IFAS Hastings Agricultural Extension Center's Cowpen farm that focused on all aspects of commercial potato production. Youth and their families were given opportunities to gain knowledge through hands-on educational stations pertaining to potato planting, integrated pest management, harvesting practices, food safety, nutrition, marketing, community service and careers in agriculture. Since its creation in 2015, more than 361 youth and their families have participated in the Tri-County 4-H Potato Project. Youth surveyed (N=194) self-reported that 74% gained an understanding of the potato industry, 81% gained an awareness of the challenges facing the potato industry, 85% gained an understanding of STEM in agriculture, while 85% gained an awareness of careers in agriculture. Ultimately, the goal of this project is to inspire and enhance youth interest in agriculturally related careers which require STEM trained professionals to face the challenge of making agriculture more efficient and productive in Florida and beyond.

Keith Center
Elliott Co. ANR
University of Kentucky
Elliott

Center, K.*[1]
[1] Elliott Co. ANR, University of Kentucky, Sandy Hook, KY, 41141

The Elliott County 4-H Shooting Sports program participated with the Morgan County program from 2000-2015. During the 2014-2015 FY the clubs dispersed and Elliott County started their own program. From July 1, 2015 through July 1, 2017 the 4-H Position was vacant in Elliott County. During the 2015-2016 FY the program developed by-laws and a youth club. On June 4, 2016 the program hosted their first Invitational Shoot that consisted of eight counties. One hundred thirty-one youth participated in the event. On October 22, 2016 the program hosted their first Invitational Pheasant Hunt where twenty-three youth and twenty-four adult volunteers participated. On June 3, 2017 the program hosted their second Invitational Shoot that consisted of 168 youth from 10 counties that participated in 237 events. Coaches are certified in trap, .22 rifle, black powder, pistol and archery. The program currently has one volunteer who represents the state as a rifle instructor and one youth that represents District 1 as a Kentucky 4-H Shooting Sports Teen Ambassador. In March of 2017 the club suffered the loss of a trap machine and due to numerous fundraisers purchased a new ATA-280 Trap Machine for $2,950.00. During the 2017 program year CEA for ANR applied for a grant through the NRA Foundation for supplies and the grant was rewarded on April 7, 2017 and totaled $3,406.79. The program is not just about learning to shoot, it's about learning discipline, respect, team-work and an appreciation of firearms and bows and arrows.

Lauren Langley
Livestock Extension Agent
North Carolina Cooperative Extension
Alamance

Langley, L.*[1]
[1] Livestock Extension Agent, North Carolina Cooperative Extension, Burlington, NC, 27217

Alamance County is home to a population of 159,688 where 22.6% are under the age of 18 (The United State Census Bureau QuickFacts, 2016 Estimates). The county is largely rural but only about 28.6% of the population lives there, while 71.4% live in the urban areas (Access NC). With a growing population comes a need for more 4-H youth programming to take place, especially as it relates to livestock and agriculture. This is due to the fact that the average American is now at least three generations removed from the farm (American Farm Bureau Federation). In response to this growing need and a lack of organized youth livestock opportunities, the 4-H youth

livestock program was created in September of 2013. The program is designed to educate youth ages 9-18 about beef cattle, meat goats, sheep, and swine through livestock judging, skillathon, quiz bowl, and other related activities. Some of these youth come from a farming background, and some do not. The program has a great mixture of males and females, diverse backgrounds, homeschool and traditional school, and ages. Youth participate in monthly practices and compete at three contests annually. As a result of the 4-H youth livestock program, 93% of youth stated that they learned about breeds, feeds, equipment, basic anatomy, meat cuts, basic facts, selection criteria for judging, livestock judging terms, public speaking, and working with others. Youth have also shown success in livestock judging, skillathon, and quiz bowl contests.

Joshua Dallin
Extension Faculty- Box Elder County
Utah State University
Brigham City

Dallin, J.*[1]
[1] Extension Faculty- Box Elder County, Utah State University, Bri, UT, 84302

Evolution in programming is key in today's world of 4-H positive youth development and leadership. While much of the world has turned to tech and gadgets, the Utah 4-H Horse Program chose to return to the roots of hands-on 4-H learning and leadership through a new program partnership with the Bureau of Land Management. This program began a new youth leadership opportunity between 4-H youth clubs and a wild mustang. Just the youth, a lead rope, a mustang, time, patience frustration, growth, and success. 4-H Youth work through club leadership models to accomplish the scheduled training and care of the mustangs. Mustangs are then showcased and offered for adoption. This project is a win-win, youth find new avenues for leadership and development and mustangs find new adoption homes. Today's youth leaders are making a difference of change through the Utah 4-H Mustang Challenge.

State Winners

North Central Region

Kansas - Jake W. Renner

Southern Region

Alabama - Danny B. Mcwilliams, Jr. and Leslie M. Goins

Arkansas - Rachel Bearden

Tennessee - Thomas Greenlee

Texas - Michael R. Hiller

Search for Excellence in Crop Production

National Winner

Shelley Mills
Agricultural Extension Agent
MSU
Valley

NARROW-LEAF HAWKSBEARD *(CREPIS TECTORUM)* **- MANAGING A NEW INVASIVE WEED IN MONTANA**

Mills,* S.L.[1]

[1]Agricultural Extension Agent – Valley County, Montana State University, Glasgow, MT 59230

Narrow-leaf hawksbeard (*Crepis tectorum* L.), is a winter annual that is highly adaptive and increasingly difficult to control in northeastern Montana. Widespread use of no-till and various conservation tillage techniques, in addition to, continuous cropping, increased precipitation, and Conservation Reserve Program (CRP) acres are believed to have advanced the spread of this weed. Narrow-leaf hawksbeard reduces crop yields and decreases forage quality if not properly managed. Over the last two years agronomists have reported an 82% increase in hawksbeard treatment requests from producers. Little research was available about hawksbeard management until recently. Based on the research findings, best management practices have been established and were presented at 23 Extension meetings, attended by 648 producers over a two year period. Program evaluation indicated 92% of the participants incorporated management strategies discussed during the workshops. Narrow-leaf hawksbeard has impacted 58% of cropland with 16% high risk infestation based on grower survey responses. Producers stated an increased level of confidence in their ability to identify the plant and select herbicides for hawksbeard management. Without the management techniques taught by Extension, growers estimated an average loss of $63 per acre which represents a total of $6,127,000 in potential lost revenue to hawksbeard.

National Finalists

Ashley McFarland
Extension Educator
Michigan State University
Upper Peninsula Research and Extension Center

McFarland, A.A.*[1], Lizotte, E.M.*[2], Sirrine, J.R.*[3]
[1] Extension Educator, Michigan State University, Chatham, MI, 49816
[2] Extension Educator, Michigan State University Extension, Cadillac, MI, 49601
[3] Extension Educator, Michigan State University Extension, Suttons Bay, MI, 49682

The Great Lakes Hop and Barley Conference was developed in 2015 in order to pool resources and streamline outreach activities serving the emerging hop and barley industries in Michigan. Program developers anticipated great synergy by bringing these two crops together for a two-day program that would also attract professionals in the craft beer industry. Michigan State University Extension and AgBioResearch staff, in cooperation with the Michigan Brewers Guild, rotate the annual conference throughout the state to deliver timely and relevant crop production information to growers and provide time for networking opportunities to strengthen business relationships. The primary educational objectives for the attendees are to increase knowledge on the best management practices for hop and barley production, best industry practices for the processing of those products, and business skills to effectively market their product to craft brewers. Educational content is delivered through traditional-style PowerPoint presentations in content-focused tracks and the agenda also includes plenary sessions when appropriate. Networking opportunities are abundant at the trade-show, the grower-buyer dinner, and at industry tours, which have featured farms, processors, and end-users. Since 2015, over 1,000 participants have attended the conference representing more than 20 states and Canadian provinces. Evaluation of conference participants each year have shown an increase in implementation of best management practices including using MSU resources online (81%), accessing MSU research outputs (75%), testing soil or tissue to make nutrient management decisions (70%), scouting for pest insects and diseases (70%), improving weed control strategies (69%), among other indicators. In addition, 66% of the attendees from 2017 stated they were either going to start or expand hop or barley production on their farm, with another 41% stating they were now looking into processing those raw ingredients. Sixty percent of participants also said they established new business contacts while they were at the event. The Great Lakes Hop and Barley Conference has established itself as the Midwest's premier craft beer ingredient event through the delivery of timely, relevant, and research-based information to the hop and barley industries throughout the Great Lakes region.

Stephen John Komar, Jr.
Agricultural Agent

Bamka, W.J.*[1], Komar, Jr., S.J.*[2], Infante Casella*[3], Schilling, B.J.*[4], Simon J.*[5], Muehlbauer, M.F.*[6]
[1] Extension Agent, Rutgers Cooperative Extension, Westampton, NJ, 08060
[2] Agricultural Agent, , Milford, PA, 18337
[3] Extension Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312
[4] Extension Specialist, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[5] Extension Specialist, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[6] Extension Agent, Rutgers Cooperative Extension, Flemington, nj, 08822

A faculty team from Rutgers Cooperative Extension developed programming to provide Extension clientele educational resources regarding niche crop opportunities to support the rapidly expanding craft brewery and distillery industries. The program emphasis was to determine both agronomic and economic feasibility of malting barley and hops production in NJ. The overall program goal is to assist with the development of a new market for NJ Farmers. A two tiered delivery method was utilized for this program consisting of; 1) research trials and field demonstrations and, 2) educational program delivery. Program components were developed in response to needs assessment activities conducted by the team. These components were delivered through various educational programmatic efforts; including classroom presentations, field tours, fact sheets, web-based and social media platforms, and laboratory assessments. More than 400 producers attended educational programs conducted during 2016-2017. Respondents to assessment surveys rated the programs very effective, with 86% reporting increased knowledge gained and 83% reporting the intent to utilize the information in their operation. Social media delivery was very effective with an RU Brew Facebook Page reporting a total of 2,866 individuals and 35 followers of the page. Growers have increasingly utilized the laboratory service with over 50 samples submitted for analysis. The program was featured in a regional brewery industry periodical published for northeastern brewers.

Andrew D Frankenfield
Agricultural Educator
Penn State Extension
Montgomery

Frankenfield, A.D.*[1], Miller, Dwane L.*[2], Hall, Marvin H.*[3], Williamson, Jessica A.*[4]
[1] Agricultural Educator, Penn State Extension, Collegeville, PA, 19426
[2] Agricultural Educator, Penn State Extension, Pottsville, PA, 17901
[3] Professor of Forage Management, Penn State Extension,

University Park, PA, 16802
[4] Extension Forage Specialist, Penn State Extension, University Park, PA, 16802

Pennsylvania produces 4,393,00 tons of hay and haylage valued at over $1 billion dollars on 1,620,000 acres. All of the efforts that go into producing high-quality forages can be nullified if the crop is not harvested and stored properly. The educational objective was to establish an educational meeting focusing on hay production in four locations annually across Pennsylvania. Emphasis was on practices that farmers could use to improve hay quality and yield on their farms. The Penn State Extension Hay Workshops were developed by Field Crops and Forages Educuators Andrew Frankenfield and Dwane Miller. The workshops are coordinated and delivered in conjunction with the local Extension Educator and State Forage Specialist (Dr. Marvin Hall and now Dr. Jessica Williamson). The agenda has evolved somewhat over the years but its current focus is on soil fertility, weed control, minimizing dry matter losses, reducing drying time, bailage, cost of production, bale handling, forage testing and marketing. The hay workshops began in 2014 with a target of four workshops offered annually totaling 14 to date. Locations are selected strategically to coincide with high forage production areas of the state. Since 2015, 12 workshops were conducted with over 300 participants total in attendance. 95% of participants expect to increase profitability per acre as a result of attending the program with an average of $1,152 per producer. For the group of 60 participants surveyed in 2016 there is a potential savings of 910 tons of hay valued at $204,750 in lost yield. Participants were surveyed after the classes, and 83% indicated their knowledge increased a moderate amount or a great deal.

State Winners

North Central Region

Kansas - Josh Coltrain

Southern Region

Arkansas - Allison Howell

Florida - Lauren Butler

Kentucky - Curtis L Dame

North Carolina - Becky Spearman

Tennessee - Jason de Koff

Texas - Shane Mclellan

Search for Excellence in Farm and Ranch Financial Management

National Winner

Madeline Margaret Schultz
Women in Ag Program Manager
Iowa State University Extension and Outreach
Ames

Schultz, M.M.*[1], Brown, C.*[2], Drollette, R.*[3], Eggers, T.*[4], Ellis, S.*[5], Johnson, S.*[6], Leibold, K.*[7], ORourke, M.*[8], Scarbrough, L. F.*[9], Wright, G.*[10]
[1] Program Manager I, Women in Agriculture, Iowa State University Extension and Outreach, Ames, IA, 50011
[2] Farm Management Specialist, Iowa State University Extension and Outreach, Oskaloosa, IA, 52577
[3] Farm Management Specialist, Iowa State University Extension and Outreach, Iowa City, IA, 52246
[4] Farm Management Specialist, Iowa State University Extension and Outreach, Clarinda, IA, 51632
[5] Farm Management Specialist, Iowa State University Extension and Outreach, Carroll, IA, 51401
[6] Farm Management Specialist, Iowa State University Extension and Outreach, Altoona, IA, 50009
[7] Farm Management Specialist, Iowa State University Extension and Outreach, Iowa Falls, IA, 50126
[8] Farm Management Specialist, Iowa State University Extension and Outreach, Decorah, IA, 52101
[9] Communications Specialist, Iowa State University Extension and Outreach, Ames, IA, 50011
[10] Farm Management Specialist, Iowa State University Extension and Outreach, Sioux City, IA, 51106

The educational objective of Managing for Today and Tomorrow curriculum is to encourage women to combine business, estate, retirement and succession planning to form an overall transition plan to move farm businesses from one generation to the next. The Iowa farm management team recently delivered five 15-hour courses through a series of weekly 3-hour classes. Transformational education practices include multi-session, small-group, locally-led courses. Woman to woman learning, hands-on activities, confidence-building, and access to resources helped participants solidify concepts. Pre- and post-course surveys assessed knowledge gains and actions taken. Iowa women validated the training methods; 89% 'agreed' or 'strongly agreed' the courses encouraged learning from other participants as well as speakers. Survey respondents listed estate planning concepts and tools, goal setting, and financial statement basics as the top three most valuable topics. Pre- and post-course results indicated statistically

significant knowledge gains for each planning task: business, estate, retirement and succession. Responses indicated women had taken actions in all four planning areas during the course; especially succession planning. As evidence of learning: 9% of pre-course survey respondents knew 'quite a bit' or were 'completely familiar' with "fair" and "equal" distribution of assets and management, while 78% of post-course survey respondents knew this. As evidence of actions taken: 39% of pre-course survey respondents 'completed' or were 'in progress' of preparing a business plan, while 89% of post-course survey respondents had/were doing this. Participants strengthened their understanding of the responsibilities by all generations to manage effective transitions through business, estate, retirement and succession planning. The courses helped farm women, and by association their families/partners, to accept transition planning as normal, necessary, and doable. With training and support from the Iowa farm management team, women took important actions to guide families/partners towards successful generational transitions. These actions can improve agriculture sustainability and food security by enhancing rural lifestyle satisfaction, maintaining family farmers on the land, and diverting the sale and disassembly of farm businesses. By collaborating with extension educators in other states and sharing local and online curriculum nationally, the Iowa team expanded the reach of this work exponentially.

National Finalists

Eric A. Richer
Assistant Professor
Ohio State University Extension
Fulton County

Richer, E.A.*[1], Lewandowski, R.*[2], Custer, S.*[3], Shoemaker, D.E.*[4], Martin, C.A.*[5], Adams, E.G.*[6]
[1] Extension Educator, Ohio State University Extension, Wauseon, OH, 43567
[2] Extension Educator, Ohio State University Extension, Wooster, OH, 44691
[3] Extension Educator, Ohio State University Extension, Greenville, OH, 45331
[4] Associate Professor, Ohio State University Extension, Canfield, OH, 44406
[5] Extension Educator, Ohio State University Extension, Zanesville, OH, 43701
[6] Extension Educator, Ohio State University Extension, Coshocton, OH, 43812

This Search for Excellence in Farm and Ranch Financial Management application is for the efforts of Extension educators in multiple counties who provided leadership to Ohio State University Extension Farm Management Schools across the state from 2016-2018.

After the agricultural boom in the Corn Belt during 2006-2015, ensuring farm profitability has again come to the forefront of commodity agricultural production. Those new or young producers who began farming during those years had little difficulty achieving farm financial success. Yet after that boom, many new and young producers had not learned key financial management strategies and, in some cases, mid-career farmers had become financially complacent. Over the past three years, educators in four Ohio county-areas have coordinated a standardized Farm Management School curriculum to address these needs.

Participants in these schools learned key business planning strategies (mission, budgeting, marketing, benchmarking), record keeping (balance sheets, accrual adjustments, enterprise analysis/cost of production) and risk management tools (transition planning, agricultural law, crop insurance and diversification). The schools challenged farm managers to complete crucial farm management records and critically evaluate the strategies they were using to manage their farm into the next generation. To date, nine Farm Management Schools in four county locations have reached 224 agricultural producers across nearly 40 counties in Ohio, Indiana and Michigan. Exit surveys reported over half (54%) of the participants had completed mission statements, 62% had completed a more accurate balance sheet and 38% had calculated their true cost of production.

W. Kenneth "Ken" Kelley
Regional Extension Agent
Alabama Cooperative Extension System

Kelley, W.K.*[1], Tucker, J. Kevan*[2], Goodrich, Brittney K*[3], Colquitt, Ricky W.*[4], Mullenix, Kimberly C.*[5], Wiggins, Anthony G.*[6], Kriese-Anderson, Lisa A.*[7], Runge, Max W.*[8]
[1] Regional Extension Agent, Alabama Cooperative Extension System, Brewton, AL, 36426
[2] County Extension Coordinator, Alabama Cooperative Extension System, Grove Hill, AL, 36451
[3] Ag Economics Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849
[4] County Extension Coordinator, Alabama Cooperative Extension System, Columbiana, AL, 35051
[5] Extension Specialist - Animal Science, Alabama Cooperative Extension System, Auburn University, AL, 36849
[6] County Extension Coordinator, Alabama Cooperative Extension System, Brewton, AL, 36426
[7] Extension Specialist & Professor, Alabama Cooperative Extension System, Auburn University, AL, 36849
[8] Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

In 2016, beef cattle sales in Alabama were over $450 million dollars, representing one of the largest agricultural industries in the state of Alabama. Most cattle producers in Alabama have cow-calf operations that produce calves to be sold as stockers or directly to feedlots in the Midwest. Female calves typically receive lower prices than comparable male calves (steers) when sold as feeder cattle. Marketing bred heifers could

bring per-calf profits that would be close to or higher than steers in their cohort. In addition, replacement heifer prices likely do not vary as much as feeder calf prices, potentially providing insurance during beef cattle market fluctuations. Due to the lack of an established market for bred heifers in Alabama, Alabama Cooperative Extension System (ACES) agents worked alongside producers to develop and implement an annual sale that would facilitate such a marketing strategy. The first "Herdbuilder Replacement Female Sale" was held in August 1998 and has continued for 19 consecutive years. Sale results data from the Herdbuilder sale from 2008-2016 was analyzed to develop a program which would help further inform current and past participants on how to improve their heifer marketing strategies. The program included classroom analysis of data, discussion with producers and Extension educators on strategies to better meet consumer demands (as indicated by the data analysis), and hands-on training on heifer selection to meet data-driven consumer expectations.

Steven Nyberg Harrison,
Extension Educator
University of Idaho
Bear Lake County

Harrison, S.N.*[1], Eborn, B.M.*[2], Findlay, J.R.*[3], Hines, S.*[4], Hogge, J.M.*[5], Nunn, L.G.*[6], Packham, J.H.*[7], Willmore, C.*[8]
[1] Extension Educator, University of Idaho, Montpelier, ID, 83254
[2] University of Idaho area Economists, University of Idaho, Montpelier, ID, 83254
[3] University of Idaho Extension Educator, University of Idaho, Blackfoot, ID, 83221
[4] University of Idaho Extension Educator, University of Idaho, Jerome, ID, 83338
[5] University of Idaho Area Cereals Extension Educator, University of Idaho, Rexburg, ID, 83440
[6] University of Idaho Extension Educator, University of Idaho, Montpelier, ID, 83254
[7] University of Idaho Extension Educator, University of Idaho, Burley, ID, 83318
[8] University of Idaho Extension Educator, University of Idaho, Shoshone, ID, 83352

IDAHO FARMERS & RANCHERS PUT FINANCIAL MANAGEMENT TOOLS TO WORK

The purpose of this educational program was to increase the management skills and the individual profitability of Idaho farm and ranch producers. Agriculture is an inherently risky business. With volatile commodity markets and rising input prices, Idaho farm and ranch families are caught in a cost-price squeeze. As price takers, it can be difficult for them to establish or maintain an economically sustainable business operation that can be passed to the next generation. Idaho farmers and ranchers need access to up-to-date farm management information and tools that will help them identify financial problems, evaluate alternatives, and develop a viable business plan with accurate financial statements. In an effort to help Idaho farm and ranch families increase profitability and management efficiency, University of Idaho Extension Educators have provided in-depth Farm and Ranch Management classes and workshops throughout Idaho. The trainings targeted established operations as well as beginning farmers and ranchers. The objectives of the program were to help producers set goals, inventory resources, establish costs of production, monitor performance, efficiently market their products and improve profitability. Some of the topics covered in the trainings include: Developing financial statements, financial analysis, machine costs, enterprise budgets, employee compensation, strategic goals and mission statements, marketing using futures and options, estate panning and cash flow budgets. Participants are also introduced to several business management tools including the University of Idaho's crop and livestock enterprise budget worksheets, a machine cost calculator, an employee compensation worksheet, and the FINPACK financial planning and analysis program. The educational activities reached 820 producers across Idaho. These producers indicated that they not only increased their knowledge but would actually change the way they managed their farm and ranch businesses.

Regional Winner

Rachel Bearden
CEA - Agriculture
UofA Division of Agriculture Research & Extension
Hot Spring

Bearden, R.*[1]
[1] CEA - Agriculture, UofA Division of Agriculture Research & Extension, Malvern, AR, 72104

Many people say "it takes money, to make money," but if someone is trying to get started, trying to make money can be an overwhelming task. Several people walk blindly into loans, trying to buy land, equipment, cattle, etc. without taking the time to explore the resources around them or learn how to balance a budget to justify expenditures. Financial Management for beginning farmers targeted this exact problem. In a four hour session, producers were exposed to the loan process, the fundamentals of buying new versus used equipment, federal programs through USDA Farm Service Agency and Natural Resource Conservation Service, and introduced to operation budgets. The class was taught in a classroom setting through PowerPoint presentations, Round Table Discussions, and hands on budget exercise. Community partners were essential to the success of this program. It was important for producers to hear information from the same faces they will be facing when they go in to apply for loans, programs or are shopping for equipment. This class was evaluated through a Turning

Point evaluation. 78% of producers reported planning on taking advantage of the programs that were presented and 94% of producers reported their knowledge of the budgeting process increased. This was a very effective program for our new producers to get an introduction to financial management.

State Winners

Southern Region

Florida - Christa L. Kirby

Virginia - Jennifer Ligon

Search for Excellence in Farm Health and Safety

National Winner

Will Stallard
Agent for Agriculture & Natural Resources
University of Kentucky Cooperative Extension Service
Lincoln County

Stallard, W.*[1], Reed, D.*[2], Legault, E.*[3], Swoape, A.S.*[4]
[1] Agent for Agriculture & Natural Resources, University of Kentucky Cooperative Extension Service, Stanford, KY, 40484
[2] Professor, University of Kentucky College of Nursing, Lexington, KY, 40536
[3] Tennessee AgrAbility/Area Specialist II, University of Tennessee Extension, Knoxville, TN, 37919
[4] Extension Agent III, University of Tennessee Extension, Sparta, TN, 38583

According to the CDC, senior farmers accounted for over half of all farming deaths between 1992 and 2004, with a fatality rate four times that of younger farmers. Extension partnered with the University of Kentucky College of Nursing to test the efficacy of a novel intervention, didactic readers theatre, focused on health and safety of farmers ages 45 and over. This program, funded by NIOSH and developed by agricultural nurse Dr. Deborah Reed, debuted in Kentucky and Tennessee, and has reached over 600 participants in eight sites. Extension agents (FCS and AG) worked to make the theatre a special event for the farm community, complete with choreography and table decorations. A meal using locally sourced food was provided. Local farmers and their spouses were the actors. Scripts, written by the agricultural health nurse, reflected the farmers' lives but also included the leading health and injury challenges faced by aging farmers. We invited couples in order to create dialogue that would initiate change. Between acts the nurse lead a discussion with the audience on what happened in the act and how the audience has handled similar situations. Data was collected via phone interviews two weeks and again two months post theatre to learn about response. The event itself was rated as highly realistic and applicable to farm life. At two weeks, 52.6 % had made changes, at two months 59.1% related they had made changes since the two week period. Examples of changes included: purchasing a cabbed tractor, instituting a communication plan, installing fall protection on silos, stress reduction techniques (vacation, exercise, a night out), using hearing protection, skin examination, focusing on single task, taking rest breaks, and improving work areas. Participants told us, "It was your story but it wasn't. It helps you to talk about difficult issues that you couldn't talk about before. … "When you hear your friends and neighbors doing it (making changes) it gives you permission to do it too. " The theatre is now being used in other programs and toolkits will be available soon.

National Finalists

Michelle Infante-Casella
Agricultural Agent/Associate Professor
RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION
GLOUCESTER

Infante-Casella, M.*[1], William Bamka*[2], Brian Schilling*[3], Stephen Komar*[4], Meredith Melendez*[5]
[1] Agricultural Agent/Associate Professor, RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION, Clayton, NJ, 08312
[2] Agricultural Agent, Rutgers Cooperative Extension of Burlington County, Westampton, NJ, 08060
[3] Extension Specialist in Agricultural Policy, Rutgers New Jersey Agricultural Experiment Station, New Brunswick, NJ, 08901
[4] Agricultural Agent, Rutgers Cooperative Extension of Sussex County, Newton, NJ, 07860
[5] Agricultural Agent, Rutgers Cooperative Extension of Mercer County, Trenton, NJ, 08648

As more farmers engage in direct sales to the public or agritourism, educational and outreach assistance related to visitor farm safety, risk management, liability strategies, food safety and regulatory compliance are demanded from cooperative extension and other agricultural service providers. To respond to these clientele needs, a Rutgers team of 4 agricultural agents and 1 extension specialist developed a program with educational objectives to train extension personnel, agricultural service providers and farmers to gain experience in evaluating farms with on-farm direct marketing and/or agritourism operations for farm safety and risk management. A leadership team from Rutgers Cooperative Extension included Agricultural Agents Michelle Infante-Casella (Gloucester County), William Bamka (Burlington County), Stephen Komar (Sussex County), Meredith Melendez (Mercer County), and Extension Specialist in Agricultural Policy, Brian Schilling. The team conducted

11 on-farm training events at farms with on-farm direct marketing or agritourism to provide professional improvement training for visitor farm safety and SWOT (strength, weakness, opportunity and threat) analysis for risk management. The team also developed 2 websites, created 8 educational tools, wrote 22 publications (fact sheets and proceedings articles), and provided 22 presentations for farmers and agricultural service providers. Through this comprehensive program for on-farm direct marketing and agritourism safety and risk management program, 55 extension and agricultural service providers were trained and 11 farms received on-site risk management and safety evaluations. The leadership team presented educational information to more than 1,050 farmers with on-farm direct marketing and agritourism enterprises in New Jersey and the broader Mid-Atlantic Region. The overall program was a successful extension effort to educate others on ways to evaluate and improve farm safety and risk management for on-farm direct marketing and agritourism.

Keith Wynn
Extension Agent II
University of Florida
Hamilton County Extension

Wynn, K*[1], Vann, C.*[2]
[1] Extension Agent, UF/IFAS Hamilton County Extension, NACAA, JASPER, Fl, 32052
[2] Extension Agent, UF/IFAS Lafayette County Extension, , Mayo, FL, 32066

Each year in the North Florida area, agronomic production meetings are held to assist producers in adopting the appropriate pesticide management and crop production strategies necessary to promote sustainability in the Suwannee River Valley. Exit evaluations at these meetings suggested the need to incorporate pesticide safety training to encourage personal safety and provide the continuing educational units, required by Florida Department of Agriculture and Consumer Services (FDACS), for producers to remain certified to purchase and apply restricted use pesticides. In 2012, pesticide safety trainings were incorporated into each of the production meetings offered in Hamilton and Lafayette Counties. **Objectives:** (1) To provide pesticide safety training to agronomic producers. These producers will adopt appropriate record keeping methods, prevent resistance build up and off-target movement, prevent non-target toxic effects to humans and the environment, and incorporate safe pesticide handling practices. (2) To provide mandatory continuing educational units (CEUs) to producers with a restricted use pesticide (RUP) license. Producers with a private RUP license will receive the mandatory 4 core CEUs and 4 private CEUs during each 4 year recertification period. **Methods:** Pesticide safety training was incorporated into each of the production meetings offered in Hamilton and Lafayette Counties. Collaboration among Extension Specialists, Extension agents, Florida Department of Agriculture and Consumer Services, Division of Agricultural Environmental Services Specialists, and local agricultural chemical companies created a venue for expertise and information exchange regarding appropriate pesticide selection and appropriate procedures to safely incorporate them into a producer's pest management system. **Results:** Pesticide training offered during production meetings have impacted over 1,600 attendees during the past 7 years. Of these attendees, 532 have received 568 core CEUs and 1,132 attendees have received 1,998 private CEUs. **Conclusions:** Producers have attained information on relevant pesticide use policies, pesticide safety, and implementation. They have adopted record keeping systems, pesticide resistance management practices, created appropriate pesticide storage areas, are calibrating application equipment, practicing safe disposal of pesticide carryover, and have acquired all required personal protective equipment.

Travis E Birdsell
Extension Agent, Agriculture
NC Cooperative Extension

Birdsell, T.E.*[1]
[1] Extension Agent, Agriculture, NC Cooperative Extension, Jefferson, NC, 28640

Ashe County is the largest Christmas tree producing county in the nation, with over 14,000 acres in production. The industry relies on a predominantly Spanish-speaking workforce. Farmworkers and employers often speak different languages, and farmworkers have limited literacy in Spanish or English. In developing farmworker safety programs, attention to cultural differences and language barriers must be incorporated into the training. Farmers and farmworkers must be provided with training to keep up with changing regulation.

In winter and spring of 2016 a team of stakeholders, led by the Ashe County Agriculture Extension Agent, planned a station-based educational program to cover industry-specific best farm health and safety practices including: backpack sprayer maintenance, pesticide safety, chainsaw safety, baler/elevator/palletizer safety, shearing safety, plant ID and animal safety, home sanitation and safe practices, NC traffic and civil laws/cultural interaction, tractor rollover and PTO safety, and health screenings. In June of 2016, 275 individuals from 6 counties attended the safety training and 225 of those were Latino farmworkers. All stations had approved translators and translators were also available to help fill out evaluations. 121 participants completed evaluations. 100% of participants showed an increase in knowledge with 89% increasing knowledge from very low/low/moderate to high or very high. All attendees received certificates that meet Department of Labor safety training requirements.

In addition to the Farmworker Safety Day, NC Cooperative Extension Ashe Center provides Worker Protection Standards training, pesticide safety information translated into Spanish.

In 2017 Extension began offering train the trainer programs for respirator fit testing education as well as providing respirator fit testing days. Twenty four participants received certification to conduct respirator fit tests. One hundred twenty-six individuals were properly fit tested and recommended proper fitting respirators. Follow-up evaluations revealed that 94% of respondents purchased and used proper fitting respirators. 100% of farm owners responded that this training was very important to the viability of their farming operations.

State Winner

West Region

Arizona - Betsy Greene

Search for Excellence in Environmental Quality, Forestry and Natural Resources

National Winner

Michelle Atkinson
Environmental Horticulture Agent
University of Florida/IFAS Manatee County Extension
Manatee

Atkinson, M.*[1]
[1] Environmental Horticulture Agent, University of Florida/IFAS Manatee County Extension, Palmetto, Fl, 34221

Educational Objectives: The Mobile Irrigation Lab (MIL) goals are to provide attendees with an understanding of the value of water, how to conserve water in the landscape, and to provide attendees' with knowledge for incorporating outdoor irrigation water saving techniques in their landscape so that they can change their outdoor irrigation behaviors.

Program Activities: The on-site evaluation encourages outdoor water conservation and best management practices in the landscape. The evaluation report addresses landscape plants' cultural needs and recommendations for an efficient irrigation system.

Teaching Methods: The mobile irrigation lab team works one on one with client and provides them information on water conservation techniques and an irrigation system maintenance checklist. Educational workshops are hands-on and lecture.

Results: The potable water MIL evaluations (374) from 2014 to 2017 decreased their water consumption by 78 million gallons. All MIL evaluations (1134) making all recommended changes from 2014-2017 could have saved over 200 million gallons of water.

Of the 102 follow up survey participants, 68% (65) participants reported at least one behavior change reducing irrigation water usage 3,536,510 gallons or more. Behavior changes reported by workshop participants in an eight month follow survey.

Impact Statement: Converting gallons saved to dollars using the producer price index, $2.60 per thousand gallons, this translates into savings of $54,600 in annual water-treatment and delivery costs for local water utilities. The total water savings among potable water participants is 21 million gallons per year, according to Borisova et al's document "Estimating Benefits of Residential Outdoor Water Conservation: A Step-by-Step Guide", this would translate into $72,485 in annual savings to all MIL clients.

Evaluation: The MIL goals are to provide attendees with an understanding of the value of water and to increase knowledge leading to outdoor irrigation water saving in the landscape. The objectives of the program are to promote water saving behavior changes. Overall, results indicate that the goals and objectives of this program are being achieved.

National Finalists

Wayne Flanary
AGRONOMY SPECIALIST
University of Missouri Extension
Northwest Region

Flanary, W.E.*[1], Crawford, J.J.W.*[2], Schleicher, A.D.*[3], Deering, S.W.*[4], Doty, R.E.*[5], Humphrey, J.R.*[6], Kelly, R.A.*[7]
[1] AGRONOMY SPECIALIST, University of Missouri Extension, Oregon, MO, 64473
[2] Superintendent Graves-Chapple Research Center, University of Missouri Extension, Rock Port, Mo, 64482
[3] Agronomy Specialist, University of Missouri Extension, Rock Port, Mo, 64482
[4] Livestock Specialist, University of Missouri Extension, Albany, Mo, 64402
[5] Ag Business Specialist, University of Missouri Extension, Maryville, Mo, 64468
[6] Livestock Specialist, University of Missouri Extension, Savannah, Mo, 64485
[7] Ag Business Specialist, University of Missouri Extension, St Joseph, Mo, 64507

A cover crop educational program promoted the grower adoption of cover crops in Andrew, Atchison, Holt and Nodaway counties in northwest Missouri. Cover crops reduce soil erosion, improve soil health, supplement grazing and reduce weed competition. Two demonstrations comprising of single and mixed cover crop species were established. Data was collected through replicated small plot demonstrations measuring soil health and their effect on following row crops. Other field demonstrations included strip trials on grower fields and demonstrations at Agricultural Experiment Research

Stations that were used for additional data and educational purposes.

Educational events for area growers include presentations at field days, grower meetings hosted by NRCS and SWCDs, Graves-Chapple and Hundley-Whaley Ag Experiment Research Station field days and cover crop grower meetings sponsored by Extension. News columns and radio promoted cover crops and management. Growers presented many questions by means of calling or stopping by the office to visit.

A program evaluation conducted in the spring of 2017 was accomplished by sending 736 surveys to area producers in the four counties. There was a 43% rate of return. Data from the surveys indicate 53% of the surveyed producers used cover crops in their operation.

Growers responded to a survey of their 2018 cover crop planting plans. Averaged across the four counties, 19.5% will increase number of acres, 56% will plant same number of acres, 11.5% will decrease number of acres and 3.75% did not respond. In addition, 72% of growers that use cover crops recommend cover crops to other producers.

Jennifer Caraway
CEA - Agriculture
UofA Division of Agriculture Research & Extension
Miller

Caraway, J*[1], Caraway, J.*[2]
[1] County Extension Agent - Agriculture, University of Arkansas, Texarkana, AR, 71854
[2] CEA - Agriculture, UofA Division of Agriculture Research & Extension, Texarkana, AR, 71854

The feral hog population has been on the rise in Miller County causing producers to become increasingly more plagued with the destruction of their crops and pastures. Producers are looking for more information on what they can do to help alleviate the problems they are encountering due to feral hog damage. Feral Hog Control was a topic that was added into our annual Ag Expo educational sessions due to the overwhelming increase in the feral hog population, and the progressive destruction that has resulted because of it. Through interest meetings and our annual Ag Expo 443 participants have been trained in Feral Hog Control and the legalities thereof. Additionally, a relatively new trapping system called the "BoarBuster" and "GameChanger" were set up at a producer's farm where we were seeing accelerated damage. Game cameras were set up in conjunction with the traps to aide in tracking movement and groups frequenting the area. Different baiting methods were also tested to determine the best attractant. Our objective was to work with local hog hunting enthusiasts, producers, and landowners to determine the best methods of management and then relay that information to local residents along with any issues they may encounter involving the legalities of managing feral hogs.

W. Cory Heaton
State Wildlife Specialist, Extension Assistant Professor
CLEMSON EXTENSION SERVICE
Statewide

Heaton, W.C.*[1], Bean, R.C.*[2], Dailey, M.K.*[3], Savereno, A.J.*[4], Yarrow, G.K.*[5], Barnes, J.M.*[6], Barrett, K.*[7], Kantrovich, A.J.*[8], Nelson, B.L.*[9], Marshall, Mike*[10]
[1] State Wildlife Specialist, Extension Assistant Professor, CLEMSON EXTENSION SERVICE, Columbia, SC, 29229
[2] Area Forestry and Natural Resources Agent, Clemson Cooperative Extension Service, Camden, SC, 29020
[3] 4-H Extension Agent, Clemson Cooperative Extension Service, Walhalla, SC, 29691
[4] Area Forestry and Natural Resources Agent, Clemson Cooperative Extension Service, Bishopville, SC, 29010
[5] Department Chair and Professor, Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC, 29634
[6] Senior County Extension Agent-Distinguished Row Crops, Forages & Wildlife, Clemson Cooperative Extension Service, Hampton, SC, 29924
[7] Professor, Clemson University, Clemson, SC, 29634
[8] Associate Professor, Agribusiness, Clemson Cooperative Extension Service, Columbia, SC, 29229
[9] Extension Associate, Farm Management, Clemson Cooperative Extension Service, Columbia, SC, 29229
[10] Soil, Clemson University, Clemson, SC, 29634

Master Wildlifer is a nationally recognized wildlife management educational outreach program originally developed by Dr. Greg Yarrow at Clemson University. The course utilized leading specialists and biologist from numerous organizations to provide advanced level wildlife management education. The course format ensured participants received the latest unbiased science based information, and provided a direct line for conversation between the participants and the experts. Initially the course was held before a live audience as well as being broadcast live to satellite host sites throughout the Southeastern US. Eventually the program was adapted to an online version. Reduced participation following the introduction of the online version led to Master Wildlifer not being offered in SC from 2012 through 2017. Other land grant universities developed their own Master Wildlifer programs during this period.

During the absence of Master Wildlifer many requests were received for this program to be revived, however staffing and budget restraints made this difficult. In late 2017, several Clemson Cooperative Extension agents came together to rebuild the program. A location in Greenville, SC was chosen and a schedule set for seven sessions to take place starting in January and finishing the end of February 2018. Specialists from several state and federal agencies were called upon to provide content. These partners included SC Department of Natural Resources, SC Forestry Commission, USDA APHIS

WS, Clemson University, and Clemson Cooperative Extension.

The 2018 program met maximum registration with 61 participants. Program evaluations were provided to each participants at the completion of the final session. 60.7% of participants responded to evaluation surveys. Survey responses indicated 100% of participants gained knowledge from attending the program. Participants were responsible for the management of 21,424 acres in SC. Respondents indicated information presented during the program would allow them to greatly reduce costs associated with management activities on the properties they manage. Total reported savings were in the range of $65,000 to $190,000. Additionally, participants indicated they expected to increase income on the properties they manage by $1,000 - $10,000 with a total reported income increase of $28,000 to $95,000.

State Winners

Northeast Region

New York - Judith L Wright

Southern Region

Alabama - Jordan D. Graves

Georgia - Steven Patrick, Nathan Eason, Clark MacAllister

West Region

Montana - Tracy Mosley

Utah - Joshua Dallin

Search for Excellence in Consumer or Commercial Horticulture

National Winner

Hemant Gohil
Agriculture and Resource Management Agent
Rutgers Cooperative Extension
Gloucester County

Gohil, H.*[1]
[1] Agriculture and Natural Resources Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312

Three main challenges that affect the economic sustainability of the New Jersey's wine industry are: 1) viral diseases, spread by non-certified wine grape nurseries; 2) cold damage during harsh winters, and 3) high humidity and excess precipitation causing high disease pressure. The Vineyard Best Management Practice (BMP) program was developed to educate New Jersey's wine grape growers to manage these stressors. Educational programs were delivered through a variety of platforms such as twilight meetings, symposiums, demonstration workshops, fact sheets, and blog as well as newsletter articles. Following the programs, learning evaluations were conducted to assess gain in knowledge and attitude. Also, annual surveys were conducted to gauge the medium-term impacts of the BMP program. A *Google form* based surveys also allowed for real-time analysis of survey results. An IRB approval was received from Rutgers Office of Research and Regulatory Affairs before sending out the surveys. Growers' responses indicated the rapid adoption of planting advanced certified grapevines. A substantial number of growers showed increased preparedness to mitigate cold damage by integrating strategies, such as hilling-up and retaining multiple canes. After the program, 60% growers corrected vineyard nutritional deficiencies. More than 90% of growers agreed that twilight meetings helped them develop better disease management programs. Overall, Vineyard BMP program resulted in healthier vineyards which assures enhanced economic sustainability.

National Finalists

Robin Trott
Extension Educator
University of Minnesota Extension
Douglas

Trott, R.*[1], Berlin, B*[2], Nelson, R*[3]
[1] Extension Educator, University of Minnesota Extension, Alexandria, MN, 56308
[2] Extension Educator, University of Minnesota Extension, St. Cloud, MN, 56301
[3] Extension Educator, University of Minnesota Extension, Moorhead, MN, 56560

As a local extension educator, part of my responsibilities entails coordinating the work of my local Master Gardener program. I am located in rural Minnesota, and quality continuing education (which is required of the volunteers annually) is often hard to find. With this in mind, 2 colleagues (who also have Master Gardener responsibilities) and I developed an education series for Master Gardeners to fulfill the continuing education requirements and give them the tools to be effective volunteers in their home communities. We dubbed this "Winter Garden College". Over a three year period, Winter Garden College engaged 225 active Master Gardeners and local citizens in three rural counties in quality continuing education which resulted in 92% of participants leaving the workshop with a better understanding of the

subject matter presented, 91% having situations in which they can use this understanding, and 69% stating that they plan to change their behavior based on what they learned. This translates into a more knowledgeable volunteer base who will then take this information back to their individual counties to educate their constituency. This program also had the added benefit of recruiting additional Master Gardener Volunteers from the public members who attended.

Erin Harlow
Commercial Horticulture Extension Agent
University of Florida/IFAS Extension, Duval County
Duval County

Harlow, E.*[1], Kenworthy, K*[2], Shaddox, T*[3], Trenholm, L*[4], Unruh, J.B.*[5], Bolles, E.*[6], Brown, S.*[7], Leonard, D*[8], McConnell, J*[9], Schall, W.*[10]

[1] Commercial Horticulture Extension Agent, University of Florida/IFAS Extension, Duval County, Jacksonville, FL, 32254
[2] Professor, Ph.D., University of Florida/IFAS Agronomy Department, Gainesville, FL, 32611
[3] Assistant Professor, PhD, University of Florida/IFAS Ft Lauderdale Florida Research Center, Ft. Lauderdale, FL, 33314
[4] Professor, Ph.D., University of Florida/IFAS Environmental Horticulture Department, Gainesville, FL, 32611
[5] Professor and Associate Center Director, Ph.D, University of Florida/IFAS West Florida Research Center, Milton, FL, 32565
[6] Environmental Horticulture Extension Agent IV, M.S, University of Florida/IFAS Extension Escambia County, Cantonment, FL, 32533
[7] Horticulture Production Extension Agent IV, M.S, University of Florida/IFAS Extension Lee County, Ft Meyers, FL, 33916
[8] Commercial & Residential Horticulture Extension Agent I, B.S, University of Florida/IFAS Extension Walton County, DeFuniak Springs, FL, 32433
[9] Commercial & Residential Horticulture Extension Agent I, M.S, University of Florida/IFAS Extension Bay County, Panama City, FL, 32401
[10] Horticulture Extension Agent IV, M.S, University of Florida/IFAS Extension West Palm Beach County, West Palm Beach, FL, 33415

The use of zoysiagrass has increased greatly over the last few years in the state of Florida. To assist lawn maintenance and pest control companies that were struggling to learn how to maintain this turfgrass, extension agents teamed with UF Turf Specialists to provide seven Evidence-Based Zoysiagrass Management Workshops across the state in 2016 and 2017. Over 500 individuals attended the trainings. In an exit survey from the 2016 workshops, 16% (20 of 125) indicated that 75-100% of their zoysiagrass accounts were struggling. A one-year follow-up survey (IRB201702447) was conducted to determine behavior change. To date, 77% (100 of 130) indicated that they had changed their zoysiagrass management program. As a result of the workshop, 26% (N=19) indicated that they increased their revenue from accounts, 21% saved money from reduced call-backs, 16% reduced chemical costs, and 37% experienced some other kind of economic benefit. One applicator indicated that they increased their revenue by $12,000 because of what they learned in the workshop.

Sam Marshall
Extension Agent, Ag/Horticulture

Brunswick

Marshall, S.*[1]
[1] Extension Agent, Ag/Horticulture, , Bolivia, NC, 28422

In Brunswick County, NC, there are approximately **250 certified pesticide commercial and municipal pesticide applicators, but it is estimated that there may be as many as 600 non-licensed professionals operating under a license holder** who use pesticides as a part of their job. Pesticide laws in North Carolina require that only license holders attend approved certification courses to maintain their license. These certification courses typically are held as one-day, "Pro Day" events that offer large blocks of credit for licensed professionals.

The Tailgate Pesticide Talks started in January 2015 in response to informal conversations with landscape professionals who stated a need for shorter classes, more field-based demonstrations, and seasonally-relevant programs. They also stated a need for pesticide training for non-licensed employees. Formal evaluations were mailed to all landscaping companies and municipalities in fall of 2015 to determine the at-large need for this type of programming throughout Brunswick County.

Since 2016, **approximately 200 commercial pesticide applicators have attended a Tailgate Talks training, 114 of whom were operating under someone else's license and who had not previously attended a pesticide training event.** The Tailgate Training is offered by request and on a seasonal basis so that participants can have access to the most relevant information based on the time of year. **All classes are hands on, field-based demonstrations**.

Through informal conversations, testimonials, and more formal evaluation methods, the Tailgate Pesticide Training has had significant impacts. **Since 2016, the program has trained 60% more participants than the Pro Day events**. On average, **95% of those who have participated in the program have indicated increased knowledge of**: pest-related issues, use of the *Pest Control for Turfgrass Professionals* manual, proper rotation for chemical pesticides, and how to calibrate fertilizer

spreaders and backpack sprayers. Based on observations, **80% of participants have *demonstrated* techniques learned during the training**.

Further, **83% have indicated a willingness to change a current practice in their landscape operation** (i.e. training other crew members, rotating pesticides, more proactive responses to pest-related issues), and **100% have expressed intent to utilize NC Cooperative Extension for help in diagnosing landscape challenges and training their crew members**.

State Winners

North Central Region

North Dakota -Todd Weinmann

Southern Region

Georgia - Paul J. Pugliese

Kentucky - Amanda Sears

Louisiana - Sara Rogers Shields

South Carolina - Amy Dabbs

Texas - Laura M Miller

West Region

Washington - Don W Mcmoran

Search for Excellence in Livestock Production

National Winner

Amber Yutzy
Extension Educator
PENN STATE UNIVERSITY

Yutzy, A.*[1], Strait, G*[2]
[1] Extension Educator, PENN STATE UNIVERSITY, Huntingdon, PA, 16652
[2] Extension Educator, Penn State University, McConnellsburg, PA, 17233

Producing a high quality product on a dairy farm can be very challenging. Quality control is a major factor in the productivity and profitability of a farm. Use of consistent milking practices that emphasize teat cleanliness, udder massage and rapid milking is one of the most important jobs on your dairy farm. Consistency of milking affects cow well-being, mastitis risk and milking speed. It is often hard to keep milkers engaged in the milking process and usually requires refresher training of why each step is important. Consistent use of standardized milking practices such as predipping, forestripping, drying teats with a single-use towel, unit alignment, and rapid unit attaching and detaching at the right time are essential to quality milk production. This program was delivered through various methods such as dairy profit teams, individual on farm evaluation, various milk quality workshops, and the use of online learning modules in both English and Spanish. Through these programs, I helped the producer narrow down the bottleneck on their farm and set up an action program that will increase the dairies milk quality. 88% of the participants that have been involved in this program have seen an increase in the milk quality efficiency on their farm. Examples of types of changes that have been made include; implementation of proper forestripping, implementation of culturing chronically infected cows, improvement of milk quality record keeping, improved use of pre/post teat dips and/or alterations to milking protocols.

National Finalists

Kimberly Clark
Extension Educator
Nebraska Extension

Clark, K.*[1]
[1] Extension Educator, Nebraska Extension, Lincoln, NE, 68583

Automated milking systems or better known as milking robots, have been in use for more than 20 years. However, milking robots are newer to the Midwest, specifically Nebraska. After the first cow was milked with robots in Nebraska in the spring 2017, dairy producers across the state began considering milking robots for their farms. It was determined there was high interest to learn more about the economics and management associated with milking robots after one-on-one conversations and an online survey of Nebraska's dairy producers. Fifty-two dairy producers representing 16,000 milking cows and industry partners attended this dairy robots workshop in the summer 2017. This program was targeted toward Nebraska dairy producers, however, producers from Iowa also attended. The objectives for this workshop were to provide producers with the necessary information and tools to make a decision to incorporate milking robots on their farm, increase dairy producer's knowledge and understanding of the economics of milking robots, the nutritional considerations of milking robots, and management and changes to be considered and to gain a better understanding of the challenges and benefits of robots from fellow dairy producers. Multiple methods for teaching were used in this workshop including presentations, one-on-one conversations, a producer panel and robotic milking farm tour. Written evaluations after the workshop

indicated ten dairy producers were more strongly considering milking robots for their dairy farm. The evaluation also indicated 83% of producers have a better understanding of the factors affecting economics of robots and 80% have a better understanding of the factors affecting the success of milking robots. Seventy-three percent of producers indicated they would feed a custom-made specific concentrate or feed the recommended concentrate by the robot company to feed at milking. A follow-up evaluation in the fall 2017 with these producers indicated six are in the process of making plans to install milking robots on their farm. Of these six producers, one has already installed and begun milking with robots.

Aerica Bjurstrom
AGRICULTURE AGENT
UW-Extension
KEWAUNEE COUNTY

Bjurstrom, A.*[1]
[1] AGRICULTURE AGENT, UW-Extension, Kewaunee, WI, 54216

Lameness in dairy cattle is one of the most costly issues on the farm, measured both economically and through herd health. Digital dermatitis (DD) is one of the most common causes of dairy cattle lameness. Advanced cases of DD are often associated with other hoof issues such as necrotic toe and wall lesions, severe heel erosion, and severe sole ulcers. Udder health issues such as teat necrosis and udder sores have also been attributed to DD. According to the National Animal Disease Information Service, cows that suffer from lameness attributed to DD are also higher risk for reduced fertility and milk yield.

According to the University of Wisconsin School of Veterinary Medicine, 20 to 25 percent of cows in the United States are clinically lame at any given time. A cow's health, reproduction, and production is greatly impacted by lameness.

A field research study was conducted in 2016 to determine the prevalence of DD in eastern Wisconsin Dairy herds. I served as primary investigator and evaluator of data collected. I wrote and developed the protocols of the project, wrote the farm management survey, and worked with University of Wisconsin personnel to make the survey available via offline Qualtrics. This project was one of the first projects in the University of Wisconsin System/UW-Extension to utilize the offline Qualtrics feature, which made data collection simple and efficient on farm where Wi-Fi was not available. Survey data was easily uploaded and evaluated later when Wi-Fi access was available.

I disseminated project summaries via a white paper (co-wrote with a colleague) and , presented a PowerPoint at seven producer meetings (total attendance of approximately 400 people), two Hoard's Dairyman articles (circulation 52,200), and a Wisconsin Agriculturist article (circulation 25,000). In addition, I gave radio interviews with the project with Brownfield Ag News, Ag Report with Pam Jahnke, and WTAQ radio agriculture report. As a supplementary project of the study, a series of seven hoof health fact sheets called "Walking Strong" (English and Spanish) were developed by project contributors. Whitepaper and factsheets are available online at https://fyi.uwex.edu/dairy/resources/animal-well-being-herd-health/

Carole Knight
County Extension Agent
University of Georgia
Bulloch/Southeast

Knight, C.*[1], Butcher, S.*[2], Cheely, T.*[3], Hammond, K.*[4], Ray, L.*[5], Sapp, P.*[6]
[1] County Extension Agent, University of Georgia, Statesboro, GA, 30458
[2] County Extension Agent, University of Georgia, Newnan, GA, 30263
[3] County Extension Agent, University of Georgia, Warrenton, GA, 30828
[4] County Extension Agent, University of Georgia, Trenton, GA, 30752
[5] County Extension Agent, University of Georgia, Madison, GA, 30650
[6] County Extension Agent, University of Georgia, Louisville, GA, 30434

Animal agriculture, specifically cattle production, is a male-dominated industry. According to statistics from a 2014 U.S. Bureau of Labor report, 76% of those that identified as farmers or ranchers were male. It is not from lack of skill that women are not more prevalent in the industry – but perhaps lack of confidence. To address this situation in Georgia, six female ag agents within UGA Extension collaborated to develop the Southern Women in Agriculture Workshop. It is designed to give women interested or involved in cattle production an opportunity to gain basic hands-on experience. Four one-day workshops have been held around the state (Athens, Calhoun Irwinville, and Newnan). The coordinators also collaborated with 4 other land-grant universities and were awarded a Southern Extension Risk Management Education grant to coordinate a two-day more intensive program that was held in Athens. During the one-day workshops participants rotated to six sessions including fencing, tractors, farm implements, trucks and trailers, cattle handling, and animal health. Each of these sessions were planned and taught by female UGA Extension Agents from all over the state of Georgia. The two-day advanced program included sessions on Beef Quality Assurance, cattle handling, media training, calving, trucks and trailers, tractors and equipment, and fencing. There have been a total of 120 women who have completed the one-day workshops representing 4 states. Twenty women completed the two-day workshop. Registration was limited at each program in order to maintain a small group size and to allow

the opportunity to be active and gain hands-on experience. Ag backgrounds within the participants were extremely varied. Cattle experience ranged from none to running a 500 head cow/calf operation. Comparing the pre- to post- assessments, on average participants increased their comfort level in all subject areas. Results of a six month follow-up evaluation with participants indicated that a majority of participants have utilized the knowledge gained on their farms and have increased their involvement in their personal ag operations thereby reducing the need to use hired labor.

State Winners

Southern Region

Alabama - M. Landon Marks

Florida - Sonja C Crawford

North Carolina - Becky Spearman

Texas - Shane Mclellan

West Region

Utah - Joshua Dallin

Search for Excellence in Young, Beginning, or Small Farmers/Ranchers

National Winner

Lee Stivers
Extension Educator
Penn State Extension
Washington County

Stivers, L.*[1], Baugher, T.*[2], Skinner, M.*[3], Chawner, M.*[4], Pollock, R.*[5], Kime, L.*[6], Esslinger, J.*[7], Neiner, P.*[8]
[1] Extension Educator, Penn State Extension, Washington, PA, 15301
[2] Extension Educator, Penn State Extension, Gettysburg, PA, 17325
[3] Project Coordinator, Penn State Extension, Allentown, PA, 18104
[4] Extension Educator, Penn State Extension, Allentown, PA, 18104
[5] Extension Educator, Penn State Extension, Indiana, PA, 15701
[6] Extension Educator, Penn State Extension, Gettysburg, PA, 17325
[7] Extension Educator, Penn State Extension, Scranton, PA, 18503
[8] Extension Associate, Penn State University, State College, PA, 16802

Leading Pennsylvania's economy with $7.4 billion in sales each year, Pennsylvania's future depends on agriculture. Yet, the farming population is aging, and 16,000 Pennsylvania farmers are projected to retire in the next ten years. This project was designed to increase the number and success of beginning farmers in Pennsylvania, particularly those in years 2 to 10, and ran from January, 2015 through October, 2017.

The project focused on four main components. Seven on-farm demonstrations provided living classrooms where new farmers experienced and learned cutting-edge best management practices in the context of working farms. Six study circle learning networks provided opportunities for new farmers and educators to learn from each other and from on-farm demonstrations. New Commercial Fruit Grower courses provided new producers with in-depth knowledge on starting a fruit business. Additional study circle networks provided support specific to the needs and learning preferences of women and Hispanic/Latino farmers. Information gathered and demonstrated through model plots and study circles was used to create new farmer-specific educational materials and reach a national community of new farmers.

Based on survey responses, as a result of participating in this program, 52 people started farming; 248 received assistance in starting to farm; and 454 improved their farming success. Seventy-one study circles were held for 702 establishing farmers; 70% of study circle participants who completed post-program surveys (n=454) said they planned to adopt a new practice, and 88% increased their knowledge in areas that would increase profitability. 254 female farmers and 107 Hispanic/Latino growers participated in study circles established for these underserved audiences. Seventy-three farmers participating in at least one component of the program indicated that they had adopted best management practices for sustainable horticultural production.

National Finalists

Amanda Mosiman
EXTENSION EDUCATOR
PURDUE EXTENSION
WARRICK COUNTY

Clingerman, Valerie*[1], Monroe, James Scott*[2], Mosiman, A.*[3], Caplan, Larry*[4], Comer, Gregory*[5], Dame, Curtis*[6], Dzimianski, Sara*[7], Eck, Ken*[8], Hardy, Clinton*[9], Heisdorffer, Annette*[10], Held, Nick*[11], Lambert, Camille*[12], Neufelder, Jon*[13], Restrepo-Turner, Maria*[14], Rideout, Andrew*[15], Santiago, Luis*[16], Schmitz, Hans*[17], Shadrick, Vicki*[18], Tate, Evan*[19]
[1] Extension Educator, Purdue Extension, Vincennes, IN, 47591
[2] Food Safety Specialist, Purdue Extension, Vincennes, IN, 47591

[3] EXTENSION EDUCATOR, PURDUE EXTENSION, Boonville, IN, 47601
[4] Extension Educator, Purdue Extension, Evansville, IN, 47725
[5] Extension Agent, University of Kentucky Extension, Hartford, KY, 42347
[6] Extension Agent, University of Kentucky Extension, Madisonville, KY, 42431
[7] Extension Educator, Purdue Extension, Tell City, IN, 47586
[8] Extension Educator, Purdue Extension, Jasper, IN, 47546
[9] Extension Agent, University of Kentucky Extension, Owensboro, KY, 42303
[10] Extension Agent, University of Kentucky Extension, Owensboro, KY, 42303
[11] Extension Educator, Purdue Extension, Chrisney, IN, 47611
[12] Extension Agent, University of Kentucky Extension, Henderson, KY, 42420
[13] Extension Educator, Purdue Extension, Mt. Vernon, IN, 47620
[14] Extension Educator, Purdue Extension, Petersburg, IN, 47567
[15] Extension Agent, University of Kentucky Extension, Henderson, KY, 42420
[16] Extension Educator, Purdue Extension, Washington, IN, 47501
[17] Extension Educator, Purdue Extension, Princeton, IN, 47670
[18] Extension Agent, University of Kentucky Extension, Dixon, KY, 42409
[19] Extension Agent, University of Kentucky Extension, Hawesville, KY, 42348

Over the past decade, a wave of new farmers has chosen to take up the profession of producing food. Many of these beginning farmers lack the necessary production and marketing expertise to be able to maintain viable farming businesses. These newly developed small farms tend to be highly diversified which correlates with a need for focused information on a variety of topics. Frequently, the need for information is too diverse to be addressed adequately by any single educator in any one county. Therefore, a collaborative effort was developed between Purdue Extension and University of Kentucky Extension to provide programming for this clientele group. The Ohio Valley Small Farm and Garden Conference was held as a full one-day program held in both March 2016 and 2017. The goal of this program was to increase the success rate and productivity of beginning farmers across the region by reducing the impact of educational and financial barriers. The program provided focused information on a variety of topics which were formatted via four concurrently offered sessions at four different times for a total of 16 sessions. Producers could tailor their own agenda to their unique informational needs. Topics included farmer market marketing strategies, pond management, beef, pollinators, organic production, fruit disease management, off-season production, backyard poultry, pest control, food safety, rural development, soil testing, high tunnel production, fencing options, ruminant parasite control. Since participants learn better with multiple modes of teaching, demonstrations on the above topics were also ongoing all day.

In two years, over 250 producers have attended this program. Participants were asked to complete a voluntary survey at the beginning and at the end of the conference. Of the respondents who turned in post-surveys: 96% indicated they learned something new, 89% thought the information learned will help with their farm/garden goals, 87% plan to use the information to start a small farm/garden or improve current practices, 77% expect to change farming/gardening practices, 56% think the information will help increase revenue potential.

Jenny Carleo
Agricultural Agent
Rutgers NJAES Cooperative Extension
Cape May County

Carleo, J.*[1], Matthews, J. L.*[2], Heckman, J.*[3], Melendez, M. V.*[4], Kluchinski, D.*[5], Polanin, N.*[6], Nitzsche, P.*[7], McGrady, F.*[8], Sutton, D.*[9], Garrison, S.*[10], Wyenandt, C. A.*[11], Govindasamy, R.*[12], Brumfield, R. G.*[13], Orton, T.*[14], Pavlis, G.*[15], Ayeni, A.*[16], Wisneski, P.*[17], Boninfante, L.*[18], Simon, J.*[19], Gohil, H.*[20], Samulis, R.*[21]
[1] Agricultural Agent, Rutgers NJAES Cooperative Extension, Cape May Court House, NJ, 08210
[2] Program Associate, Rutgers Cooperative Extension, Cape May Court House, NJ, 08210
[3] Video Producer, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[4] County Agent, Rutgers Cooperative Extension, Trenton, NJ, 08648
[5] Department Chair (Deceased), Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[6] Department Chair (Acting), Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[7] County Agent, Rutgers Cooperative Extension, Morristown, NJ, 07963
[8] Media Assistant, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[9] Media Assistant, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[10] Extension Specialist (Retired), Rutgers Cooperative Extension, Bridgeton, NJ, 08302
[11] Extension Specialist, Rutgers Cooperative Extension, Bridgeton, NJ, 08302
[12] Extension Specialist, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[13] Extension Specialist, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[14] Extension Specialist, Rutgers Cooperative Extension, Bridgeton, NJ, 08302
[15] County Agent, Rutgers Cooperative Extension, Mays

Landing, NJ, 08330
[16] Teaching Professor, Rutgers University, New Brunswick, NJ, 08901
[17] Web Designer, Rutgers University, New Brunswick, NJ, 08901
[18] Media Relations, Rutgers Cooperative Extension, Cape May Court House, NJ, 08210
[19] Distinguished Professor, Rutgers University, New Brunswick, NJ, 08901
[20] County Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312
[21] County Agent, Rutgers Cooperative Extension, Westampton, NJ, 08060

The team developed an educational program and curricula on specialty-crops and business topics for beginning farmers. The project goal was to teach 2,380 new and beginning farmers nationwide about the cultivation, marketing and business management of farming 10 "ultra-niche crops". This would be accomplished through multiple formats geared towards our diverse audience. As a result of the project 250 unique participants were educated through 10 in-person workshops. (Total workshop registrations were 366 indicating some participants attended more than one class). Post class surveys (94% response rate) revealed that 232 individuals reported knowledge gain as a result of participation. Participants level of knowledge on the topics increased by an average of 50%. Results also revealed that on a scale of 1-5 with 5 being the highest, participants will use what they have learned (4.52/5) and will share what they learned with other farmers or growers (4.16/5). Nearly 70% of the attendees did not currently farm the crop presented. Participants also rated program materials and content with an average of 4.66/5. Nearly 85% of the attendees were planning to attend future Ultra-Niche Crop workshops and intended to access the online factsheets, while 70% wanted to view the online crop videos and virtual field trips again following the classes. In addition to the workshop participants, 11,862 people accessed our website and factsheets and our project's YouTube Channel had 12,208 views as of March 2018. When asked to rate the quality of the overall program and content on a scale of 1-5 with 5 being the highest, workshop participants responded (n=321) with an average rating of 4.67/5.

Rachel Bearden
CEA - Agriculture
UofA Division of Agriculture Research & Extension
Hot Spring

Bearden, R.*[1], Foster, O.M.*[2]
[1] CEA - Agriculture, UofA Division of Agriculture Research & Extension, Malvern, AR, 72104
[2] County Extension Agent- Staff Chair, University of Arkansas, Division of Agriculture, Berryville, AR, 72616

The purpose of this program is to target several of our newer producers who are sometimes scared to ask the "dumb" questions in our streamlined programs or a Cattlemen's meeting. As new, fairly young, agents, it seems many of our younger producers have popped out of the woodwork with all kinds of questions they were afraid to ask before. We developed this curriculum as a 101 style course for producers new to the cattle industry, but I left it open for adjustment to other production types as well. The class size was maxed out at 15 and 25 to keep the group comfortable and build relationships. The objective was give each producer introductory knowledge to get their operation started in the right direction, make them more comfortable in a room of fellow producers, and to make them aware of resources to stay connected. The program is broken into seven meetings, which can be broken out at the discretion of the county agent. The meeting topics are Community Resources, Financial Opportunities, Herd Management, Livestock Nutrition, Forage Management, Pest Management, and Marketing. Each class has some hands on activity, along with traditional presentations. There are several methods of evaluation for this program. Pre/Post Tests, individual class evaluations and farm plans. At the beginning of the program, county agents toured each participant's farm and developed a plan to make their operation more profitable and sustaining through best management practices. This plan for best management practices can be evaluated periodically-end of the program, 6 months, 1 year, etc. The results so far have been very positive.

State Winners

North Central Region
North Dakota - Lindy L Berg
Ohio - Gary Y. Gao

Southern Region
Alabama - Kevin S. Burkett
Florida - Lauren Butler
North Carolina - Nelson Brownlee
Virginia - Jennifer Ligon

Search for Excellence in Sustainable Agriculture

National Winner

Wendy Becker
Agent
Montana State University
Fort Peck Reservation

Becker, W.*[1], Buck, C*[2], Fine, T*[3], Mills, S*[4], Roos, B*[5]
[1] Agent, Montana State University, Poplar, MT, 59255
[2] Extension Agent, Montana State University, Plentywood, MT, 59254
[3] Extension Agent, Montana State University, Sidney, MT, 59270
[4] Extension Agent, Montana State University, Glasgow, MT, 59230
[5] Extension Agen, Montana State University, Scobey, MT, 59263

In Northeast Montana, pulse crops acreage has been increasing due to the favorable growing conditions for cool season crops, incorporation of crop rotation, no-till practices, and economic returns. Producers began experimenting with pulse crops near the turn of the century, but had little knowledge specific to Montana. The need for producer education regarding disease and pest identification, rotations, marketing, and weed management grew rapidly. Local programs were developed that alternate between Montana and North Dakota in order to bring as many producers as possible together with nationally recognized experts in the field. Three years ago, the program expanded its coverage and grew to a full day of presentations, a commercial trade show, networking opportunities, and specialized topics. It grew from 40 participants to 170 the first year and 125 the second, and from six commercial trade show booths and sponsors to 33. Forty-nine percent of the attendees were very experienced in growing pulse crops with 5% raising them for the first time. The top pulse crops grown regionally are chickpeas, lentils, and yellow peas, 59% of producers had not used the nitrogen credit supplied by legume crops, and a new invasive weed was found in 46% of the acres. New management practices learned at the seminars were incorporated by 88% of producers, and 100% would like to see it continue. All attendees found it very to extremely useful to continue to bring in well researched speaker and allow for producers to interact with other producers and businesses. Pulse crops and cropping practices in Northeastern Montana has become more sustainable by enabling producers to manage rotations, develop markets, select herbicides, and use continuous cropping strategies.

National Finalists

Stewart Runsick
County Extension Agent - Staff Chair
University of Arkansas Cooperative Extension Service
Clay

Runsick, S.*[1]
[1] County Extension Agent - Staff Chair, University of Arkansas Cooperative Extension Service, Corning, AR, 72422

Clay County has over 300,000 acres of farm land which produces rice, soybeans, corn, cotton, grain sorghum and wheat. Producers in Clay County face management and production limitations on a daily basis especially when related pest management. Clientele look to Extension to provide educational opportunities on farms, in fields, and meeting rooms. Producers of all commodities are able to participate in these programs with the goal of making their operations more efficient, productive and sustainable. Clay County Extension planned and implemented a yearlong multi-faceted educational program to address the issues local producers face. An intensive IPM program that included in field pest monitoring/education, field days showcasing on farm demonstrations, and production meetings were implemented. There were 18 on-farm demonstrations, two field days, two production meetings and other educational events where area producers and other respective clientele were able to gain knowledge making their operations more sustainable in the ever-changing agriculture environment. The goal of these educational efforts were to help clientele increase efficiency and sustainability. As a result of the IPM program, 86 area soybean producers were alerted of the corn earworm outbreak, treated fields and saved $20.00 per acre in yield loss. Traps were monitored for Southwestern corn borer which never reached treatment levels allowing corn producers to avoid costly insecticide applications. Cotton thrips were monitored on 6 farms representing 15,000 acres resulting in producers being able to treat when necessary verses making unnecessary insecticide applications. Survey fields were established and monitored weekly for new invasive pests such as the red banded sinkbug and the kudzu bug. Both pests were found in isolated areas of the county and consultants and producers were alerted to increase scouting efforts. On farm variety trials were established on 6 farms providing local yield data potentially effecting 275,000 acres. These varieties are screened for their ability to resist disease and insect pest. This local data allows producers to select improved varieties with pest resistance on their farms.

Matthew Lollar
Extension Agent I
University of Florida
Jackson County

Lollar, M.*[1], Johnson, L.*[2], Wiggins, Z.*[3], Bearden, J.*[4], Anderson, E.*[5], Orwat, M.*[6], Jameson, M.*[7], Pickens, J.*[8], Perez Orozco, J.*[9], Thaxton, B.*[10], Freeman, J.*[11], McConnell, J.*[12], Bolques, A.*[13], Henry, M.*[14], Treadwell, D.*[15]
[1] Extension Agent I, University of Florida, Marianna, FL, 32448
[2] Extension Agent II, University of Florida, Cantonment, FL, 32553
[3] Extension Agent I, University of Florida/Florida A&M University, Quincy, FL, 32351
[4] Extension Agent II, University of Florida, Crestview, FL, 32539
[5] Extension Agent I, University of Florida, Defuniak Springs, FL, 32433
[6] Extension Agent I, University of Florida, Chipley, FL, 32428
[7] Extension Agent I, University of Florida, Tallahassee, FL, 32301
[8] Extension Specialist, Auburn University, Mobile, AL, 36689
[9] Education/Training Specialist III, University of Florida, Gainesville, FL, 32611
[10] Horticulture Manager, HG Farm & Timber, Pace, FL, 32571
[11] Associate Professor, University of Florida, Quincy, FL, 32351
[12] Extension Agent I, University of Florida, Panama City, FL, 32401
[13] Assistant Professor, Florida A&M University, Quincy, FL, 32351
[14] Extension Agent II, University of Florida, Bartow, FL, 33831
[15] Associate Professor, University of Florida, Gainesville, FL, 32611

Situation: The 17 counties that make up the Northwest Florida Extension District span from Escambia County in the west to Jefferson County in the east. This district is home to 100 fruit and vegetable farms, growing on nearly 11,000 acres of fruit, nut, and vegetable crops (2012 Census of Agriculture). Florida farmers are experiencing fierce competition from both domestic and foreign markets. Farm labor, environmental, and food safety regulations are increasing costs and reducing production options. The Northwest Florida Extension District encompasses the majority of Florida's cotton and peanut production, however fruit and vegetable crops continue to garner interest as land rent continues to increase. Average farm acreage continues to decrease as population increases, however the number of small farms has increased over the past ten years. Unbiased Extension Service recommendations will better position growers to take advantage of the rapidly changing agricultural industry. Challenges include farmers' access to new markets and maximizing production through various cropping systems. Objectives: (1) The districtwide conferences will increase crop diversity on farms in the panhandle and (2) will educate specialty crop producers on management practices that increase yield and profitability for producers. Methods: The two conferences were funded by sponsorships, participant registration fees, and a Florida Department of Agriculture Specialty Crop Block grant. To accomplish the objectives, the team offered two conferences to teach specialty crop producers about crop diversification, business management, and marketing. Evaluation: The evaluation instrument was distributed via hard copy to attendees at the completion of conference tracks and on the return tour bus trips. Results: As a result of attending the conferences, nearly 70% (n=167) of participants felt completely or moderately confident that they will be able to apply the knowledge gained to their farm or organization. More than 91% (n=78) of surveyed tour participants plan to use the knowledge gained to improve their respective operations. Conclusions: The conferences provided specialty crop farmers with information needed to help them diversify their operations, increase yields, and improve business management skills. With the knowledge gained from the conferences, the sustainability of farms in the Florida Panhandle Farms is more secure.

Matt Lenhardt
Agriculture Agent, Horticulture
NC Cooperative Extension, NCSU
Southern Region

Lenhardt, M.A.*[1], Holcomb, D.X.*[2], Keith, N.W.*[3], Place, G.T.*[4], Snyder, E.M.*[5]
[1] Horticulture Agent, North Carolina Cooperative Extension, Statesville, NC, 28677
[2] Family Consumer Science, NC Cooperative Extension, Taylorsville, NC, 28681
[3] County Extension Director, NC Cooperative Extension, Statesville, NC, 28687
[4] County Extension Director, NC Cooperative Extension, Newton, NC, 28658
[5] Horticulture Agent, NC Cooperative Extension, Lenoir, NC, 28645

Many small farm operations need help implementing best management practices (BMP's) to increase crop production. To meet these needs, NC Agritunity Conference and Trade Show was created. NC Agritunity features three educational tracks: livestock and field crop production, pest management, and small farm management. Two NC Agritunity events in 2017 and 2018 have been held. Two hundred and thirty-three participants attended. Survey results indicated that: 74% attending workshops on alternative crops reported they will adopt a new crop, 94% reported improved knowledge in at

least one best management practice, and 75% indicated they intend to do business with at least one of the vendors at the event. In addition, a projected total of at least $45,000 in business gains was estimated by participating vendors, and a total dollar benefit impact from knowledge gained to grower's agribusiness was estimated at $20,903. NC Agritunity is an integral part of a comprehensive, cross-programmatic educational program for overall economic development and community engagement.

State Winners

Southern Region

Alabama - Kevin S. Burkett

Texas - Michael R. Hiller

Sustainable Agriculture Research Education (SARE) Seminar USDA SARE/NACAA Fellows Program

National Winners

Claire Strader
Small-Scale and Organic Produce Educator
UW-Extension
Dane County

1. Why I wish to attend

SARE has had a big impact on my professional life, first as an organic vegetable farmer, and now as an agricultural educator. In both of these roles, SARE has provided me with information that has allowed me to establish a foundation of knowledge in sustainable agriculture and resources to then innovate, experiment, and even contribute to that body of knowledge. I first learned of the SARE Fellows Program when I became a county ag educator in 2013, and have been looking forward to applying ever since. I feel strongly aligned with SARE's focus on research-based sustainable agricultural information made practical for farmers, and wish to be a part of that work in a deeper way.

2. My past experience and activities

I was an organic vegetable farmer for 18 years. I worked on farms in New Hampshire and California and was also an owner/partner on an established six-acre organic vegetable farm in Wisconsin before being hired to start Troy Community Farm. The real bulk of my farming experience came through the 12 years I spent there. A non-profit tasked with stewarding 31 acres on Madison, Wisconsin's north side brought me on to turn 5 of those acres into a profitable farm. I cleared the mulberry and honeysuckle, planted cover crops to smother the quack and reed canary grass, and eventually built the farm into a diverse operation grossing $190,000 per year and supporting four year-round staff at three FTE. We sold certified organic produce, herbs, sprouts, and bedding plants through a 150-member CSA, on-site sales, and local grocery accounts. I also established an internship program on the farm and taught up to 14 interns each year through formal classes, weekly field walks, field trips, and hands-on work. I am proud that many of the interns I trained still work in agriculture today, including the new farmer at Troy.

When I left the farm in 2013 and came to work for UW Extension Dane County, I was worried that I would miss farming. I soon discovered that working as an agriculture educator is as full of possibility and just as rewarding as being a farmer. I keep my hands dirty with on-farm trials focused on cover crops and no-till techniques for organic vegetables, four of which have been funded through SARE Partnership grants. I am working with farmers, extension colleagues, and the WI Department of Workforce Development to establish the first registered Organic Vegetable Farm Manager Apprenticeship in the county, and will be supporting the first farmer/apprentice pairs over the 2018 season. I also started and organize the Organic Vegetable Production Conference which focuses on technical skills for advanced growers and attracts 200 farmers and educators from throughout the Midwest.

My experience as a farmer still informs the work I do now. I know first-hand how important environmental, financial, and social sustainability are to a sustainable farm business. I know farmers as peers and understand how important practical applications informed by research are to them. And I can trust them to tell me what they need and whether or not my work contributes to their success.

3. Plan and Evaluation

I plan to use the Fellows program to inform and expand my work with organic vegetable farmers. In my role I am responsible for programing not only for famers in Dane County but also for 50 farms throughout Wisconsin that are part of the FairShare CSA Coalition. This partnership has given me access to direct farmer input on both what they need to learn and how they want to learn it. That information is gathered through an annual survey as well as regular meetings with seven farmers that make up the FairShare Grower Education Committee. The annual Organic Vegetable Production Conference is an example of programing that has come directly out of work with this committee.

There are two topics that I would like to focus on through the Fellows program. These topics have been identified as needs by the farmers and are also personal interests of mine.

1. No-Till and Reduced-Tillage Techniques for Organic Vegetables

A common criticism of organic agriculture is that it relies too heavily on tillage. The farmers I work with know how damaging tillage can be and are very interested in reducing it in ways that are also financially and socially sustainable. Together we are exploring the use of living aisles, winter-killed cover crops, and terminating winter-hardy cover crops with tarps as part of reduced-tillage systems. Though we have made some progress, and farmer interest remains high, no-till organic vegetables are still a conundrum.

2. Farm Labor

Farmers I work with regularly discuss their struggles attracting and retaining workers. The new Organic Vegetable Farm Manager apprenticeship is one attempt to address this challenge by training managers that will be valuable to the farm well beyond their apprenticeship. While this program should be useful for farms that can support management level staff, there will always be farms that can only take on seasonal workers and will never have management positions. Those farms also need good, reliable labor and systems to train and retain them.

I plan to use what I learn through the Fellows program to expand my work in these specific ways:

- Work with farmers to develop no-till and reduced-tillage techniques that are informed by the work of researchers across the county and that test and refine those techniques on working farms.

- Disseminate existing and/or develop new easy-to-access bulletins, videos, or trainings that help sustainable vegetable farms attract and retain quality labor.

- Communicate information learned in ways that are accessible to a diverse group of vegetable farmers including immigrants and those who are traditionally underserved through the Organic Vegetable Production Conference, field days, workshops, and/or posts to FairShare's list of over 300 sustainable vegetable farmers and agricultural educators.

I evaluate my work through written surveys from attendees at events, an annual survey of FairShare farmers, and regular discussions with farmers. The written surveys give me a good idea of what farmers plan to do with what they learn, and the in-person discussions tell me what the farmers are actually doing and why. I feel these methods keep me well informed on both the quality of my programing and the impact it is having. I will use these same methods to evaluate the work I would do through the Fellows program.

4. Potential impacts and expected results

Ideally, the impact of my participation in this program will directly relate to the two topics I plan to explore. First, I hope that more organic vegetable farmers in Wisconsin experiment with and eventually adopt no-till and reduced-tillage techniques on their farms. Second, I would like to see farms have increased success attracting and retaining appropriate staff.

5. Benefits to other professionals and clientele

Sharing what I learn through this program is at the core of my desire to participate. While I certainly have a personal interest in learning, my real goal is to bring those lessons to bare in programing for farmers and collaborations with agricultural educators here in Wisconsin. Training will happen through the Organic Vegetable Production Conference, on-farm trials, and specific field days, workshops, and grower gatherings.

Nicole Santangelo
Extension Educator
Penn State Extension
Potter County

The SARE Fellows program will be the key to unlocking critical sustainable agriculture programming across the Twin Tiers of New York and Pennsylvania. My interest in this program stems from our clients interest in learning more about sustainable agricultural practices from organic hay production and rotational grazing to soil health, no-til and cover cropping systems on dairy, vegetable and grain farms along the sloping hilltops of the Allegheny Plateau. The growing season in this part of continental U.S. is very short. At a 2,000ft elevation, we typically have fewer than 2,000 growing degree days in an entire year. This puts the region at a climate similar to the center of the Adirondack Mountains or Northern Minnesota/Southern Canada. Adding to producers concerns and those of the public, are the careful monitoring and implementation of environmentally sustainable practices on farms in the Chesapeake Bay and Genesee (Great Lakes) Watershed covering over half the acreage in this region. Farmers here and throughout Pennsylvania have been implementing BMPs voluntarily for years to combat these issues, from reinstating and improving contour farming to the use of cover crops. Last year, I partnered with other organizations in the area to offer a variety of programs from pasture management to interseeding cover crops. This year, I am working on a national project studying social, political, financial and biophysical aspects of water for and from agriculture. This USDA NIFRA multistate project seeks to use community engagement as a tool to solve complex issues with water that might be applied in other realms. Through the SARE Fellows program, I will become better able to serve my farmers needs and requests for more information on how they can be better stewards of their land and community for years to come. I know this program will change the way I conduct programming in my region and throughout the state and reach colleagues nationwide.

1. Details of your experience and past activities

Prior to joining the Penn State Extension Field & Forage Crops Team, I worked briefly with Cornell Cooperative Extension to assist in the development and implementation of numerous youth summer programs exploring careers in agriculture and reviewing best management practices carried out on dairy farms in Western New York. I also worked for numerous dairy farms during my college career including a 200 cow robotic dairy farm and at Alfred State's Center for Organic and Sustainable Agriculture. With Penn State Extension, I have conducted programming in alternative forage production and manure management, worked with on-farm cover crop research and assisted in many on-farm demonstration plots of the Penn State Cover Crop Interseeder and Applicator. In the past 6 years, I have been involved in the coordination and delivery of 21 Manure Management Education and Cover Crop Use program, reaching 227 participants, farming over 56,000 acres. 100% (n=28) of growers attending a manure management planning workshop completed or intend to create a manure management plan. 81% (n=31) of growers surveyed have or will plant a cover crop as a result of participating in a session on cover crop use or soil health. As part of a team of Crops and Dairy Extension Educators, we recently received funding from Northeast SARE to conduct Train-the-Trainer, and farmer workshops on "The Impact of Corn Silage Harvesting and Feeding Decisions on Income Over Feed Costs." The opportunity to participate in the Fellows Program will multiply the effects of the work I have already done and plan to continue in the future.

1. *Plan on how you intend to use the Fellows program and the evaluation program*

The unique topography and soil structure of Northern Pennsylvania leads to an increased need for sustainable agriculture education. Growers in this region often have fewer agricultural resources at their fingertips, sometimes traveling hours just to the nearest grain mill, equipment dealer and like agribusinesses. By furthering my education in sustainable agriculture through participation in the SARE Fellows Program, I plan to incorporate sustainable practices used across the country into current programming and research occurring in Northern Pennsylvania. Projects already in the pipeline that would be enhanced by my participation include, Train-the-Trainer Corn Silage Profitability Grant, Nitrogen Management Education, Soil Health Workshops, Local Food and Farmers Markets projects and Integrated Pest Management Programs. I also hope through my increased knowledge and experiences, that I can add sustainable farming to my specialties that will make me a more valuable asset to our state Field & Forage Crops Team and spur increased focus on sustainability in statewide programming. I plan to share my experiences with organic and conventional producers and industry representatives through my participation in other agronomic organizations, local newsletters and the Penn State Extension Field Crop News. My work on this national project will also give me the opportunity to share my work with professionals from disciplines other than my own, such as Agricultural Law, Engineering, Rural Sociology and Engagement professionals.

1. *Potential impacts and expected results*

With this increased knowledge, I plan to involve my participation in SARE Fellows in the evaluation process of like programming locally through follow up evaluations from participants that indicate what sustainable practices they have developed as a result of their participation and how that has assisted in the economic, environmental and social viability of their agricultural operations in the Northeast. I anticipate over 200 participants will directly benefit from my involvement in the SARE Fellows Program. Of the 200 participants, I anticipate 70% will continue or begin to employ sustainable practices on their farm. The impacts will be multiplied by my multistate work and interactions with other professionals from multiple disciplines.

1. *Potential benefits to other professionals and clientele*

Another 3,000 growers and agribusinesses will benefit from my contributions to the Field Crop Newsletter and other local newsletters upon my completion of the SARE Fellows Program. I will give updates to the local chapter of NACAA and during other professional development events including through multi-state train the trainer workshops. I anticipate a minimum of 15 other educators will benefit from such workshops. Additionally, I plan to submit a NESARE application in 2019 for Agronomic Training for Professionals in the Twin Tiers of New York and Pennsylvania. This training would give platform for education of additional professionals in the Twin Tiers that are asked to drive hours for trainings in soil health, cover crops and no-til production that often lead to a lack of education in this rural area. I anticipate 20 professionals will report an increased understanding of Sustainable Agriculture as a result of attendance.

Jessica A. Kelton
Regional Agent- Farm and Agribusiness Management
Alabama Cooperative Extension System
Barbour, Bullock, Coffee, Covington, Crenshaw, Dale ,
Geneva, Henry, Hou

In Alabama, agriculture continues to be one of the largest economic sectors across the state with a typical farm size roughly 200 acres though they can range from a 1,000 acre row crop farm to a 40 acre vegetable operation. Regardless of size or operation type, these Alabama farms remain largely family owned and operated. Alabama's family farms not only offer a valuable economic contribution to the state, they represent a continuation of the agricultural tradition for which our state is known. However, like so many agricultural regions of the country, rising producer age, low commodity prices, and ever tightening margins are threatening the long-term viability of the state's agricultural community. Given the current trends,

it is crucial for growers to adopt environmentally-sound and economically profitable production practices. It is my desire to participate in the USDA SARE/NACAA Fellows Program in order to further explore sustainable agricultural practices which have been successfully put into practice in other regions of the country; knowledge of these implemented sustainable agricultural practices could facilitate increased adoption of similar practices in the future by Alabama's farmers.

During my professional career, I have had the opportunity to develop an understanding of the benefits of sustainable agriculture from a production perspective since 2006. I have worked in conservation systems research and IPM weed management practices for many years and feel that I have a comprehensive understanding of how sustainable agriculture can promote long-term, successful crop production. However, we often tend to forget the 'financially sustainable' part of the equation in research. As a researcher, most trials that evaluated a sustainable agricultural practice, whether conservation tillage or cover crop implementation, would usually show some positive benefit in either crop yield or reduced weed pressure in the second or third year after adoption. These were always promising results for research; unfortunately, when you approach this from a farmer standpoint, short-term profits trump long-term benefits almost always. This is not to say that our state's producers are not great stewards of the land, but with slim margins and multiple years to show a return from a practice it can be a hard sell. It can be even more difficult to convince a grower to implement a change that can, say, build soil quality, when you cannot assign a specific dollar return for improved soil quality.

I believe that there are many producers in our country that have embraced aspects of sustainable agriculture and are now active proponents of sustainable ag, as a whole. These producers can impart a tremendous amount of knowledge to other growers and help them through the trial and error stage when adopting these practices. It is now our job in Extension, and my goal through participating in this program, to take the lessons learned from producers and educate other growers on successful adoption strategies of sustainable practices. Moreover, I would hope to advise producers on ways to bridge the gap between the short-term investment phase of adopting new growing practices to the long-term, profitable utilization of these practices.

Currently, Alabama's Farm and Agribusiness Team has access to software that can be used to analyze farm performance, financial health, and long range budgeting which is provided free of charge to any producer that would like to participate. I feel that farm success stories from different regions of the US, combined with real numbers from individual operations that can show how sustainable practices can improve profitability over time could provide growers with enough evidence to consider implementing sustainable practices even without a substantial boost in profits in the first year. Having a thorough understanding of a variety of alternative farming practices through participate in the program would allow for me to better advise growers of the practices that could be potentially profitable for their use. Over time, continued participation by producers in the financial analysis program would easily allow us to evaluate adoption rates of sustainable practices as well as improved net returns provided by the transition to alternative agricultural management strategies.

Being able to show Alabama's producers actual trends in profit increase through the adoption of sustainable practices could result in substantial interest by growers in alternative practices. In my experience, it just takes a few farmers in any given area to commit to a practice before others will follow. In addition to combining financial analysis with experience gained through program participation, I would like to share the information learned with other Agents and Specialist in Alabama. This could be done through a hands-on field day or in-service training that focuses on sustainable agricultural practices suitable for adoption in Alabama cropping systems. It takes everyone being knowledgeable and an advocate to affect change, and, ultimately, that is what I believe we all wish to see. We all wish to see a positive change in the state's agriculture to ensure that our family farms continue to be one of Alabama's greatest traditions.

Kathleen Painter
Extension Educator Small Farms
University of Idaho Extension
Boundary County

I am interested in participating in the SARE Fellows program in order to improve my skills in applying the principles of sustainability to my programs here as an Agricultural Extension Educator for the University of Idaho (UI) in Boundary County, Idaho. This program would allow me to meet other educators and farmers around the country with ideas for sustainable agricultural systems that I could adapt to Idaho and the broader western region. I also feel that I could be helpful to others in terms of my background as an applied agricultural economist. Together we can strengthen our analysis of the sustainability of various emerging alternative systems.

For many years I worked as an agricultural economist at both Washington State University and University of Idaho (UI). I worked on several large organic grant projects as well as two large climate projects, mainly in the area of costs and returns analysis and comparisons. Currently I am working much more broadly in the areas of commercial and small scale agriculture as a county Extension Educator.

I have been interested in sustainable agriculture for most of my professional life. For my dissertation research, I studied the economic and environmental trade-offs of conventional and alternative agricultural systems in the inland Pacific Northwest

(Palouse region) and the North Carolina Coastal Plain. For my master's thesis, I conducted a mail survey of farmwomen in Yakima County, in order to study their choices and motivations for working both on and off the farm. Together these two research projects covered the three legs of the sustainability: social, economic, and environmental.

I feel that one of the more difficult problems facing agriculture currently is the lack of profitability. While our communities are very interested in local foods, it is difficult for aspiring producers to earn a living producing food for their communities, unless they live near a wealthy urban or suburban area. Traditional commodity producers in this country are struggling with widespread low profitability, in grains, dairy, and other industries. I think that we can address these two problems with more production for local consumption on traditional large farms, perhaps as value-added commodities, and higher levels of efficiency and other assistance for small farms. I think there are some solutions to be found that can be rapidly disseminated through social media channels.

In my programs here at UI, I like to use electronic clickers to instantaneously measure audience responses. This electronic method allows for quick feedback from the audience, and they seem to enjoy providing this feedback, as opposed to paper-based surveys at the end of a class when they really just wish to get going! Other methods of evaluation that I use include interaction with my Advisory Council and other local groups that I participate in, such as our Conservation District, the Farmers Market Board, the local Economic Development Council, and the Idaho Grain Producers Association. I give presentations and present posters at local and regional agricultural events, such as our cereal, forage, and beef "schools" and field days. These outreach programs allow me to interact with my colleagues and producers, and get their feedback on my programs through direct interaction.

One of our outreach programs that has been very well received is our series of multimedia case studies that we have published as both bulletins and videos. The online version of the bulletins has imbedded links and there is a YouTube Channel for them. Each case study features a different producer and their cutting edge techniques for improving agricultural sustainability, such as use of variable rate nitrogen, holistic management, and use of cover crops for grazing (see https://www.reacchpna.org/case_studies). I think we learn best from others who are currently using systems commercially. Producers find these types of outreach more credible than plot-based research results, for example. I would like to showcase some of the systems that I would be learning about at the four regional SARE Fellows meetings, and use photos and videos within my presentations for this purpose. I would give presentations to my local producers as well as to my colleagues at local and regional educational events. Currently I create programming for small farms, larger commercial producers, ranchers, and home horticultural audiences.

I am currently working on several projects involving alternative crops for this region, including USDA grants for improving canola production; developing organic quinoa production; and developing local food systems in Idaho. I am also working on a Beginning Farmer Rancher training and mentoring program and developing a management intensive grazing program for rainfed ranches in this region. I am always looking for ways to enhance sustainability as we search for new and improved farming methods. I think I would be able to gain additional insights from the contacts I would be making in the SARE Fellows Program, and possibly have some ideas to share with others as well.

If I am chosen for this program, I feel that my background as an agricultural economist would be helpful to other professionals and clientele working in sustainable agriculture, in terms of providing feasibility analyses or budgeting ideas. Together, researchers with different specialties and experiences may be able to create methods or techniques for enhancing the total sustainability of various systems, or come up with new and improved solutions for current problems. We may be able to form new partnerships for various projects, and learn from each other. We will be exposed to different stakeholders in different regions of the country, and this will facilitate the dissemination of win-win solutions across a wider spectrum. Being exposed to new ideas will help us come up with additional adaptations and solutions. I would be thrilled to be chosen for this fantastic opportunity for professional development in the area of sustainable agriculture.

State Winners

North Central Region

Kansas - Jennifer Carr

Missouri - Kelly Mcgowan

Northeast Region

West Virginia - Lisa Jones

Southern Region

North Carolina - Hannah Bundy

West Region

Arizona - Joshua D. Sherman

Utah - Ronald K Patterson

2018 Service to American/World Agriculture

Clark D. Garland

More than 47 years ago, Dr. Clark D. Garland joined the University of Tennessee as an agricultural economist in Extension. Since that time, he has provided exemplary leadership and conducted farm and financial management educational programs in Tennessee. His signature career achievement is the design, development and leadership of the highly successful MANAGE program. In 1986, Tennessee legislative, agriculture and Extension leaders established MANAGE and provided additional financial support to employ staff to work intensively with farm families. Thirty-two years later, the state continues to provide funding for nine area farm management specialists located across Tennessee. These specialists work directly with Extension agents to help farm families evaluate their individual situation and assist them in improving their quality of life. More than 19,000 farm families have greatly benefited from MANAGE. The program is recognized as among the strongest and most effective in the nation. Clark was the original coordinator of MANAGE.

Prior to the MANAGE program, he collaborated with Tennessee Valley Authority (TVA) to conduct the Resource Management and Rapid Adjustment Farm Demonstration programs. Dr. Garland provided leadership and guidance to 20 area agents working with thousands of Tennessee farm families across the TVA watershed in Tennessee. TVA invested in both agent salaries and farmer incentive payments as they implemented new farming practices and conducted farm test demonstrations. He also provided overall leadership in Tennessee for developing the Agri-21 Farming Systems project, which was conducted cooperatively with the Tennessee Valley Authority. Agri-21 Farming Systems was implemented in 1993 to teach development of sustainable farms and transfer that information in an effective manner to professional agricultural workers, farm families, and general public in the seven state Tennessee Valley Region. In Tennessee, 25 families representing 14 farms contributed to the achievement of project objectives.

Dr. Garland served as Tennessee's Sustainable Agriculture Co-Coordinator and Co-Leader for Green Industry Programs. He also chaired the Tennessee Biofuels Initiative Farmer Education Team. Clark provided leadership for educational programs for farmers on contracting and producing switchgrass for biomass. Sixty-one farmers grew 5,100 acres of switchgrass for biofuels production and research development.

Clark Garland has served with distinction on national USDA grant review panels. He also served on several national advisory teams. He's made extensive and valuable contributions in the area of University service. Clark served on numerous important Extension, Institute, and University committees. Notably, Clark served as chair of The University of Tennessee Institute of Agriculture (UTIA) Advisory Council and as one of two UTIA representatives appointed to the University's Faculty Handbook Committee.

Clark has a sustained record of external funding. He served as principal investigator on 45 grants and contracts, for $4.6 million, to develop, deliver and improve Extension programs. He also collaborated on 17 additional projects, with $2.2 million awarded. Throughout his career, Dr. Garland has anticipated emerging issues, excelled at Extension programming, made a positive impact and provided visionary leadership. He does an excellent job of skillfully influencing major decisions in appropriate directions. He has served as a mentor, champion and coach to numerous Extension specialists and agents both in Tennessee and surrounding states. Clark is recognized on the national level as a leader in farm financial management educational programs. For example, in a note of endorsement, Robert Craven, Director of the Center for Farm Financial Management at the University of Minnesota stated "Clark provided the leadership and intellectual know-how to help us adapt farm financial planning software, FINPACK, to meet the needs of producers in the South. Dr. Garland has made numerous national presentations about the MANAGE program and other educational activities. This willingness to share and cooperate with others has been a hallmark of working with Clark."

Dr. Garland has been a member of NACAA and the Tennessee Association of Agricultural Agents and Specialists through-out his career. He received the Distinguished Service Award from the National Association of County Agricultural Agents. Other awards include the Association of Public and Land-Grant Universities Southern Region National Award for Excellence in Extension and the Superior Service Award from Tennessee Valley Region Association of Demonstration Farm Families. He also received the University of Tennessee B. Ray Thompson Sr. Outstanding Faculty Performance and the Webster Pendergrass Award for Outstanding Service.

Dr. Garland has not let retirement halt his service to agriculture. Post-retirement contributions include serving as a board member with River Valley AgCredit Association. He also served as one of three judges for the Swisher Sweets/Sunbelt Expo Southeastern Farmer of the Year contest. This prestigious award is presented to a farmer at the annual Sunbelt Expo. Clark also served as a member and director of the National Land-Grant University Tax Education Foundation.

Clark continues to coordinate Tennessee's Federal Income Tax Seminars in cooperation with Tennessee Farm Bureau and the Internal Revenue Service. Income tax seminars are conducted at various locations throughout Tennessee. The tax seminar educational program is in its 58th year and is designed for tax professionals who prepare and file tax returns for farm and non-farm businesses and individuals. In 2017, participants in these seminars completed 211,002 federal tax returns including 29,474 farm returns.

Clark is a tremendous supporter for The Pearl House in Ghana, where his youngest daughter Courtney, has begun a new life serving as a founder and CEO beginning back in 2013. The Pearl House protects, educates and provides spiritual guidance to at-risk young ladies in underserved communities in Ghana. The house currently takes care of 22 teenaged girls. In April of 2018 they opened the Pearl House Career Center, teaching young women vocational skills. In September of 2018, they will also be opening an academic school, Pearl House Academy. In all endeavors, The Pearl House seeks to inspire young women to have a positive impact on their family, their community and their nation.

Clark is widely known as a highly dedicated and productive professional. Agents, farm families and other agricultural professionals across Tennessee and the nation have the highest respect for Clark as an expert in farm financial management and as an effective educator.

2018 Achievement Award Winners

North Central Region

Indiana - Valerie Clingerman
Indiana - Jenna Nees
Iowa - Charles Brown
Michigan - Erin Lizotte
Minnesota - Emily Wilmes
Missouri - Valerie Tate
Nebraska - Tyler Williams
North Dakota - Alicia Harstad
Ohio - Samuel Custer
Ohio - Jacqueline Kowalski
South Dakota - Sara Bauder
Wisconsin - Katie L Wantoch

Northeast Region

Maine - Lakesh K Sharma
Maryland - Jonathan R. Moyle
New Jersey - Steven Yergeau
New York - Donald Gasiewicz
Pennsylvania - Tanner Delvalle
West Virginia - James J. Barrett

Southern Region

Alabama - R. Hunter McBrayer
Alabama - Kimberly C. Mullenix
Alabama - Eric T. Schavey
Arkansas - Jennifer Caraway
Arkansas - Jenny Ross
Arkansas - Brian See
Florida - Michelle Atkinson
Florida - Frank Dowdle
Florida - Mark D Mauldin
Georgia - Renee Allen
Georgia - Stephanie Hollifield
Georgia - Clark MacAllister
Georgia - Andrew Sawyer
Kentucky - Corinne Belton
Kentucky - Whitney Carman
Kentucky - Michelle Simon
Louisiana - William Afton
Mississippi - Amanda Blakeney
Mississippi - Alex Deason
Mississippi - Stephen L. Meyers
North Carolina - Taylor H. Chavis
North Carolina - Melissa Evans Huffman
North Carolina - Jamie D. Warner
Oklahoma - Earl H. Ward
South Carolina - Terasa M Lott
Tennessee - Ronnie Cowan
Tennessee - Justin Hargrove
Tennessee - Blake Ramsey
Texas - Erin Davis
Texas - Shaniqua Davis
Texas - John Grange
Texas - Michael V. Haynes
Texas - Sheryl Raley Long
Texas - Allison Watkins
Virginia - Amy Fannon
Virginia - Todd Scott

Western Region

Arizona - Ashley Wright
Montana - Patricia Mcglynn
New Mexico - Aspen Achen
Oregon - Sergio Arispe
Utah - Michael Caron
Wyoming - Caitlin Youngquist

2018 Distinguished Service Award Winners

North Central Region

North Central Region
Indiana - Mark Kepler
Indiana - Eugene A. Matzat
Iowa - David Stender
Kansas - Andrea Burns
Michigan - M. Charles Gould
Minnesota - Phyllis Bongard
Missouri - Brent D. Carpenter
Nebraska - Aaron J.H. Nygren
North Dakota - LoAyne Voigt
Ohio - Michael Estadt
Ohio - Peggy Kirk Hall
South Dakota - Kimberly McGraw
Wisconsin - Joy Kirkpatrick

Northeast Region

Maine - Tori Lee Jackson
Maryland - Ben Beale
New York - David L Thorp
Pennsylvania - Dave Hartman
West Virginia - Brian Sparks

Southern Region

Alabama - Eve Brantley
Alabama - Lloyd D. Chapman
Alabama - Brenda S. Glover
Arkansas - Chris Grimes
Arkansas - Stewart Runsick
Arkansas - Robert Scott
Florida - Jim DeValerio
Florida - Gary K England
Florida - Libbie Johnson
Georgia - Greg W. Bowman
Georgia - Keith Mickler
Georgia - Paul J. Pugliese
Georgia - Peyton Sapp
Kentucky - Jerry Brown
Kentucky - Nick Carter
Kentucky - Linda Hieneman
Louisiana - Blair J. Hebert
Mississippi - Anthony Bland
Mississippi - Erick Larson
Mississippi - Jeffrey Wilson
North Carolina - Thomas Glasgow
North Carolina - Martha L. Mobley
North Carolina - Joanna Radford
North Carolina - Matthew Stevens
Oklahoma - Ron Wright
South Carolina - S. Cory Tanner
Tennessee - John Goddard
Tennessee - Steven Michael Huff
Tennessee - Megan Bruch Leffew
Texas - Bryan Young Davis
Texas - Tom Guthrie
Texas - Clinton Perkins
Texas - Langdon Reagan
Texas - Robert E. Richter
Texas - Marty Vahlenkamp
Virginia - Bobby Clark
Virginia - Scott Greiner

Western Region

Colorado - Michael J. Fisher
Montana - Bobbie Roos
New Mexico - R. Edmund Gomez
Oregon - William (Willie) Riggs
Utah - Justen Smith
Washington - Paul G Carter
Wyoming - Scott E Cotton

NACAA Hall of Fame Award

The NACAA Recognition and Awards Committee is proud to present these three recipients with the NACAA Hall of Fame Award. The Hall of Fame Award recognizes one member or life member from each NACAA region. Each state can nominate one individual. Based on a 500 word summary and three letters of support, the state nominees are evaluated on their Extension programming, state and national association activities and humanitarian efforts beyond the normal call of duty.

Our thanks to Pipeline Ag Safety Alliance for sponsorship of the NACAA Hall of Fame Awards

PIPELINE AG SAFETY ALLIANCE

2018
Southern Region
Hall of Fame Award

Thomas Braddock

Florida
38 Years - Retired

Thomas "Tom" Hansen Braddock enjoyed a 38 year career with Duval County Extension. The first ten years Tom worked as a 4-H agent developing county-wide 4-H clubs as well as coaching livestock and land judging teams. After receiving his master's degree in animal science from UF, he was the Multi-County Dairy and Livestock Agent serving Duval, Nassau, Baker, Clay and St. Johns counties. In 1975, Tom became the County Extension Director for Duval County and retired in 1995. During that time he served as President of FACAA, formed and chaired the Northeast Florida Water Advisory Committee, and organized the Jacksonville-Duval Agricultural Council. Since retirement, Tom has served as Duval 4-H Foundation Director, President of Duval County Cattlemen's Association, Vice President and Board Member of Duval County Farm Bureau, President of the Greater Jacksonville Fair Association just to name a few. Tom also stays busy managing a 391 acre farm comprised of beef cattle and timber lands. He practices silviculture growing timber for both pulpwood and saw timber. This operation incorporates forestry BMPs to minimize non-point source water pollution. He has received multiple awards during his years of service. Tom received the Distinguished Service Award from FACAA, ESP, Florida Farm Bureau, Duval Soil and Water Conservation District, and Gamma Sigma Delta. He also received the Outstanding Agricultural Leader Award, Mayor's Agriculture Leadership Award, and was inducted into the Florida 4-H Hall of Fame. Tom has spent his life supporting agriculture and the future of agriculture, our youth.

DSA awarded in 1973.

2018
North Central Region
Hall of Fame Award

Gary W. Wilson

Ohio
31 Years

Gary W. Wilson's contribution to farm families and businesses throughout his Extension career has been nothing less than exceptional. His enthusiasm and work ethics were second to none. Until his retirement, Gary was an active member of The Ohio State University Extension's Forage Team, Agronomics Crops Team, Sheep Team and the Ag Manager Team. Gary has effectively worked with rural and urban audiences to solve a variety of production, economic, and social issues. Partnering with the University of Findlay, Gary maintained 60 different forage variety plots and investigated rotational verses continuous grazing and grazing preferences by horses. His research findings were presented at five different national conferences. Gary developed a forage curriculum for horses, which was used in more than 50 seminars for a total attendance of 1000 participants. Gary secured funds to create the Ohio Forage and Grassland Council in which he has remained active. He was heavily involved with American Forage and Grassland Council, being elected to the Board of Directors and later elected President in 2015. Gary was instrumental in creating the Ohio State Fair Sheep Skillathon event and continued as superintendent for 21 years. He organized sheep educational tours to Australia, New Zealand, Idaho-Oregon, Utah, and United Kingdom. As president of Hancock County Sheep Association, the group raised $50,000 for new sheep gates to be used in youth educational programs at the county fair. Gary provided leadership for many areas of OSU Extension. While County Director, the Hancock County Commissioners supported budget increases equaling 146% during his tenure and he was very instrumental in building the new County Agricultural Center. Hancock County has also benefited from volunteers coordinated by Gary through his Master Gardener and Ohio Certified Naturalist programs. More than 200 volunteers have been trained providing more than 35,000 hours of documented time to the community. He also initiated and developed the Hancock County Agricultural Hall of Fame program. Gary's humanitarian record is also outstanding. He has been a Sunday school teacher for 44 years, Chairman of

the church congregation, a 4-H advisor for 35 years, and has worked regularly with a local organization to raise money to prevent child abuse. Gary initiated the Ag Career Scholarship Fund, which has raised more than $100,000 for future agricultural leaders. Gary was appointed to the Board of Trustee for Findlay-Hancock County Community Foundation, which provides $125 million for current and future community betterment projects. Presently, he is Vice President of the Board. A major program promoted by Wilson was Community Heart and Soul, a movement to revitalize small cities and towns in rural America. Two towns in Hancock County received a combined amount of $300,000 in grant funding for the program. Representing the Heart and Soul program, Gary was invited to participate in the Orton Foundation Chicago Seminar in 2016, the Orton Board Retreat in Vermont in 2017, and was asked to give a national presentation to the 2017 Rural Philanthropy Conference in Craig, Colorado.

DSA awarded in 1995.

2018
Northeast Region
Hall of Fame Award

Daniel Kluchinski

New Jersey
28 Years - Awarded Posthumously

Dan was born on March 29, 1963 in Passaic, NJ. Dan attended Clifton High School, graduating in 1981. He was a member of the Clifton High School Concert Choir and Madrigal Singers and was selected as a nominee for New Jersey Boy's State, and member of the All North Jersey Region I High School Chorus. Dan graduated from Rutgers University (1985), Bachelor of Science in Plant Science/ Agronomy with G. H. Cook Scholar Honors. He worked under the direction of his mentor, the late Dr. Richard Ilnicki, who encouraged a "city boy" to pursue a career in agriculture. Dan was active in the Rutgers Glee Club, and was proud of his accomplishments as a baritone. He served as Manager at Large, Vice President of Special Affairs, and Vice President of Fraternal Affairs. At Rutgers, he also served as president of Pi Alpha Xi, the National Floriculture Honorary Fraternity's Zeta Chapter. Dan graduated from Purdue University (1987), with an MS in Weed Science. He received the DuPont Outstanding Masters' Degree Graduate Student Award and served as the Graduate Student Association President. He enjoyed his summers in Madison, Indiana conducting research and helping to manage a rented farm off Route 62 near China Hill. Dan was an outstanding scientist, educator, administrator and mentor, and touched and influenced the lives of so many. He had a thirst for knowledge and derived great joy and satisfaction from helping others. Dan was an avid gardener, photographer, theater and music aficionado, loved the beach and outdoors, and traveling with friends. He always put others before himself and was a devoted uncle, friend, mentor and colleague. His positive attitude, kindness, boundless energy and caring nature will be missed by all those who know and love him. Although his fight with cancer included many challenges, Dan always kept his wonderful smile and sense of humor. His strength, optimism, and passion for life and learning were and will continue to be an inspiration.

DSA awarded in 2004.

2018
Western Region
Hall of Fame Award

Milt Green

Wyoming
32 Years - Retired

During his time as an educator, Milt Green demonstrated a commitment, dedication, and effective leadership in job performance as an outstanding educator. Getting his start in Agriculture Extension and 4-H he led many efforts to improve the program in Wyoming and the counties he was employed in. He and his team members increased 4-H enrollments and the involvement of its members in statewide events. During the mid-1980's farm crisis he was instrumental in helping support a farm crisis hotline for Wyoming farm families in financial stress. He did much work in Native American territories in both Utah and Wyoming, and served leadership positions in both states.

Milt is very involved in both the NACAA and WACAA. He has been a member of both associations for 31 years. He has held many offices and chaired committees in both the state and national associations. He served terms as the secretary and president of the state association. He was the National chair of the Ag Economics and Community Development committee and he the Western Region Vice chair of the Sustainable Agriculture committee. He received both the AA and DSA awards during his tenure with Extension. He has and continues to attend the NACAA AM/PICs and serves as the life member committee chair person for the Wyoming association as well as the Western Regional vice Chair for the life members committee.

Milt continues to be of service to his community and has participated in many activities outside of normal Extension programming. He has been involved in the Lions, Rotary, and Elks clubs. He was a board member of the After School Alliance in Lander, WY. He donates his time as a benefit auctioneer to many non-profit organizations.

The members of WACAA are lucky to have Milt as a member of our association and continually turn to him for advice in many situations. We are proud to nominate him for this award.

DSA awarded in 1988.

2018 ABSTRACTS OF THE NATIONAL WINNERS AND FINALISTS COMMUNICATIONS AWARDS CONTEST

Audio Recording

National Winner

Emily Wilmes
Extension Educator
UMN Extension-Stearns County
Stearns

Wilmes, E.*[1]
[1] Extension Educator, UMN Extension-Stearns County, St Cloud, MN, 56301

The attached audio clip is from a regular series I record for two local radio stations in my area: KASM of Albany, MN and KLTF of Little Falls, MN. These stations cover local news and events and both have strong agricultural broadcasting, especially KASM. Both stations estimate their daily listenership to be around 8,000. My clips are played on Saturday and Monday-Friday every three weeks. I contribute my six audio clips on a three-week rotation with two Extension colleagues, and each clip is played twice on its designated day. I record the clips myself in my office using Audacity software, then send them to the radio stations via email.

My target audience for both stations is local farmers and agribusiness professionals. My main objectives are to provide timely, relevant information that is applicable to the area as well as bring awareness to Extension and University resources and events. I also strive to provide information in a clear, concise manner that is easy to listen to. Nearly every time I am out in the counties at least one producer approaches me to tell me they heard me on the radio. It's also common for me to get phone calls from farmers wanting follow up information. I feel the radio clips are an important part of my teaching and presence in the counties.

The attached clip was broadcast on March 25, 2017. Spring is an important time for producers who have pasture on livestock, as final preparations need to be made to ensure productive pastures for their livestock. I felt a series of reminders would be appropriate for radio, and relevant as spring had just started and the window for frost seeding was fast approaching.

National Finalists

Edwin M. Lentz
Extension Educator and Associate Professor
The Ohio State University Extension
Hancock County

Lentz, E.M.*[1]
[1] Educator, The Ohio State University Extension, Findlay, OH, 45840

This Extension Educator has participated in the Ag Talk program every week day except for holidays on radio station WFIN. Program objective is to keep the community informed about the latest issues affecting agriculture including pest alerts and upcoming Extension activities. A horticulture topic is presented on Fridays. Topics are introduced by the station's Farm Service Director. The Extension Educator provides the topic, content and most of the presentation. The program is recorded in advance at the radio station. The recordings are played every week day on the main station and aired additionally on two sister stations, WKXA and The Fox. Program is received by about 70,000 listeners. Sound bites and some programs are aired at other times including weekends. The program submitted was aired 6:35 a.m. on WFIN, August 25, 2017, which discussed solutions for white pine weevils infesting Colorado blue spruce. Recorded programs are stored on the county web site. For program outcomes, listeners have been informed about the latest agricultural and horticultural issues, provided summaries and Internet locations of the latest university research, and given dates and times of upcoming Extension programs. Results of the radio programs have included listeners using the information in their farm operations, pest solutions for the yard and garden, and attendance at Extension programs. Programs have also resulted in increased requests for more information via email, telephone, county web visits, or visits to the County Extension Office.

Christopher Cooper
Extension Agent II
UT Extension
Shelby

Cooper, C.*[1]
[1] Extension Agent II, UT Extension, Memphis, TN, 38120

I was asked to be a guest on the radio program At The Garden to talk about the Tennessee Extension Master Gardener program and what it offers the citizens of Shelby County. This particular segment aired August 12, 2017 on KWAM 990 at 10 am. It was recorded on August 10, 2017 at the KWAM studio. Mike Allen, co-host of the program is the Executive Director of Memphis Botanic Garden. The link to the interview can be found at this address: https://soundcloud.com/memphisbotanicgarden/at-the-garden-radio-show-8-12-

17?utm_source=soundcloud&utm_campaign=share&utm_medium=email. The interview starts at the 34:23 mark. More information about the At The Garden radio program can be found on the Memphis Botanic Garden website (www.memphisbotanicgarden.com).

Taun Beddes
Horticulture Agent
UTAH STATE UNIVERSITY
Utah County

Beddes, T*[1], Caron, M.*[2]
[1] Extension Associate Professor of Horticulture, Utah State University Extension, Provo, UT, 84606
[2] Extension Assistant Professor, Utah State University, Lehi, UT, 84043

The KSL Greenhouse Show is a radio program hosted by a Utah State University Extension horticulture professor, and is an important outlet for Utah State University Extension to interact with clientele. The three-hour program airs weekly. Relevant and timely horticulture topics are covered in program segments at the beginning of each hour. Additionally, members of the general public call in with questions that are greatly varied. In the submitted segment, we briefly talk about pruning fruit trees as well as talk to a caller about the challenges of planting ornamental landscape plants under mature pine trees. Although not featured in the provided segment, various Extension specialists are also often show guests. Some topics they have discussed in the last year include creatively using in season produce, hobby greenhouse management, small acreage pasture management, and water conservation. The KSL Greenhouse Show reaches an estimated 50,000 listeners weekly, and according to Arbitron ratings, is the most popular Saturday morning radio program in the market.

Regional Winners

Marissa Schuh
Extension Educator
Michigan State University Extension
Southeast

Schuh, M.*[1]
[1] Vegetable Educator, Michigan State University Extension, Adrian, MI, 49221

Lenawee and Monroe Counties are the 19th and 4th largest vegetable producing counties in the state by value of sales, and getting relevant information to growers is critical. Utilizing an existing relationship with WLEN, an Adrian-based radio station with a broadcast reach throughout Lenawee county and into neighboring counties, I produced a segment targeting vegetable growers. I recorded a short segment in my office highlighting a key event for vegetable growers, the Southeast Michigan Winter Vegetable Meeting. The segment aired at 6pm on January 23rd 2018, and was a component of an advertising strategy

that increased event attendance by 20%.

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

Butzler, T.*[1], John Esslinger*[2], Justin Wheeler*[3], Daniel Balton*[4], Bill Hallman*[5]
[1] Horticulture Educator, Penn State Cooperative Extension, Mill Hall, PA, 17751
[2] Extension Educator, Penn State Extension, Bloomsburg, PA, 17815
[3] Master Gardener, Penn State Extension, Bellefonte, PA, 16823
[4] Producer, Penn State Public Media, University Park, PA, 16802
[5] Host, Penn State Public Media, University Park, PA, 16802

Each year, we conduct two 60 minute call–in gardening shows on Penn State's Public Broadcasting Service with the *Conversations Live: Get Your Garden On*. This is aired on WPSU-FM radio, WPSU-TV, and live-streamed at 8 PM EST. The submitted segment for the Audio Recordings Communication Award was recorded on October 26, 2017 and is archived for future viewing/listening at http://wpsu.psu.edu/tv/programs/conversationslive/get-your-garden-on-fall-2017. We discuss lawn and garden issues that are relevant to the area (central Pennsylvania) by talking to the host and taking viewers questions. These questions can be submitted via phone, email (connect@wpsu.org), or twitter (@WPSU with the hashtag

Molly Jameson
Sustainable Agriculture and Community Food Systems
UF/IFAS
Leon

Jameson, M.*[1]
[1] Sustainable Agriculture and Community Food Systems, UF/IFAS, Tallahassee, Fl, 32301

The objective of being on the panel for the "Down on the Farm" episode for the listener call-in program, *Perspectives,* was to engage the WFSU-FM listener community about the Capital Region's small farms, community gardens, local food, planned agricultural communities, and UF/IFAS Extension services. The listening community included the approximately 70,400 people who listen weekly to WFSU on 88.9 FM in the North Florida and South Georgia listening area, and the program became available to listeners online at wfsu.org the following week. The Agent went to the WFSU-FM studio to be part of the radio panel, along with two local farmers, and contributed

to various portions of the program that was hosted by WFSU-FM's Program Director for News, Tom Flanigan. The program was 50 minutes and 52 seconds in length, aired live on WFSU-FM at 11:00 a.m., Thursday, May 30, 2017, and is available as a recording produced by WFSU-FM on the WFSU.org website: http://news.wfsu.org/post/perspectives-down-farm. The Agent contributed approximately seven minutes of conversation to the program, at about minute 5:00, 9:25, 15:00, 36:55, and 41:00, discussing UF/IFAS Extension programming, including agricultural education, horticultural workshops, and the importance of supporting pollinators. The ability to represent UF/IFAS Extension Leon County programming in front of such a wide audience improves Extension's visibility as a reputable source for scientific information as it relates to local agriculture and the farming community.

Elizabeth Mcmahon
CEA-HORT
Texas A&M AgriLife Extension Service
Gillespie

McMahon, E.*[1]
[1] CEA-HORT, Texas A&M AgriLife Extension Service, Fredericksburg, TX, 78631

How to do a soil test and which one to use are common questions at our extension office. The objective of this radio segment was to review the basic Texas A&M Soil Lab soil test, and to explain the more advanced soil tests and when one may need to use them. A radio segment from the Gillespie County Extension Office runs each weekday morning (7:10 AM) and around lunch (12:30 PM) as part of the farm and ranch news on KNAF 910 AM. KNAF 910 AM is in an unrated market with 550,000 people in listening range. Its broadcast extends into 19 counties in the Texas Hill Country. The "Advanced Soil Testing" segment ran frequently during the month of January 2018, although it alternated with other radio segments that were submitted by the extension office. It was recorded at the extension office. Radio segments are also placed as podcasts upon a Soundcloud page "Hill Country Gardening Podcast" (https://soundcloud.com/txhillgarden) to further extend extension outreach to listeners.

Kurt M Jones
County Director
Colorado State University Extension
Chaffee

Jones, K.M.*[1]
[1] County Director, Colorado State University Extension, Salida, CO, 81201

Beginning in April, 2017, Chaffee County Extension Director, Kurt Jones, began hosting a weekly radio program on KHEN radio, a local "low-power" radio station located in Salida, CO. What began as a request to speak on the radio about local gardening issues and trends has become a regular feature on Tuesday afternoons from 1:00 until 1:30. Listeners can tune in to 106.9 FM, listen live on http://www.khen.org/, or listen to recorded pod casts of previous shows from the website. Colorado Master Gardener volunteers regularly join Kurt as guests on the show. Additional guests have included visiting extension agents and local gardening enthusiasts. Once the live show is completed, the recording is edited for length and any audio abnormalities, then it is posted on the KHEN website. Following this, the station manager publishes a release on Facebook, tagging Kurt so it reaches followers of KHEN and Kurt Jones. Recent data suggests this program reaches 5,700 residents each week through this social media outlet. Analysis of podcast listening depends on the topic, but some of the top "downloads" were listened to more than 500 times. Radio podcast recordings occur at the station live. The local extension agent has been trained to engineer the show, and conduct some minimal editing of the recorded show for uploading to the website and sharing via social media. The podcasts are available at http://www.khen.org/salida-yard-and-garden. The specific podcasts suggested for this competition are Show #011 (June 13, 2017) and Show #31 (November 7, 2017). Realize the shows are 30 minutes in length, so please review the first 15 minutes of each show.

Patrick Kircher
Ag Agent
New Mexico State University
Roosevelt/Western

Kircher, P.*[1] Robbins, K.[2]
[1] Ag Agent, New Mexico State University, Portales, NM, 88130

[2] Radio Host/Producer, KSEL 105.9, Rooney Moon Broadcasting, Portales, New Mexico, 88130

The objective of the "Field and Farm Report" is to provide up to date agriculture information on crop and livestock markets as well as news trending in the agriculture community. The radio show is hosted by KSEL Country, FM 105.9 based in Portales, NM. The segment "Check in with the County Agent" was started in January of 2013 as an outreach tool for the Roosevelt County Extension Office. This serves to update clientele within the broadcast listening area on upcoming Extension activities or agriculture items of interest to the region. The segment is five minutes in length and is prerecorded earlier in the week to be played back at approximately 6:10 a.m. on Friday mornings. The segment is also uploaded to a program called SoundCloud as a WAV file to allow for podcast listeners to gain access. The link is attached to the Extension's Facebook page to allow for greater public access to the information. The radio station has a listening audience for a 50-mile radius surrounding Portales, New Mexico. Five counties are included in that coverage area with populations listed as Roosevelt County 19,082, De Baca

County 1,793, Curry County 50,280, Parmer County, TX 9,776, and Bailey County, TX 7,181. The County Agent contribution to the segment is to actively seek out topics for discussion, share those with the show host and engage in open dialogue as each episode is recorded. Doing a weekly show has pressed the County Agent to stay current on events happening around the country and has helped the Agent learn more on a variety of topics in order to speak to them on an informed basis. Listeners are provided the Extension office phone number at the end of each segment to call for additional information. The submitted program aired February 9, 2018.

State Winners

North Central Region

Kansas - Sandra L. Wick

Nebraska - John Porter

South Dakota - Taylor Grussing

Southern Region

Arkansas - Rachel Bearden

Georgia - Paula J. Burke

Kentucky - Kristin G Hildabrand

Mississippi - Jason R Barrett

North Carolina - Travis Birdsell

South Carolina - Zachary Snipes

West Region

Oregon - Brian Tuck

Washington - Susan Kerr

Bound Book
National Winner

Katie Wagner
Horticultural Agent
Utah State University
Salt Lake County

Wagner, Katie*[1], Olsen, Shawn*[2]
[1] USU Extension Associate Professor of Horticulture, Utah State University Extension, Salt Lake City, UT, 84114
[2] USU Extension Professor of Agriculture, Utah State University Extension, Kaysville, UT, 84037

Counties with high population densities are often faced with the challenge of balancing high consumer demand for gardening information with limited staffing. Over-the-phone diagnostics can be a challenging and time consumptive activity. One question can easily lead to another when a client is trying to navigate the basics of gardening. We encountered many gardeners who had moved to Utah from out of state who were not familiar with the local climate and best gardening practices. In an effort to provide answers to common gardening questions, three USU Extension faculty members co-authored 'The Ultimate Gardening Guide' in 2017. This 121-page guide walks readers through the basics of fruit and vegetable production in Utah. The purpose of the guide is to provide the public with a convenient and user friendly gardening resource that features research-based gardening information that is relevant to intermountain west gardeners. In order to have the guide more widely distributed, we worked with the USU Office of Commercialization to find a book publisher and distributor. The guide was printed by Hobble Creek Press, a commercial book publisher, in cooperation with USU Extension. The book is distributed by Hobble Creek Press to Barnes and Noble bookstores, Seagull Book stores, and Amazon as a printed book and a Kindle e-book. The printed book is also available from the USU Extension online bookstore (usuextensionstore.com). In 2017, over 270 printed copies of the book were distributed. Three Amazon customer reviews (all verified purchasers) averaged 4.6 out of 5 stars. One Amazon review stated: "Good basic info for beginning gardeners, especially Utah. Has highlighted links to go to on the Utah State Extension site, which has exceptionally good info and videos by their horticulturists".

National Finalists

Phillip Durst
Sr. Extension Dairy & Beef Educator
MSU EXTENSION
OGEMAW

Durst, P.*[1]
[1] Sr. Extension Dairy & Beef Educator, MSU Etension, West Branch, MI, 48661

The American Dairy Science Association embarked on the preparation of a completely new edition of Large Herd Dairy Management, 3rd Edition in 2015. David Beede, editor, put out a call for section editors. This Extension Educator and colleague Stanley Moore responded with a proposed book section on employee management and were approved. Thus began a long journey of determining the number and types of chapters to have in the section and recruiting authors for those chapters. We recruited a diverse and highly qualified team of authors and worked with them on the development of their chapters. In addition, we ourselves wrote a chapter for the book entitled "Building a culture of learning and contribution by employees". All chapters were peer reviewed

internally by another section author and externally by a panel of experts. Through all of this, we worked with the authors and with ADSA staff to prepare the section. Finally, we wrote the section preface. The culmination of Large Dairy Herd Management was a 1376 page e-book that was released in time for the 2017 ADSA Annual Meeting in June 2017 and is available. This entry is Section 14 – Effective Management of Farm Employees. All chapters were presented orally at the Large Dairy Herd Management conference held May 2016 in Chicago and attended by more than 600. Of this book, ADSA says: "The ADSA® Foundation is pleased to announce that after untold hours of work by a dedicated group of 171 chapter authors, 18 section editors, and 73 external reviewers, under the leadership of Dr. David Beede, the third edition of *Large Dairy Herd Management* (e-book) is available for purchase. This edition was developed to help meet the growing information needs of dairy farmers, service professionals, and students worldwide. It brings peer-reviewed dairy science and management information to users in an accessible, easy-to-use format. The e-book includes 97 chapters in 15 sections."

Elizabeth Hawkins
Field Specialist, Agronomic Systems

Hawkins, E.*[1], Arnold, G.*[2], Barker, F. J.*[3], Bennett, A.*[4], Bruynis, C.*[5], Colley, R.*[6], Custer, S.*[7], Douridas, N.*[8], Estadt, M.*[9], Ford, K.*[10], Fulton, J.*[11], Griffith, M.*[12], Khanal, S.*[13], Klopfenstein, A.*[14], Lee, J.*[15], Nye, A.*[16], Port, K.*[17], Richer, E.*[18], Shearer, S.*[19], Tietje, R.*[20], Zoller, C.*[21]
[1] Field Specialist, Agronomic Systems, , Wilmington, OH, 45177
[2] Associate Professor, Field Specialist, Ohio State University Extension, Findlay, OH, 45840
[3] ANR Extension Educator, Knox Co., Ohio State University Extension, Mt Vernon, OH, 43050
[4] ANR Extension Educator, Miami Co., Ohio State University Extension, Troy, OH, 45373
[5] ANR Extension Educator, Ross Co., Ohio State University Extension, Chillicothe, OH, 45601
[6] Graduate Research Associate, Ohio State University Extension, Columbus, OH, 43210
[7] ANR Extension Educator, Darke Co., Ohio State University Extension, Greenville, OH, 45331
[8] Farm Manager, Molly Caren Agricultural Center, Ohio State University, London, OH, 43140
[9] ANR Extension Educator, Pickaway Co., Ohio State University Extension, Circleville, OH, 43113
[10] ANR Extension Educator, Fayette Co., Ohio State University Extension, Washington CH, OH, 43160
[11] Associate Professor, Ohio State University, Columbus, OH, 43210
[12] ANR Extension Educator, Madison Co., Ohio State University Extension, London, OH, 43140
[13] Research Scientist, Ohio State University, Columbus, OH, 43210
[14] Senior Research Associate Engineer, Ohio State University, Columbus, OH, 43210
[15] Student Assistant, Ohio State University, Columbus, OH, 43210
[16] ANR Extension Educator, Clinton Co., Ohio State University Extension, Wilmington, OH, 45177
[17] Precision Ag Program Manager, Ohio State University, Columbus, OH, 43210
[18] ANR Extension Educator, Fulton Co., Ohio State University Extension, Wauseon, OH, 43567
[19] Professor, Ohio State University, Columbus, OH, 43210
[20] Research Associate Engineer, Ohio State University, Columbus, OH, 43210
[21] ANR Extension Educator, Tuscarawas Co., Ohio State University Extension, New Philadelphia, OH, 44663

eFields is a research and outreach initiative focused on testing and refining management practices with the goal of increasing farm efficiency and profit while minimizing the environmental impacts of the agriculture industry. eFields consists of field-scale research projects that are planned, designed, and executed in partnership with Ohio farmers. Ohio State researchers and Extension professionals work with partnering farmers to design field experiments that allow them to compare different approaches to solving a problem and choose the solution that offers the best result for their operation. This approach ensures that the research is aimed at answering questions that matter to farmers and the results are relevant to the challenges farmers face in their operations. These factors ultimately increase the potential of this research to drive meaningful change in the industry.

In eFields' inaugural year, this team of 19 Ohio State faculty, Extension professionals, and staff collaborated with more than 30 growers and 21 industry partners on over 50 studies conducted at 39 unique research sites, across 13 counties and more than 3,000 acres. The team collected, aggregated, and analyzed the data and summarized and organized the research results to be reported in the annual eFields Research Report. This report is available both electronically and in print and is distributed to farmers, crop consultants, and industry professionals at traditional Extension events, industry meetings, and via social media platforms including Facebook and Twitter.

Since its release on January 17, more than 1200 physical copies of the eFields report have been distributed. The e-version, published through Issuu.com and BuckeyeBox, has more than 2700 reads and 302 downloads. Readers have tapped into the report from 16 different countries across the globe. The eFields website, which includes the report, the protocols used in many of the trials, and additional resources, has had more than 2200 unique visitors. This information is effectively being placed in the hands of farmers who can use it to make better decisions that can improve their farm business

and increase the sustainability of agricultural production as a whole. Download the eFields report at: https://fabe.osu.edu/programs/eFields.

Megan Bruch Leffew
Extension Specialist III
University of Tennessee Extension
Center for Profitable Agriculture

Leffew, M.B.*[1]
[1] Extension Specialist III, University of Tennessee Extension, Spring Hill, TN, 37174

The Tennessee Christmas Tree Production Manual was developed to provide prospective growers a basic understanding of the considerations and process involved in growing and marketing Christmas trees successfully. While the manual is most useful to producers interested in choose and cut operations, much of the information is applicable to anyone interested in growing and marketing Christmas trees in the state. The publication is helpful to people interested in evaluating the idea of beginning a new operation and for those looking to improve their production, management and/or marketing in an existing operation. The book is available online for download at https://tiny.utk.edu/ChristmasTrees or in hard copy from University of Tennessee Extension offices. A total of 3,000 copies were printed with support from a USDA Specialty Crop Block Grant administered by the Tennessee Department of Agriculture. Copies have been distributed to producers and prospective producers at workshops and at Tennessee Christmas Tree Growers Association meetings. Leffew contributed to the development of the grant proposal and served as an author and editor. She also promoted the availability of the publication to clients through email and social media marketing.

Regional Winners

David Burton
Civic Communications Specialist
University of Missouri Extension
Southwest

Burton, D.*[1]
[1] Civic Communications Specialist , University of Missouri Extension, Springfield, MO, 65802

Interest in the preservation of one-room schools nationwide continues to grow, and a national organization has even formed focused on the preservation of one-room schools. However, until the publication of this book, there was nothing in print documenting the historic and one-room schools still standing in the urban Greene County (Springfield, Mo). This book is the only source documenting the one-room schools of Greene County. There is a rich history here on this subject and the author has spent nearly 20 years doing interviews, gathering data, taking pictures, and working for the preservation of these schools. In 2017, he put together this book for sale locally as a fundraising for the Greene County Extension office. The goal was to increase interest in the preservation of these unique buildings and to perhaps breathe new life in to them for use as rural community centers or gathering places. Ironically, the history of one-room schools follows a similar to track to the history of extension and agriculture in rural Missouri. The two intersect frequently and involve the same people. The publication of this book has led a series of TV and radio and newspaper interviews this year, all of which have mentioned the connection between this book and MU Extension. To date, the Greene County Extension office has sold nearly 420 print copies of the book. The book was entirely researched, written, edited and designed by the individual member submitting this abstract and contest entry.

Alicia Halbritter
Livestock/Forage Extension Agent
UF/IFAS Duval County Extension
Duval

Halbritter, A.*[1]
[1] Livestock/Forage Extension Agent, UF/IFAS, Jacksonville, Fl, 32254

Livestock producers often discount toxic weeds unless they have livestock deaths but these toxins can cause many other symptoms that will affect the producer's bottom line (like weight loss, lack of appetite, or related health problems). Educating producers on toxic weed identification as well as related symptoms helps producers quickly determine if they have toxic weeds in pastures, providing effective herbicides helps producers determine immediately how to mitigate the problem. This compact flipdeck allows producers to store it in an easily accessible place, like a glovebox, when they are traveling around their operation and is laminated to prevent damage. 40 flipdecks have been distributed to livestock producers and extension agents in Florida so far, with more expected to be given out during 2018 programs. The agent is solely responsible for the development, writing and production of the book.

Amy Dabbs
Clemson Extension Agent
Clemson University
Charleston, Berkeley, Dorchester Counties

Dabbs, A.*[1], Snipes, Zachary B.*[2]
[1] Clemson Extension Agent, Clemson University, Charleston, SC, 29401
[2] Commercial Horticulture Extension Agent, Clemson Extension, Charleston, SC, 29401

School Gardening for South Carolina Educators is a horticulture-based training program designed to help South

Carolina educators grow successful school gardens to address childhood obesity and improve academic outcomes. The program was developed to address the lack of basic horticulture knowledge and skills among educators who want to incorporate school gardening into their classroom instruction. Clemson Extension offers the School Gardening for SC Educators program through a partnership with the College of Charleston's Food System Change Initiative with funding from Boeing SC. The program includes low-cost online training, technical support, hands-on workshops and educational materials to help school and community gardens increase the capacity for gardening with youth. By marshalling Clemson Extension's network of resources including Master Gardeners, 4-H agents and horticulture extension agents, the program has helped establish and maintain over 150 school gardens statewide. Over 500 educators, parents and volunteers have received training in five key modules including site analysis, raised bed gardening, vegetable gardening, food safety and community resources; a hands-on workshop builds confidence in skills learned. Technical support is provided through turn-key garden kits, timed delivery of transplants and seeds to schools based on the regionally specific Seasonal Planting Guide and Calendar for School Gardens. Two versions of the book were developed, tailored to upstate and lowcountry school gardeners with planting dates that are specific to these regions of the state. The book also includes a school gardening checklist and worksheet for developing a sustainable school garden, a getting started guide and information on how to build healthy soils in raised beds. The guide begins in early fall when students return to school and clearly illustrates proper spacing for each crop. Each bed is numbered and crop families are rotated through the beds to help avoid insect and disease pressures. The planting calendar describes which week a crop should be planted or harvest and how each crop is established; either by seed, bulb or transplant. A space for notes allows teachers to make notes for future years and graph paper is provided for site planning.

State Winners

Southern Region

Alabama - Kimberly C. Mullenix

Arkansas - Kevin Lawson

Georgia - Tucker Price

Texas - John Gordy

Virginia - Alyssa J Elliott

Computer Generated Graphics Presentation

National Winner

Elizabeth Mcmahon
CEA-HORT
Texas A&M AgriLife Extension Service
Gillespie

McMahon, E.*[1]
[1] CEA-Hort, Texas A&M AgriLife Extension Service, Fredericksburg, TX, 78631

"Winter Squash" was a short presentation given to compliment a winter squash cooking & tasting demonstration, as part of my Gardening by the Month program series. It was given on November 17th, 2017. Though November is a poor time of year to grow winter squash, this month was chosen because of the greater availability of winter squash in supermarkets and because of the increased use of winter squash in holiday dishes. This presentation's objective was to provide attendees with the information that they would need to grow their own winter squash next year. On average, attendees rated their before program knowledge of basic growing information of winter squash as a 2, and gave a post rating of 4(out of 4, 4 being the highest). Shea Nebgen, the Gillespie County FCH agent, gave the cooking demonstration that accompanied this program. It is not a part of this slide presentation. This program series was targeted towards beginner and moderate level gardeners. It was held at lunch to allow those who worked full-time the chance to attend. All slides should be judged. It was created using Microsoft PowerPoint.

National Finalists

Heidi M Lindberg
Greenhouse Extension Educator
Michigan State University Extension
MSUE West Michigan

Lindberg, H.M.*[1]
[1] Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

"Greenhouse Scouting" is a computer generated graphics presentation in the Michigan State University Extension's new Desire to Learn Integrated Pest Management (IPM) Academy. This 30-minute module is one of eleven in the self-paced online course. The Desire to Learn IPM Academy is a result of a collaboration between numerous Michigan State University Extension educators and consists of several topics including: an introduction to IPM, plant science, conserving pollinators, and scouting in greenhouses, perennial, and vegetable crops.

The course is available for $10 and Michigan growers can request up to 6 pesticide applicator credits through the Michigan Department of Agriculture. Since this course's release in September 2017, 105 people have enrolled in the course. The presentation consists of 31. The recording with closed captioning can be viewed directly by visiting http://www.screencast.com/t/hv7AjmEDbMm and by reviewing the beginning through the 15:00 mark. Slides 1-17 is available for review of the first 15-minutes of the presentation.

Amanda Bennett
Ext. Educ., ANR
Ohio State University Extension
Miami County Ext. Office

Bennett, A.*[1]
[1] Ext. Educ., ANR, Ohio State University Extension, Troy, OH, 45373

Interest in beekeeping has increased drastically over the last few years. While local beekeeping associations offer beekeeping classes, there is limited information on beekeeping available from Universities and Extension services throughout the country, albeit it is growing. When the educator joined Extension three years ago, the knowledge capacity was very low in the state among Extension professionals on how to keep bees despite the demand for education. As a beekeeper, the educator developed several educational presentations that have been delivered at least six times in three different counties in the state. One such educational event is the Southwest Ohio Beekeepers School. The event has been in existence for over 30 years and draws over 350 participants yearly. In March of 2017, a beginner's tract was developed in response to a number of the past participants indicating they either did not currently own bees or only had a few years' experience. This presentation was developed as part of that beginner's tract to focus on the equipment needed to begin beekeeping. It was delivered to over 80 attendees in 2017 who rated the quality of the presentation at 4.48 on a 5-point Likert Scale and the usefulness of the presentation at 4.42. The educator was asked to deliver the same presentation at the 2018 event.

Margaret Ross
Eastern Area Specialized Poultry Agent
NC State Extension
Jones

Ross, M.*[1]
[1] Eastern Area Specialized Poultry Agent, NC State Extension, Trenton, NC, 28585

Annually, the area specialized poultry agents put on grower meetings to update commercial poultry growers about hot topics in the industry. This may include updates on various issues such as proper mortality disposal. This presentation was intended to refresh everyone's memories of proper protocol for mortality disposal, give them their method of disposal options, as well as highlight how we dealt with mortality issues during Hurricane Matthew. Other issues I typically include in presentations were also touched on such as record keeping, manure hauler certification, and being a good neighbor.

We held three grower meetings across the state. The target audience was commercial poultry growers and we reached anywhere from 15-30 growers at each meeting.

Regional Winners

Hemant Gohil
Agriculture and Resource Management Agent
Rutgers Cooperative Extension
Gloucester County

Gohil, H.*[1]
[1] Agriculture and Resource Management Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312

The devastating frost events in the east-coast US has resulted in substantial loss of peach and apple crop in recent years. A scripted power point presentation "Frost Protection in the Orchard – Methods, Updates and Costs" was prepared to educate orchard crop growers in cool climates on preventing crop loss using effective frost protection (FP) methods. It covers initial considerations before starting any FP method, technological updates in some of the equipment, costs of equipment as well operations, and pros and cons for each method. It incorporates critical information gained during the Grower Panel Discussion on Frost Protection organized and conducted by the author during 2018 Mid-Atlantic Fruit and Vegetable Convention in Hershey, PA. A panel of experts consisted growers with many years of experience using specific FP methods.

The author presented the information at Mid-Atlantic Fruit and Vegetable Convention in Hershey PA, South Jersey Tree Fruit Meeting, Bridgeton NJ and North Jersey Tree Fruit Meeting Flemington, NJ (Total approximately 380 fruit growers). Handouts were provided to guide growers in decision making on when to start FP (attachment 1). After each presentation, a survey (attachment 2) was conducted. Summary of total 128 responses indicates a substantial gain in knowledge and intention to use information provided. The scripted powerpoint presentation is also available at: *https://njaes.rutgers.edu/peach/orchard/pdf/Frost-Protection-in-Orchards-Methods,-Updates-and-Costs.pdf*

Elizabeth Bosak
Field & Forage Crops Educator
Penn State Extension
Dauphin & Perry Counties

Bosak, E.*[1]
[1] Field & Forage Crops Educator, Penn State Extension, Dauphin, PA, 17018

Soybean yield can be estimated during the growing season when pod fill begins. In-season estimates can help to avoid any surprises when the combine rolls through the field. Extreme drought, re-planting due to early season pests, flooding, and any other abnormal weather events will significantly impact yield. This is a time when soybean yield estimates can be particularly helpful when deciding if and how much off-farm feed to purchase for the approaching winter. Since this is not typically done every year and not discussed during winter programming, it was important to generate an instantly available resource. A five minute narrated PowerPoint presentation was developed using Camtasia and published on Penn State Extension's YouTube channel (https://youtu.be/Ig7E6D1udl8). In August 2017, an article with a link to the video was published in Penn State Extension's Field Crop News e-newsletter (https://extension.psu.edu/estimating-soybean-yield). In the past year, the video has been viewed 154 times.

Barbara H. Smith
Horticulture Extension Agent
Clemson University
Statewide-HGIC

Smith, B.*[1]
[1] Horticulture Extension Agent, Clemson University, Clemson, SC, 29634

The purpose of this power point presentation is to give an attendee an overview of the wide selection of warm season annuals to use for seasonal color in the landscape. The color spectrum is explained with color wheel charts, and how to effectively use flower colors in different situations. The annuals selections are then broken down into two categories: sun to part sun and part shade to shade. A handout is coordinated with photographs and notes in order to provide the attendee with additional information to refer to during the presentation and for later reference. The purpose of this presentation is to educate the attendee in the proper use of color along with the correct plant selection for a container or landscape bed.

Leslie Beck
Extension Weed Specialist
NMSU Extension Plant Sciences
NM

Beck, L.*[1]
[1] Extension Weed Specialist, NMSU Extension Plant Sciences, Las Cruces, NM, 88003

In New Mexico, licensed applicators must receive continuing education credits (CEUs) annually. The New Mexico State University Pesticide Applicators Training (PAT) Programs help to provide this continuing education. In 2017, the presentation titled "Water Hardness and its' Impacts on Herbicide Efficacy" was developed by the author for PATs throughout the state of New Mexico. The intent was to discuss the effects of water quality on the success of weed control with certain herbicides, and to provide information to attendees on management practices to mitigate this phenomenon. By utilizing these practices, applicators may significantly increase their levels of success in managing weeds with commonly used herbicide active ingredients (i.e. glyphosate, 2,4-D, dicamba). Evaluations of the 2017 NMSU PAT CEU Workshops indicated that out of 431 attendees, a high percentage (97%) indicated that they learned something that will help them in applying pesticides, while 78% of the participants believed they will change a pesticide application practice based on the information presented. As a direct result of the author's water hardness talk, the District Coordinator of the San Juan County Soil & Water Conservation District had multiple different water sources around Farmington, NM tested for hardness levels in 2017. She then utilized the formula in the presentation to offer suggestions for improved herbicide efficacy for the Parks and Recreation Department, multiple landscape and ornamental management companies, and herbicide applicators throughout San Juan County. At the 2018 PAT CEU Training in Farmington, the author presented a follow-up survey to participants who had heard the talk in 2017 to determine if they had utilized practices to mitigate hard water cation binding and enhanced their weed management throughout the previous year. A high percentage (83%) of these attendees indicated that they now test their water for quality and add water conditioners to help improve herbicide efficacy on target weeds. In a world of ever-evolving weed management issues like resistance, any practices to increase the success of controlling invasive weeds is definitely worth the time and the investment.

State Winners

North Central Region

Indiana - Elysia Rodgers

Kansas - Sandra L. Wick

Minnesota - Abby Neu

Nebraska - John Porter

South Dakota - Sara Bauder

Southern Region

Arkansas - Colin Massey

Florida - Alicia Halbritter

Georgia - Melissa Mattee

Kentucky - Corinne Belton

Mississippi - Heather Jennings

Tennessee - Melissa Henry

Virginia - Kevin Camm

Fact Sheet

National Winner

Michelle Infante-Casella
Agricultural Agent/Associate Professor
Rutgers New Jersey Agricultural Experiment Station Cooperative Extension
GLOUCESTER

Infante-Casella, M.*[1], William Bamka*[2]
[1] Agricultural Agent/Associate Professor, RRutgers New Jersey Agricultural Experiment Station Cooperative Extension , Clayton, NJ, 08312
[2] Agricultural Agent, Rutgers Cooperative Extension of Burlington County, Westampton, NJ, 08060

Michelle Infante-Casella, Gloucester County and William Bamka, Burlington County, are both County Agricultural Agents with Rutgers New Jersey Agricultural Experiment Station (NJAES), Cooperative Extension. They co-wrote an extension fact sheet titled, "Common Insect Pests in Hop Yards". Bamka has conducted research and educational programs with hops since 2002. Client inquiries about this crop resurged in 2014 and Bamka invited Infante-Casella to work with him to meet stakeholder needs. Both Agricultural Agents became the key contacts in the state for hops production and marketing questions for Rutgers Cooperative Extension. With the increase in new craft breweries in the State of New Jersey, 8 farmers began establishing new hop yards in 2017 to try and supply a local product demand. Many farmers are first-time producers and need education on pests invading this new crop. Therefore, Infante-Casella and Bamka published this educational fact sheet for insect pests on hops that can be found at https://njaes.rutgers.edu/fs1272/ . Since publication on April 7, 2017, the fact sheet has received 411 page views and has been downloaded 397 times from the NJAES website. Infante-Casella and Bamka have distributed 395 hard copies of this publication at grower educational events, during one-on-one site and office consultations, and by mail. Growers using this fact sheet have said, during face-to-face discussions, they find it a valuable resource and have found good strategies on managing insect pests with alternative methods like sanitation.

National Finalists

Peggy Kirk Hall
Asst. Professor and Field Specialist, Agricultural & Resource Law
Ohio State University Extension
State

Hall, P.K.*[1]
[1] Asst. Professor and Field Specialist, Agricultural & Resource Law, Ohio State University Extension, Columbus, OH, 43210

The purpose of this fact sheet is to advise livestock farms of a new air emissions reporting requirement issued by the U.S. EPA as a result of litigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The new requirement caught farms off-guard because agriculture had previously been exempt from the law and the EPA provided short notice of the new compliance deadline. I developed this fact sheet to help livestock farm operators quickly comply with the new law. The fact sheet provides guidance for determining if a farm surpasses the minimum emissions threshold to trigger the reporting requirement and if so, steps the farm operator must follow to complete the reporting process and attain compliance. Included in the fact sheet is a table that provides formulas and minimim head count calculations which I created by reviewing livestock emissions research and consulting with the Ohio EPA and livestock specialists in Ohio. I authored the fact sheet and distributed it electronically on my Ohio Agricultural Law Blog, which received 497 views. OSU Extension's Agriculture & Natural Resources website, the Ohio Ag Manager blog, and the National Agricultural Law Center Ag & Food Law Blog also host the fact sheet. I provided an electronic version of the fact sheet to all OSU Extension Agriculture and Natural Resource professionals in Ohio and distributed 127 printed copies of the fact sheet at two Extension meetings. Note that I have since revised the fact sheet because the U.S. EPA has delayed the reporting requirement compliance date to May 1, 2018.

Amanda Young
Dairy and Livestock Agent
UW-Extension
Dodge

Young, A.*[1]
[1] Dairy and Livestock Agent, UW-Extension, Juneau, WI, 53039

Dairy profitability can be greatly affected by an animals genetic potential. Improving a herds genetic potential can greatly influence the herd's profitability by improving udder traits there-by increasing milk yield. This factsheet produced to help dairy farmers gain a stronger understanding of dairy cattle genetics, helps producers understand how they can make genetic progress in their herd. This factsheet was published in the UW-Extension Dairy Team Newsletter distributed to 360 individuals, Eastern Wisconsin DHIC newsletter distributed to 525 farms, Dodge County DHI newsletter distributed to 202 farms, and provided in 50 workshop proceedings. This educator developed the title and the graphic design for the factsheet intended for dairy farmers, managers and agri-business professionals. This agent developed and wrote the factsheet Genetics for the Everyday Dairy Herd. The factsheet was developed using a Word 2016 template. The Genetics for the Everyday Dairy Herd factsheet was peer-reviewed by state extension specialist and county extension agents. Factsheets were duplicated in house and presented at various (two) trade shows, (two) regional extension meetings and (three) extension-sponsored producer meetings. The factsheet was also distributed to over 360 individuals via the UW-Extension Dairy Team e-newsletter. The factsheets series and this factsheet are also available via the web at https://dodge.uwex.edu/files/2018/03/GeneticsFactSheet.pdf

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1]
[1] Extension Educator, Penn State University, Bedford, PA, 15522

The Preventing Erosion in Pastures fact sheet was developed as part of a Livestock Grazing Home Study Course, a six lesson course developed to teach livestock producers how to improve their pasture management skills. The publication is part of the lesson regarding pasture management. It was designed to give an overview of the various methods than can be used by livestock producers to improve pastures. The publication is part of the third lesson on pasture management. The publication was formatted to a CD and mailed out as part of the postal version of the course and was also loaded onto a website. Thirty-one livestock producers (24 via internet/email and 7 via postal service) participated in the course last fall. As a result of participating in the course, 100% of post evaluation respondents (N=10) indicated they learned something new, 90% indicated they learned a moderate to considerable amount, and 90% planned to make changes to their pasture management techniques. A follow up evaluation of the 2015 course participants found that 12.5% saved an average of $467 in feed costs through increased grazing. The publication was prepared using Microsoft Publisher software. Entrant wrote the publication, took photos, formatted the publication for print, and loaded the publication to the Penn State Extension website.

Regional Winners

John Fech, Nicole Stoner, Sarah Browning
Extension Educator

Fech, J.*[1], Stoner, N.*[2], Browning, Sarah*[3]
[1] Extension Educator, , Omaha, NE, 68124
[2] Extension Educator, , Beatrice, NE, 68310
[3] Extension Educator, , Lincoln, NE, 68528

The purpose of this educational program was to teach the message of best management practices that can be implemented to reduce fertilizer and pesticide contamination in the landscape. This program was delivered to 375 commercial horticulturists during 12 pesticide applicator recertification sessions and to various neighborhood associations throughout southeast Nebraska. This educational piece was produced by field staff using office equipment. According to a survey completed by participants after the programs, 91% of program participants adopted a new practice to protect water quality and 77% shared this information with clientele. These actions impact a much larger group of people who will help to protect water quality by managing their landscape with environmentally friendly methods.

Tori Lee Jackson
County Educator, Agriculture and Natural Resources
University of Maine Cooperative Extension
Androscoggin and Sagadahoc Counties

Jackson, T.L.*[1]
[1] County Educator, Agriculture and Natural Resources, University of Maine Cooperative Extension, Lisbon Falls, ME, 04252

Most people, including farmers, now carry a smartphone with them every day. While texting, taking selfies, posting to social media and playing games might be the post popular uses of a smartphone in the general population, there are many ways it can also be an important tool for someone managing a farm business. This brand new (February 2018) factsheet lists some of the ways farmers might consider making use of their smartphone throughout the day to improve efficiency, communicate more effectively, and market their farm products. This publication was designed to offer suggestions to anyone involved in managing a farm business. It is available as a free download.

Josh Fuder
County Extension Agent
University of Georgia
Cherokee/Northwest

Fuder, J.*[1]
[1] County Extension Agent, University of Georgia, Canton, GA, 30114

The quick reference cards were developed to help answer common home orchardist questions to county extension offices: pruning and spraying. The cards are 4 inches by 5.5 inches and laminated and designed to be taken into the orchard as an easier reference tool than a printed publication or web enabled phone. The pruning cut card describes the sequential cuts an orchardist would make on one side and on the reverse is graphics of proper three cut pruning method and heading and thinning cuts. The spray schedule card has an adapted spray schedule from the Georgia Pest Management Handbook. The back include a graphic of the various bud stages for apples that help the user identify the spray that is best suited for that stage of growth.

One hundred of each card were initially produced and have been shared at the following trainings: Master Gardener Advanced Training: Home Orchard Management-Feb 1st 2018 (21 participants), Dade County Home Orchard Workshop & Field Day – Feb 13th 2018 (17 participants), Cherokee County Fruit Tree Field Day-Feb 17th 2018 (25 participants).

The responses from participants that received the cards have been very positive and all agree that having a quick reference card available when making pruning and spraying decisions is invaluable.

Matthew Chadwick
CEA for Agriculture/Natural Resources
Calloway

Chadwick, M.*[1]
[1] CEA for Agriculture/Natural Resources, , Murray, KY, 42071

Matthew Chadwick, Calloway County Ag and Natural Resources agent developed this Fact sheet. I developed this fact sheet to hand out along with our soil test results and at public events where we are distributing educational material. The intended audience was homeowners, and landowners. The objective of this piece was to raise awareness of phosphorus run off caused by using a complete fertilizer when only nitrogen is needed. To date I have distributed 400-500 to individuals that come to pick up soil test, at our local farmer's market and at informational booths during the year. One of my goals was to develop a document that simply presented the basic facts in a colorful and handsome way, to encourage people to think about what they are applying. This also had allowed me to have several conversations with the public about the ways that our farmers handle nutrients and chemicals verses the homeowner.

Jeffrey Wilson
Regional Horticulture Specialist
Mississippi State University
NMREC

Wilson, J.*[1]
[1] Regional Horticulture Specialist, Mississippi State University, Verona, MS, 38879

Fact sheet was developed to be used by numerous audiances in MS. Over 1000 Copies were distributed to elementary school students, underserved adults, and extension personell. Sheet was designed to give clients an easy to read page detailing when fresh fruits and vegetables were available from MS producers.

Jeff Wilson, MS, Lee County

Ashley Wright
Livestock Area Agent
The University of Arizona
Southeastern Arizona

Wright, A.*[1], Faulkner, D. B.*[2], Cuneo, S. P.*[3]
[1] Livestock Area Agent, The University of Arizona, Willcox, AZ, 85643
[2] Beef Extension Specialist, University of Arizona, Tucson, AZ, 85721
[3] Extension Veterinarian, University of Arizona, Tucson, AZ, 85721

On January 1, 2017, the Food and Drug Administration (FDA) implemented significant changes for producers looking to purchase certain medicated feed products that contain medically important antibiotics. The new rule requires a veterinarian to issue a Veterinary Feed Directive (VFD), similar to a prescription, for the use of these products, as well as eliminating their use for growth promoting purposes. Despite plenty of press, many Arizona producers were still receiving misinformation about how the products they use would or would not be affected by this new ruling. Much of the information available through the FDA can be difficult to interpret for those not trained as veterinarians or animal scientists. To address these concerns and provide accurate information, a livestock area agent (Wright), from the University of Arizona Cooperative Extension, collaborated with the state beef specialist and extension veterinarian to create a "frequently asked questions" style factsheet clarifying the answers to the most common questions producers were asking. The resulting peer-reviewed publication, Veterinary Feed Directive Changes for Arizona Livestock Producers, was made available online in June of 2016, featured in the July 2016 issue of "Southeastern Arizona Range and Livestock News" (a regional newsletter that reaches 524 subscribers), distributed via the "Arizona Cattlelog" (the official publication of the Arizona Cattle Growers' Association, reaching cattle producers and natural

resource managers statewide), and included in "Backyards and Beyond" (a statewide publication aimed at rural landowners). In 2017, this fact sheet had been utilized at multiple producer events as supplemental information accompanying discussions about the VFD and was included in the "Graham County Cooperative Extension Rancher Roundtable Workshop Series" resource binders. Approximately 30 binders were handed out at 5 Rancher Roundtable events throughout 2017. Additionally, it will become a part of the Arizona Ranchers' Management Guide (currently under revision), a compilation of approximately 65 resources from the University of Arizona which is available online. This factsheet, targeted specifically to cattle producers, was invaluable in providing accurate, timely information to Arizona producers regarding changes to obtaining products they were currently using and alleviating fears stemming from incorrect information.

Brian Tuck
OSU Extension Administrator and MCAREC Director
Oregon State University

Tuck, B.*[1], Tuck, Brian, Victor*[2]
[1] OSU Extension Administrator and MCAREC Director, Oregon State University, The Dalles, OR, 97058
[2] Regional Administrator, Oregon State University, The Dalles, OR, 97058

"Guide to Growing Cover Crops" (EC 1653; February 2018) was created as part of the Oregon State University Extension Service's online "Living on the Land" educational series for new and existing small acreage owners. The series addresses issues of concern such as livestock care, pasture management, environmental issues, pollinators, etc. Innovatively, to increase accessibility to the target audiences, each document in the series has been developed into a two to three installment audio file. In both the document and audio file formats, the information is concise and addresses the basics of each topic. For example, "Guide to Growing Cover Crops" informs small acreage land owners about benefits of growing cover crops, cover crop management including establishment and termination, fertilization, species selection and recommendations for sources for detailed additional information. The short publication format and online/audio file delivery of the Living on the Land series were designed to fit essential land and livestock management information into the busy lives of new and existing small acreage owners. The applicant for this award was one of the authors on this publication. Co-authors of the publication in this series include two Extension educators, a soil and water district conservationist, USDA conservationist and a state Department of Agriculture water quality specialist. They were assisted by two Extension communication specialists. Both the pdf and audio files of Guide to Growing Cover Crops are available at https://catalog.extension.oregonstate.edu/ec1653

Susan Kerr
WSU NW Regional Livestock and Dairy Extension Specialist
Washington State University
Northwestern Research and Extension Center

Kerr, S.*[1], Conway, A.*[2], Tuck, B.V.*[3], Olson, S.*[4], Hammond, E.*[5]
[1] WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273
[2] Ruminant nutritionist/graduate student, University of Nebraska-Lincoln, Lincoln, NE, 68588
[3] Professor, Department of Crop & Soil Science, Oregon State University Extension Service-Wasco County, The Dalles, OR, 97058
[4] District Conservationist, Wasco County Soil and Water Conservation District, The Dalles, OR, 97058
[5] Water Quality Specialist, Oregon Department of Agriculture, Bend, OR, 97701

"Getting Started with Sheep and Goats—Nutrition and Feeding" (EC 1652; December 2017) was created as part of the Oregon State University Extension Service›s online "Living on the Land" educational series for new and small acreage owners. The series addresses issues of concern to new rural landowners such as livestock care, pasture management, environmental stewardship, etc. To increase accessibility to the target audience, each document in the series has been developed into a one-to three-installment audio file. In both the document and audio file formats, the information is concise and addresses the basics of each topic. For example, "Getting Started with Sheep and Goats—Nutrition and Feeding" informs small acreage livestock owners about nutrients, digestive systems, types of feed, feeding behavior, and nutritional diseases of concern. This fact sheet is the third installment in a series about small ruminants. The short format and online/audio file delivery were designed to fit essential land and livestock management information into the busy lives of new small acreage owners. Authors of the publications in this series include two Extension educators, a ruminant nutritionist/ doctoral student, a soil and water district conservationist, and a state Department of Agriculture water quality specialist. They were assisted by Extension and Experiment Station Communications personnel. The first author of the abstract was the primary author of this fact sheet, which has bee accessed 79 times in two months. The fact sheet is available for free downloading from https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1652.pdf.

State Winners

North Central Region

Illinois - Kenneth Johnson

Iowa - Jennifer Bentley

Kansas - Sandra L. Wick

Michigan - Ashley McFarland

Minnesota - Abby Neu

South Dakota - Laura Edwards

Northeast Region

New York - Sandra Buxton

Southern Region

Alabama - Ken Kelley

Arkansas - Jesse Bocksnick

Florida - Larry L Williams

North Carolina - Kelsey Lichtenwalner

South Carolina - Justin Ballew

Tennessee - Jason de Koff

Texas - Elizabeth Mcmahon

West Region

Idaho - Carmen Willmore

Utah - Taun Beddes

Feature Story
National Winner

Joshua Sherman
Extension Agent
The University of Arizona
Cochise, Graham, Santa Cruz, Pima

Sherman, J.*[1]
[1] Extension Agent, The University of Arizona, Willcox, AZ, 85643

The objective of this article is to educate pecan producers on the physiological processes occurring during the shuck-split phase of pecan development, the final stage of fruit ripening. With this knowledge, they are to better understand the importance of the process, and the timing, so they may avoid disruption of the natural biochemical processes. It is quite a dynamic event involving a "dance" amongst biochemicals and the environment. The featured story was showcased in an industry-leading magazine, Pecan South, which reaches 3,342 subscribers in the United States and 87 international subscribers (Mexico and South America). Pecan South is both a trade magazine and scientific resource for pecan growers, shellers and other industry members around the world. The magazine strives to connect all parts of the industry by providing the scientific information, industry updates, interest pieces and other pecan-related news and information that the readers want and need. This agent's assigned area is in Commercial Horticulture and Cochise County supports the largest pecan acreage in the state of Arizona. This agent was 100% responsible for the idea, research, and writing of this featured story. The published article reached approximately 80 Arizona pecan producers who are members of the Arizona Pecan Grower's Association and was showcased on the front cover of the Pecan South magazine in October 2017, timely in that the pecan shuck splits around late October and the agent wrote/submitted the month prior.

National Finalists

Robin Trott
Extension Educator
University of Minnesota Extension
Douglas

Trott, R.*[1]
[1] Extension Educator, University of Minnesota Extension, Alexandria, MN, 56308

As a local Educator I get many calls asking for information about bird friendly plants to include in the home garden. These calls inspired me to write a feature story for The Minnesota Gardener Magazine entitled "Gardening (is) for the Birds", which was published in Volume 5, No 3, May/June 2017 p. 36. In this feature story I included photos of my own "bird container garden" and made recommendations for a combination of plants that can be easily grown and will attract a variety of birds. I also included information about site placement and other best practices for attracting birds to one's yard and garden. I based the recommendations on my own experience, and on research I conducted in best practices for planting bird attracting plants. Due to space considerations, I was limited to 600 words for this feature story.

Laura McDermott
Extension Educator,
CCE ENYCHP
Eastern New York

McDermott, Laura G*[1], Shields, Elson J.*[2], Testa, Tony*[3], Pashow, Lindsey*[4], Ivy, Amy*[5]
[1] Extension Educator, CCE ENYCHP, Hudson Falls, NY, 12839
[2] Professor, Cornell University, Ithaca, NY, 14853
[3] Research Support Specialist, Cornell University, Ithaca, NY, 14853
[4] Extension Associate, Cornell Cooperative Extension, Malone, NY, 12953
[5] Extension Educator, Cornell Cooperative Extension, Plattsburgh, NY, 12901

This article was published in the summer 2017 edition of the statewide newsletter the New York Fruit Quarterly which has a distribution of nearly 1000. The primary author,

Laura McDermott collaborated with Dr. Elson Shields and Tony Testa of the Dept. of Entomology at Cornell University and with Lindsey Pashow and Amy Ivy, Extension specialists with Cornell Cooperative Extension. The article was also published in the December 2017 edition of the Produce Pages, a regional newsletter that reaches almost 500 farmers in eastern NY. This article explains a two year study whose first goal is to catalogue the soil borne barriers in strawberry plantings showing poor vigor using a thorough survey of soil and plant tissue characteristics. The second goal of the study is to demonstrate the efficacy of the use of entomopathogenic nematodes on fields infested with root weevils. The author was a primary collaborator in the field research and following educational outreach. The article was prepared by the author and then distributed via the two different newsletters.

Annette Meyer Heisdorffer
County Extension Agent for Horticulture Education
DAVIESS COUNTY

Heisdorffer, A.M.*[1]
[1] County Extension Agent for Horticulture Education, Owensboro, KY, 42303

The feature story provides information about growing vegetables in small spaces and in raised beds. The objective was to explain two different methods used for growing vegetables in a limited space and in situations where the soil is compacted and poorly drained.

The story was published by the Tanner Publishing Company in the Owensboro Living Magazine, April/May issue, 2017 with the "Home Tips from the Pros" theme. The magazine is delivered to 19,000 targeted readers. Also, the magazine is available through offices and other public locations for free.

As a result of the story, clientele increased their knowledge of using raised beds and containers for growing vegetables. Also, the feature story provided an awareness of what the Cooperative Extension Service has to offer.

Regional Winners

Clifton Martin
Ext. Educ,, ANR

Muskingum County/Washington County Extension

Martin, C.*[1]
[1] Ext. Educ,, ANR, Ohio State University Extension, Zanesville, OH, 43701

Extension Educators in Ohio have the opportunity to reach a broad multi-state audience by submitting articles to Farm and Dairy magazine. Farm and Dairy claims a readership of 64,000. Farm and Dairy published "Don't Neglect Grazing Strategies in Summer" on June 22, 2017, from the self-titled submission, "Toward a Summer Pasture Mindset", which was written for the submission deadline by Clifton Martin, Extension Educator, Ohio State University Extension, Zanesville, OH. The original entry was typed by the author, was submitted electronically on June 14, 2017, and edited by Farm and Dairy for publication. The article appeared in the "All About Grazing" section which frequently features Extension Educators from Ohio.

Jennifer R. Blazek
Dairy & Livestock Agent
University of Wisconsin-Extension, Dane County
Dane

Blazek, J.R.*[1]
[1] Dairy & Livestock Agent, University of Wisconsin-Extension, Dane County, Madison, WI, 53718

This article was written by the primary author in May of 2017. The article was submitted to and published in the *Wisconsin Agriculturalist* magazine on June 23, 2017. It features online at the following address: http://wisconsinagriculturist.com/dairy/dont-gamble-your-hay-bales/ Anyone with an internet connection can access the article.

The objective of this feature story was to share some of the insights of the "Hay Bale Weight Project" which was a three-year applied research project in Northwest Wisconsin. The project started as an idea from an area beef producer and grazing planner. I worked with this producer to weigh hay on farms across the Northwest Region of Wisconsin, involving area producers, Extension educators, and local experts. The project found that even long-time hay producers and experts could not accurately "eye-ball" the weights of hay bales. Everyone, producers, buyers, and experts, were 100 pounds off – both above and below – the actual weight of the hay bales.

The target audience is anyone who buys or sells hay. This fact sheet was developed with small-scale and hobby dairy, livestock, and horse owners in mind. This audience tends to have the most questions about buying hay. I have found that this audience, in particular women, report feeling taken advantage of by hay sellers because of their lack of production experience or knowledge on what questions to ask. The feature story is intended to help these livestock owners negotiate buying hay and being more informed about how to manage their forage inventories.

Meredith Vaughn Melendez
Agricultural Agent
Rutgers Cooperative Extension
Mercer

Melendez, M.V.*[1]
[1] Agricultural Agent, Rutgers Cooperative Extension , Trenton, NJ, 08648

This High Tunnel Winter Lettuce Tips article was published in the October 2017 print issue of Vegetable Grower News Magazine. It was previously published on the Vegetable Grower News eNewsletter on May 9, 2017. High tunnel winter lettuce was identified as a high-value crop that could provide a significant source of income to the farmer while using minimal land area. The target audience for this publication is future farmers, or farmers considering growing high tunnel winter lettuce for the first time. The information contained in this publication focuses how to grow a winter lettuce crop in a protected structure. This publication focuses on the necessary decision making topics of marketing, crop growth requirements, production information, and organic production considerations. This work was originally published in February 2018 as an informational piece for the USDA NIFA funded Ultra-Niche Crops for the Progressive New Farmer program. This information was published along with a postharvest handling and food safety considerations fact sheet. The information was presented at in-person and live-streamed workshops along with budgets and a video highlighting Chickadee Creek Farm, an operation who is currently growing high tunnel winter lettuce. A companion winter lettuce farm tour video and panel discussion were also created. These tools assist potential growers of high tunnel winter lettuce in making an informed decision prior to investing in the crop. Vegetable Grower News has a readership of over 21,000. This publication is available online through the Ultra-Niche Crops for the Progressive New Farmer webpage and the Vegetable Grower News website. https://vegetablegrowersnews.com/news/high-tunnel-winter-lettuce-tips/

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1]
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The "Do Your Sheep Consume Enough Calcium?" feature story was developed for the commercial breeder section of the Dorset Connection magazine. The purpose of the feature story is to help sheep producers make better management decisions related to sheep production. The story discusses how producers can manage mineral nutrition related to calcium. This story also discusses how producers can utilize forage tests as well as nutrient requirements to best balance rations for their sheep flock. This magazine is published by the Continental Dorset Club, the national registry organization for Dorset sheep. The magazine is published three times per year and sent to over 1,500 members of the registry association as well as buyers who purchased registered Dorset sheep in the past year. The feature story was prepared using Microsoft Word. Entrant reviewed research information, wrote the feature story, formatted the publication for submission to the Continental Dorset Club, and sent it electronically to the Executive Director of the registry association. Entrant also took the photo that was printed with story.

Kim Counts Morganello
Water Resources Extension Agent
Clemson Extension
Charleston, Berkeley, Dorchester

Morganello, K.C.*[1]
[1] Water Resources Extension Agent, Clemson Extension, Charleston, SC, 29401

Rain Gardens are considered a best practice for allowing stormwater runoff to slow down and infiltrate into the soil; thus reducing erosion and moisture control issues and reducing pollution associated with stormwater runoff. The Rain Gardening in the Home Landscape article was featured in the Naturally Kiawah Winter/Spring 2017 Magazine. The article provides introductory information on rain garden design. Readers learn that the site suitability for a rain garden is contingent upon a percolation test. General guidelines for siting the rain garden, such as distance from a septic drain field, are provided. Rain garden installation tips are highlighted in the article including the creation of ponding depth with rain garden shape and a soil recipe involving sand and compost amendments. Readers gain basic information on plant selection as well as maintenance actions for long-term success. The article highlights testimonials from residents about their rain gardening success. An example of one of the quotes is from Karen Piret "We are really happy this (rain garden) solved our problems (drainage issues) because then we didn't have to dig a drain and run tubing. That would have been a lot of work." The article concludes with available rain gardening resources associated with Clemson Extension's Carolina Rain Garden Initiative. Resources include the Virtual Rain Garden, listing of demonstration rain gardens in South Carolina and the Clemson Extension Guide to Rain Gardens in South Carolina. The article is four pages in length and includes six color photographs.

Ricky Thompson
CEA-AG
Texas A&M AgriLife Extension Service
NACOGDOCHES

Thompson, R.*[1]
[1] CEA-AG, Texas A&M AgriLife Extension Service, Nacogdoches, TX, 75961

Each year as a County Extension Agent I search for the perfect Demonstration Trial to demo for the purpose of something useful to the homeowner and for my own professional development. Each year I receive lots of calls with concerns about back yard gardening, asking for advice and suggestions. So this year speaking with our Horticultural specialist about Tomatoes, I decided to do a Tomato Demonstration trial. We

have some raised beds at our master gardener demonstration garden that have not been used recently. So, I planted 126 seedling tomato plants in March, seven different varieties in 9 different beds. The first week of planting "while I was at the Houston Livestock Show" I lost 30% of the plants due to cold night temperatures. However, I had over 70 plants to survive in my absence. The remaining plants did well and made a great demonstration for our local gardeners. Our local newspaper can out to do a story on my tomato trails; this gave notice of my trials to the public. The tomato trials were featured on the front page of The Daily Sentinel; this is a county wide newspaper. With the completion of the tomato trail, my co-worker (FHS agent) and I did a joint program where I did a pp presentation to talk about the complete demonstration and she did a taste-test with tomatoes from the garden. 37 people (gardeners and wives) attended the program to learn about growing tomatoes, taste the different varieties and to learn tomato recipes. This featured story was received by our commissioners and county judge and also highlighted at our LAB (leadership advisory board) meeting.

Iris Mayes
Extension Educator Horticulture & Small Farms
Latah

Mayes, I.*[1]
[1] Extension Educator Horticulture & Small Farms, , Moscow, ID, 83843

This feature article in the Garden Club of Idaho Winter 2018 newsletter describes the process of garden, or landscape, design. Many home owners want to change features of their garden or landscape and are not sure where to begin. The article outlines a step-by-step process with illustrations that can help a gardener think through the process of decision-making. Simple illustrations were selected so that readers could imagine doing their own drawings. The article discusses maintenance and irrigation. Various options for how to begin a landscape plan, either measuring or using an aerial photo, are described. Project implementation, including budgeting and phasing are mentioned to help readers plan ahead. The article begins on page 11 of the newsletter and is available online. The URL is: http://www.gcii.org/publications/newsletters/gsg_v8-1_2018win.pdf

Caitlin Youngquist
Area Extenstion Educator
University of Wyoming Extension
Washakie

Youngquist, C.*[1]
[1] Area Extenstion Educator, University of Wyoming Extension, Worland, WY, 82401

It is important for soil managers to understand how changes in the soil carbon pool affect soil health and function. This article seeks to clarify difference between the active, slow, and passive carbon pools in the soil and the importance of managing for soil carbon. It was published in the December 2017 issue of Acres Magazine which has a circulation of approximately 19,000.

State Winners

North Central Region

Indiana - Larry Caplan

Iowa - Kapil Arora

Kansas - Sandra L. Wick

Michigan - Heidi M Lindberg

Nebraska - John Porter

South Dakota - Sara Bauder

Southern Region

Alabama - Jessica A. Kelton

Arkansas - Colin Massey

Florida - Jessica Sullivan

Georgia - Paul J. Pugliese

Mississippi - Pat Drackett

North Carolina - Minda Daughtry

Oklahoma - Dana Zook

Tennessee - Melissa Henry

Virginia - Peter L. Callan

West Region

Utah - Michael Caron

Learning Module

National Winner

Iris Mayes
Extension Educator Horticulture & Small Farms

Latah

Agenbroad, A.*[1], DePhelps, C.*[2], Golden, L.*[3], Hamilton, M.*[4], Jensen, J.*[5], Mayes, I.*[6], Newman, S.*[7], Painter, K.*[8], Ruiz, R.*[9], Snyder, A.*[10], Stachowski, E.*[11], Werlin, J.*[12], Williams, C.*[13], Young, M.*[14]

[1] Area Extension Educator, Community Food Systems and Small Farms, University of Idaho, Boise, ID, 83714
[2] Area Extension Educator, Community Food Systems and Small Farms, University of Idaho, Moscow, ID, 83843
[3] Extension Educator - Agriculture, University of Idaho, Hailey, ID, 83333
[4] Extension Educator, Community Development and Agriculture, University of Idaho, Cascade, ID, 83611
[5] Extension Educator, University of Idaho, Sandpoint, ID, 83864
[6] Extension Educator Horticulture & Small Farms, , Moscow, ID, 83843
[7] Research Associate, University of Idaho, Moscow, ID, 83843
[8] Extension Educator — Agriculture, Assistant Professor, University of Idaho, Bonners Ferry, ID, 83805
[9] Extension Educator-Livestock/4-H, University of Idaho, Emmett, ID, 83617
[10] Cultivating Success Program Coordinator, University of Idaho, Moscow, ID, 83843
[11] Small Farms Program Coordinator, University of Idaho, Boise, ID, 83714
[12] Extension Educator, Community Food Systems, University of Idaho, Driggs, ID, 83422
[13] Extension Educator - retired, University of Idaho, Moscow, ID, 83843
[14] Extension Educator, Ag/Natural Resources, University of Idaho, Weiser, ID, 83672

This learning module was created for the Starting Your Sustainable Small Farm course in Winter of 2018. The course helps new and aspiring farmers take the first steps toward setting goals, assessing resources available (physical, financial, and personal), and exploring enterprises that are the best fit for the student and their land. Students leave the course with a better understanding of how to make their farm a success. The learning module includes exposure to a variety of farming and ranching systems, network with other participants, get exposure to local resources, hear from experienced farmers, and visit local farms (please see the complete schedule below). This learning module was used at multiple locations throughout Idaho and was created through a collaborative process of 20 team members. The course is part of the Cultivating Success™ Idaho program which was created in partnership between UI Extension Small Farms Program and Rural Roots, a non-profit organization that serves small acreage producers.

The vision of the Cultivating Success™ program is to increase producer and consumer understanding, value, and support of sustainable local farming systems in Idaho through educational and experiential opportunities. Partners in this program strive to create strong communities with infrastructures that provide the resources and skills needed to produce local and sustainable food and agricultural products for the residents of the Inland Northwest. A $506,122 grant from the U.S. Department of Agriculture National Institute of Food and Agriculture (USDA-NIFA-BFR 004835), expands the 18-year effort that has enrolled nearly 600 students across Idaho in the Cultivating Success training program.

The learning module includes a Facilitator's Guide, a notebook of materials including copies of the PowerPoint presentations and other handouts, and an online interactive website for students only. The URL is: http://www.cultivatingsuccess.org/syssfstudentpage. The password is: SYSSF2018. Each segment of the learning module was released for each segment of the course. This included resource materials and quizzes. Each team member contributed to the creation of a portion of the material and reviewed material related to their expertise. Farmer partners who also created content include: Marci Miller, Greg Freistadt, Diane Green, Melissa Lines, Jessica McAleese, Janie Burns, Keri Wilson.

National Finalists

Amy Timmerman
Extension Educator
University of Nebraska-Lincoln
Holt

Timmerman, A.*[1], Vandewalle, Brandy*[2], Janning, Elizabeth*[3], Karr, Katie*[4], Steffen, Jackie*[5]

[1] Extension Educator, University of Nebraska-Lincoln, O›Neill, NE, 68763
[2] Extension Educator, University of Nebraska, GENEVA, NE, 68361
[3] Extension Educator, University of Nebraska, Hastings, NE, 68901
[4] Education Assistant, Hastings Museum, Hastings, NE, 68901
[5] Extension Educator, University of Nebraska, Hartington, NE, 68739

On August 21, 2017, over 200 Nebraska communities fell within the path of totality of the solar eclipse. This was the first eclipse through the contiguous United States since 1979. Nebraska's wide open spaces were one of the best places to view the eclipse so a team of multi-disciplinary Extension professionals worked to help youth professionals capitalize on

this exciting teaching opportunity.

In response to this unique opportunity, Nebraska Extension and Raising Nebraska partnered with the Hastings Museum to offer solar eclipse trainings for teachers and youth professionals prior to the total solar eclipse. The training provided participants with eclipse resources and lesson plans to use in their classroom, after-school setting or organization. Three trainings were held face-to-face and 2 held virtually through Zoom.

The training taught participants on what the eclipse was and how they could take lessons from concept to application. The curriculum is also applicable beyond the eclipse event, covering topics such as nocturnal animals, how sundials work and why sunlight is critical for plants. In total, 10 curriculums were created and accessible on a password protected webpage.

An innovative component of the eclipse curriculum was a citizen scientist project. Members of the community contributed by recording temperatures during the solar eclipse. Data was recorded on an interactive map with interest from NASA to use the data for analysis. Data collected can be found at https://raisingnebraska.unl.edu/solareclipse. Findings across the state proved NASA's predictions on the difference in temperature. A total of 199 entries were entered through the citizen scientist effort.

Lessons created were peer-reviewed by Nebraska Department of Education's science education specialist and the new Nebraska science standards were incorporated into the curriculum.

There were 168 teachers, librarians and extension staff who participated in direct teaching from multiple states. There were 56 educators who viewed the archived YouTube training. Training evaluation data showed that 90% of participants found the resources valuable to their educational programming. Over 1,000 youth/adults were impacted by the lessons and resources created. 71% of evaluated youth learned new concepts about science through the eclipse materials.

Sandy Stuttgen
Agriculture Educator
UW-Extension
Taylor

Stuttgen, S.*[1], Schlesser, H.*[2], Jette-Nantel, S.*[3], Splett, N.*[4], Vanderlin, J.*[5]
[1] Agriculture Educator, UW-Extension, Medford, WI, 54451
[2] Agriculture Educator, University of WI-Extension, Wausau, WI, 54401
[3] Professor, University of WI-Extension, River Falls, WI, 54022
[4] Professor Emeritus, Center for Dairy Profitability, Madison, WI, 53701
[5] Associate Director, Center for Dairy Profitability, Madison, WI, 53701

The Farming Your Finances learning module follows the continuum, beginning with farm business records, through financial statements, to decision-making (management is decision-making). Participants apply the concepts learned to their own personal business situation. Covered concepts apply to all businesses, making this module beneficial to any entrepreneur.

The University of WI-Madison Center for Dairy Profitability published the module using office equipment. The facilitator's manual referenced for this award is available online at the University of Wisconsin-Extension Heart of the Farm, https://fyi.uwex.edu/heartofthefarm/educational-resources/for-women-in-ag/

Distributed to twelve dairy farmers during the March 25-26, 2017 (seven attendees) and Jan 24 -25, 2018 (five attendees) *Farming Your Finances* workshops, participants self-reported their change in knowledge regarding the topics covered using a 5-point Likert Scale. From the respective 2017 and 2018 workshops, the positive point changes in understanding were: financial model 1.0/1.4, regarding record keeping 1.2/1.2, balance sheet 1.8/1.4, income statement starting with the Schedule F 1.4/2.2, financial statement analysis (present), 1.4/1.8 and 1.4/2.0 regarding financial statement analysis (projections).

Statistical analysis of the scores from the pre- and post-presentation quiz of the learning module's content were conducted using two non-parametric tests, Wilcoxon Signed Rank and Paired Sample Sign. Results were mixed for rejecting the null hypothesis (knowledge was the same before and after). This analysis of the quiz scores suggest inconsistencies in the delivery of the material by the same instructors at different locations. This finding lends direction for future delivery of the module.

2017 participants surveyed six months after the workshop (n = 4) reported "I have reviewed my farm's Balance Sheet and Income Statement which another prepared" and "I created my own Income Statement using my farm's Schedule F, and I calculated my farm's debt to asset ratio and rate of return on assets." Participation allowed their understanding of "the difference between tax return preparation numbers, lending officer numbers, and productivity numbers," "why my loan officer needs the information they do" and "I understand my book work/accounting better." One attendee used what she learned to create the expansion plan for her current small business.

Natalie Bumgarner
State Specialist
UT Extension
Knox/Eastern

Bumgarner, N.*[1], Carol Reese*[2]
[1] State Specialist, UT Extension, Knoxville, TN, 37996

[2] Extension Area Specialist, University of Tennessee, Jackson, TN, 38301

The objective of this product is to provide a handbook that can be used as the foundation for a consistent and comprehensive Tennessee Extension Master Gardener intern training program. The revised handbook will contain printed chapters of core horticultural material written and reviewed by faculty with expertise in the field and agents with teaching and outreach experience in each chapter topic area. Individual chapters will also have study guides, learning objectives and teaching aids to support in-person implementation. These synergistic teaching tools will serve to create a more consistent learning experience across the state, but also provide resources for instructors to reduce time investment on presentation preparation and enable more focus on engagement and interactive learning. The intended audience are participants in the fee-based Extension Master Gardener training program that supports ongoing volunteer service in horticulture education throughout Tennessee Extension. The submitter was the editor for the project and also an author and reviewer on many chapters.

Regional Winners

Pam Bennett
State Master Gardener Volunteer Coordinator, ANR Educator
Ohio State University Extension
Clark/North Central

Bennett, P.*[1], Bergefurd, Brad*[2], Boggs, J.*[3], Crook, J.*[4], Draper, E.*[5], Jasinski, J.*[6], Malinich, T.*[7], Meyer, Greg*[8], Scheckelhoff, B.*[9], Young, C.*[10]
[1] State Master Gardener Volunteer Coordinator, ANR Educator, Ohio State University Extension, Springfield, OH, 45505
[2] Extension Educator, Ohio State University Extension, Piketon, OH, 45661
[3] Extension Educator, Ohio State University Extension, Cincinnati, OH, 45223
[4] Program Assistant, Ohio State University Extension, Cincinnati, OH, 45223
[5] Extension Educator, Ohio State University Extension, Burton, OH, 44021
[6] Associate Professor, Ohio State University Extension, Urbana, OH, 43078
[7] Extension Educator, Ohio State University Extension, Sandusky, OH, 44870
[8] Extension Educator, Ohio State University Extension, Lebanon, OH, 45036
[9] Extension Educator, Ohio State University Extension, Ottawa, OH, 45875
[10] Extension Educator, Ohio State University Extension, Van Wert, OH, 45891

The Ohio State University Extension Master Gardener Volunteer Training Manual was initially published in 1994. In 2006 there were minor revisions, however, content was somewhat dated and there were numerous errors. A complete overhaul of the manual started in 2016. A project manager led a team of authors (Extension Educators and State Specialists) as well as a graphics designer and editor. State MGV support funds were used to pay the latter two people. The manual is used as the primary source for training approximately 550 new MGVs yearly. The updated manual was available January 1, 2018 and between January and March 15, 2018, 412 copies were sold.

The project manager solicited authors for the individual chapters by contacting original authors to determine their interest in updating the chapter. If not available or interested, a new author was obtained based on the content. Authors were asked to determine if the chapter required a minor update or a complete re-write; only three chapters were updated, the rest rewritten New chapters were added to the manual based on current training needs and include Pollinators, IPM, Pesticide Safety, Backyard Wildlife, and Therapeutic Horticulture.

Once authors were selected, the project manager provided details on how to submit content and graphics. A shared folder was used to collect content, photos, graphics, and any consent forms for the use of graphic and photos. The editor received the chapters from the author and provided a draft to the graphic designer for formatting. The project manager sent chapters to authors as well as independent reviewers (three for each chapter) in order to check for accuracy and readability. The project manager reviewed the entire manual. Once each author signed off on the chapter, it was ready to print.

The project team decided to include color plates for specific content that would enhance learning through the use of color. To have the entire manual in color was cost prohibitive for volunteers. The manual was kept in notebook style as learners tend to gather additional content during each class. MGV Coordinators order the manual from an outside printing source.

Neith Grace Little
Extension Educator
University of Maryland Extension
Baltimore City

Little, N.G.*[1]
[1] Urban Agriculture Extension Agent, University of Maryland Extension, Baltimore, MD, 21215

Many farmers, particularly beginning farmers, find the math involved in nutrient management planning intimidating and frustrating. This learning module was originally created for a cut flower farmer audience, who specifically requested a training on nutrient management at an introductory level, with a focus on understanding what a "balanced fertilizer" is

and how to get from a nutrient recommendation to actually applying the right amount of fertilizer. After piloting a version of the learning module with the cut flower growers in August, 2017, the module was adapted and expanded for a general beginning farmer audience, for the annual course: Starting a Small, Intensive, Commercial Farm for Local Markets. In February, 2018, the submitted version of this learning module was taught to 60 beginning farmer participants, as part of an introductory-level class on soils and nutrient management.

The module consists of an article on the concept of a "balanced fertilizer" and a worksheet that guides the students through the process of interpreting a nutrient management recommendation and calculating how much fertilizer to apply, using a variety of fertility source options.

Brady Self
Assistant Extension Professor
NW - Grenada

Self, B.*[1], Rousseau, R.*[2], Rohnke, A.*[3]
[1] Assistant Extension Professor, , Grenada, MS, 38901
[2] Extension Professor, Mississippi State University Extension, Mississippi State, MS,
[3] Senior Extension Associate, Mississippi State University Extension, Raymond, MS,

This module is used in a short course designed to help familiarize forest landowners and professional foresters with the most current silvicultural methodology in practice for the regeneration of hardwoods in Mississippi. Natural resources specialists cover topics such as site preparation, natural and artificial regeneration, mixed species management, CRP stand manipulation, and considerations for wildlife management in these systems.

Leslie Peck
Extension Horticulture Agent
N.C. Cooperative Extension
Forsyth County

Peck, L.*[1]
[1] Extension Horticulture Agent, N.C. Cooperative Extension, Winston-Salem, NC, 27105

Third graders in Forsyth County, North Carolina, participate in the Youth Education (YE) Program at the Arboretum and Gardens at Tanglewood Park. The YE Program, organized by Leslie Peck, Extension Horticulture Agent, and Erin McSpadden, Extension Volunteer Coordinator, includes lessons about plant growth. The lessons reinforce NC Essential Science Standards for grade 3. A supplemental information packet was created by Leslie Peck to accompany the Youth Education (YE) Program at the Arboretum and Gardens at Tanglewood Park. The packet includes original materials such as vocabulary and lesson summaries, as well as relevant lesson plans from other authors. Materials in the packet reinforce the concepts introduced during the YE program. Each teacher receives a printed copy of the packet before they return to school, where the teachers can use the materials in the classroom. Thirty-six classes registered for the 2018 YE program in March, for a total attendance of 694 students. Teachers are asked to return evaluation forms reporting their use of the packets one month after attending the YE program. In 2017, 75% of participating teachers reported using the materials in the packet. Those who did not use the materials cited a lack of time.

Lynda A. Garvin
County Extension Agent/Agriculture
New Mexico State University
Sandoval County

Garvin, L.A.*[1]
[1] County Extension Agent/Agriculture, New Mexico State University, Bernalillo, NM, 87004

Plant Identification is a recommended component of the core curriculum for the Statewide Master Gardener Training. As Master Gardeners are often the first line of contact with the public when performing horticulture outreach services, it is critical they have solid plant identification skills. Correct plant identification is necessary when performing plant diagnostics and troubleshooting plant issues, as many pests and diseases are host plant specific. Although this skill takes practice, one of the easiest and most user friendly methods is identifying plants to family using familial traits. When these family traits are known, volunteers can easily recognize them in the field or when looking at a plant specimen. Once identified to family, with the help of local plant guides and online resources, getting to the correct genus and species is relatively easy. Although NMSU has a Master Gardener Manual, no standardized training outlines, objectives, or presentations exist. To date each county agent is responsible for organizing their own training often-scheduling classes and facilitators regionally. This training module on Plant Identification was developed and refined over a 4-year period. The class was delivered to three counties directly and one county remotely via webinar. The class material is presented in a PowerPoint format with an in class hands- on plant identification activity, and a take home quiz. All training materials are posted on a password-protected site on the Sandoval County Master Gardener Website. After each class, trainees complete a class evaluation. Two hundred and seventy Master Gardener trainees have received this class. The presentations with accompanying resource materials, evaluations, and quizzes are available to extension personnel and the public by contacting lgarvin@nmsu.edu.

Sergio Arispe
Livestock & Rangeland Field Faculty
Oregon State University
Malheur County

Arispe, S.*[1], Henderson, L.*[2], Johnson, D.*[3]
[1] Livestock & Rangeland Field Faculty, Oregon State University, Ontario, OR, 97914
[2] Livestock & Rangeland Field Faculty, Oregon State University, Barker City, OR, 97814
[3] Livestock & Rangeland Field Faculty, Oregon State University, Burns, OR, 97720

The purpose of the "Introduction to Google Earth Pro-Geographic Information System" learning module is to orient rangeland managers to geographic information system (GIS) tools, like Google Earth Pro (GEP) and global positioning system (GPS) devices, and how they can be used to develop and execute effective rangeland management plans on western sagebrush steppe rangelands. The learning module is one of seven modules in a GEP-GIS hybrid extension course developed by the three Oregon State University (OSU) Extension Service county-based extension agents and one University of Idaho Extension Service Extension Rangeland Specialist. After completing the learning module, participants are able to: 1) login and access hybrid extension course resources using Canvas , an open-source learning management system; 2) summarize the main components of a rangeland management plan; 3) explain important concepts and operations of GIS; 4) recognize potential uses of GIS tools on land that they manage; 5) identify and access relevant GIS data layers; and 6) apply basic functions in GEP. The module is designed to assist participants with varying degrees of computer experience to grasp and remember basic concepts like navigating the landscape around their property in GEP. In 2017, the course was offered in Harney and Malheur counties—in southeastern Oregon—and in Ada County—in southwestern Idaho. Within Oregon, one rangeland consultant and six cow-calf producers enrolled in the course, while in Idaho nine federal, state, and county natural resource management personnel and one cow-calf producer enrolled. The co-authors collaborated to create all content in the 11-page learning module within Canvas, which includes two video presentations highlighting rangeland management planning and GIS tools on the ranch, four instructional handouts, 12 how to videos, a series of discussion questions designed to foster interaction among participants, as well as six supplemental GIS files relevant to rangeland management in the Intermountain and northern Great Basin regions. All learning module files can be accessed at https://oregonstate.box.com/s/9b5reb9z03ig64hena0as86elhh6u8o8.

State Winners

North Central Region

Michigan - Heidi M Lindberg

Southern Region

Arkansas - Rachel Bearden

Florida - Cesar R. Asuaje

Georgia - Campbell Vaughn

Kentucky - Corinne Belton

South Carolina - T. Ashley Burns

West Region

Utah - Michael Caron

Newsletter, Individual

National Winner

T. Ashley Burns
4-H Assistant Director
Clemson University
Statewide

We CU Volunteer is an online newsletter primarily targeted toward South Carolina 4-H Volunteers, but was also developed with a general parent and friend of 4-H audience in mind. Dr. Ashley Burns is the editor and primary author for this newsletter. South Carolina 4-H Youth Development initiated this statewide newsletter in September 2015 with less than 200 newsletter subscribers; it has grown to over 1200 valid-email subscribers in March 2018. Full issues of the periodical are released quarterly with additional supplements released in remaining months. Each full issue contains state and national program announcements, upcoming dates/deadlines, program flyers, previews of 4-H articles published in Clemson University's The Newsstand, feature stories of local events and participation in state and national 4-H events, and a Monthly 4-H Club Activity Idea. The supplement newsletters consist of a cover page with major announcements and a Monthly 4-H Club Activity Idea. The Monthly 4-H Club Activity Ideas cover all 4-H program areas in topic and scope, from agriculture and leadership/citizenship activities to healthy living and STEM activities. All activities are designed to be inexpensive to implement within

a 45- to 60-minute club setting for a variety of age groups. Each activity is matched to the Targeting Life Skills model (Hendricks, P., 1998. "Developing Youth Curriculum Using the Targeting Life Skills Model") and includes an objective statement, hands-on activity instructions with introductory information, materials, step-by-step methods, and reflective questions. *We CU Volunteer* is emailed to a list serve of more than 1200 addresses, posted online (https://www.clemson.edu/extension/4h/4h_volunteer/index.html), and shared on the South Carolina 4-H Facebook page (https://www.facebook.com/southcarolina4hyouthdevelopment/) with over 700 followers. In January 2018, the newsletter was reformatted to reduce file size, increase aesthetic appeal, make more printer-friendly, automatically populate the email list serve, and track analytics from an e-newsletter platform. An evaluation of the newsletter with solicitation of topics for the Monthly 4-H Club Activity Ideas has been conducted at the conclusion of each 4-H Club Year. Respondents that received *We CU Volunteer* stated that it made them feel more connected to 4-H and more passionate about volunteering with 4-H.

National Finalists

Todd Lorenz
Regional Agronomy/Hort Specialist; County Program Director

The land grant mission is to extend research based information and education to the public. As agriculture changes, so does the content and delivery methods of educational information for agricultural producers. Five years ago, MU Extension realigned the regions, which created new ag category teams and in some cases such as mine created dual regional roles. I now am a contributing author and editor in two regional publications. This submittal is for the Northeast region, which represents twenty-two counties in Missouri. The newsletter is professionally printed, posted online, and provided through social media. Ag specialists write a variety of livestock, business, ag engineering, agronomy and horticulture articles each month. Specialists contribute a variety of articles such as MU and other land grant research, new technology, new publications, local projects and more. The target audience is farmers and landowners where the farm contributes an important percentage of the family income. This includes full-time farmers, serious part-time farmers and landowners. The newsletter is edited by a team of writers online via computer technology. The editing produces stronger articles and provides feedback to the authors. The total monthly distribution include: 2,100 professional printed newsletters, estimated 800 printed in county offices, another estimated 2,200 direct email links are sent, 900 website visits and countless social media connections. The professionally printed newsletters and the office copied newsletters are sent via U.S. mail to mail lists created by the counties. The links sent via email are sent by various ag specialists to contact lists they have created. The MU AgEBB office, which hosts and maintains the site agebb.missoui.edu is the entity that puts the newsletter online and also makes the newsletter searchable online for current and past issues. My Extension Professional contribution is with current horticulture and agronomy topics. It is always a pleasure to receive additional correspondence from newsletter customers which ever remind us of the public impact and value of our profession.

Edward Brown
Extension Educator, Agriculture & Natural Resources
Ohio State University Extension
Athens County

Growing Athens County is a newsletter published on a monthly basis for all citizens of Athens County and beyond who are interested in horticulture, agronomy, livestock and forestry & natural resources. The audience includes both agriculture enthusiasts as well as commercial producers. The newsletter is distributed through: print with 18 subscribers, electronically with 58 subscribers and online with 81 subscribers. The newsletter is created, assembled, edited and printed in the county office solely by the member. In addition, the member contributes several original articles to each edition. An impact analysis was completed on the newsletter. Twenty three respondents indicated that they had learned something new and were seeking additional training on a subject or were implementing a new practice on the farm.

Andrew Sandeen
Dairy Extension Educator
Penn State Extension
Indiana County

Up until late 2017, when organizational strategies and funding priorities changed, a "SW PA Dairy News" newsletter was created and distributed by mail to approximately 650 recipients affiliated with the dairy industry in Southwest Pennsylvania on a bimonthly basis. Additionally, the newsletter was e-mailed to approximately 50 recipients in outlying counties. The primary target audience was dairy owners and managers, but other agribusiness individuals were included on the mailing list. Printed copies of these newsletters provided an effective means to reach a broad audience despite diversity in the region in terms of technology use, religious beliefs, age, farm size, connection to Extension programs, and other factors. Being a fairly new Extension educator, it was encouraging to visit a farm and hear the producer say they knew who I was because they had been receiving my newsletters and seen my picture on them. Articles from the newsletters have been found hanging in barn offices. The calendar of events published in each edition helped ensure the target audience was aware of local, relevant educational opportunities. These two sample newsletters from mid-2017 were prepared in Microsoft Publisher 2010 by Andrew Sandeen. They include articles authored by other educators with information that was considered to be relevant for the dairy audience in Southwest Pennsylvania. An office

assistant reviewed the documents and made minor alterations before final publication and distribution to the mailing list of approximately 650 dairy-affiliated individuals and families.

Regional Winners

Josh Coltrain
District Extension Agent, ANR
K-State Research & Extension
Wildcat District

These are a couple of examples of Crop Pest Alert newsletters sent with our Constant Contact email service. The Stripe Rust Alert email was sent on April 6, 2017 to 724 email addresses of which 263 people opened and 54 clicked on and watched the embedded video. The Podworm Alert email was sent on August 11, 2017 to 891 email addresses of which 334 people opened and 65 clicked on the embedded video. Constant Contact has definitely been useful in quantifying how many of our constituents utilize our emailed information.

Neith Grace Little
Extension Educator
University of Maryland Extension
Baltimore City

In July 2016, University of Maryland Extension appointed an Agricultural Extension Agent, Neith Little, based in Baltimore, MD, to build an Extension program that will engage and educate commercial urban farmers. In January 2017, Little launched a monthly, e-mail based newsletter for urban farmers, called Urban Ag E-news.

The platform used to create and distribute the newsletter is the e-newsletter service Survey Monkey. The UMD Agriculture and Natural Resources branded template is used to present a consistent brand with the rest of the college housing the UMD Extension program.

The newsletter is embedded in the body of the e-mail, instead of being attached as a pdf. This means that when subscribers open the newsletter, they see the content immediately without having to take the extra step of downloading the newsletter, which can reduce how many subscribers actually read the content. Each event and article featured in the newsletter is shown in the e-mail as a brief summary, with a link to click to read more. This enables the subscriber to quickly skim the newsletter to find the information that is most interesting and relevant to them. Featuring a calendar of upcoming Extension events serves both as valuable marketing for Extension programming, driving participation in in-person events, and as a way to make the newsletter timely and exciting for subscribers to receive.

The Survey Monkey platform also offers subscriber interaction analytics, reporting for each issue on how many subscribers open the e-newsletter ("open rate), and how many click on each link in the newsletter ("click rate"). As of March, 2018 the e-newsletter has grown to over 400 subscribers, while maintaining a strong "open rate" of 46%, well above the industry average of 15%. Across all Urban Ag E-News issues published so far, an average of 15% of subscribers click on at least one link in the e-newsletter to read more.

Emily Wells
Extension Agent
West Virginia University Extension Service
Jefferson

The purpose of these newsletters is to keep the local agriculture community informed of upcoming events and news. The content of the newsletter includes an agriculture calendar which contains descriptions of upcoming state and local education programs and selected articles about agriculture topics. Article topics are selected based on seasonal trends currently seen in the industry and the area. These newsletters are distributed via mail and email to approximately 300 households located in Jefferson County and surrounding counties.

Shannon Newton
Area Agent - Agriculture-Horticulture
NC Cooperative Extension
Hoke and Scotland Counties

Providing research based information to our customers is important to the success of Cooperative Extension. In order to reach as many customers as possible, a printed and emailed version of the newsletter is sent each month to over 400 customers. The goal is to provide timely accurate information in a friendly format that customers will look forward to, read and share with others. The newsletter has several regular sections including, know and grow , the abc...xyz gardening vernacular, garden chores, insects and weeds, backyard birding and a cover story. Know and grow features a plant that may bloom during the month or has special interest. Garden chores for the month often answers questions that we as agents regularly receive. A featured weed and insect helps our customers keep up-to-date on current problems in the landscape. The abc...xyz gardening vernacular is a simple way to educate our customers on terms associated with gardening. Backyard birding is one of the most popular hobbies in America. The Audubon Society states that 40% of American households feed birds. People are interested in what birds they are seeing and how to feed them. Using these features and always having a cover story that may be of interest has proven to be a good method for sharing information. When writing these articles, often articles from other Extension Agents are used so that we are sharing information and resources. Gardening News is a method for sharing research based information for our customers, which they have said they find enjoyable and useful.

Johnny Barnes
Extension Agent & County Director
University of Tennessee Extension
DeKalb/Southern

The Hayfield Headlines newsletter was created to communicate information about educational programs affecting clients and producers in DeKalb County, TN. This newsletter is distributed via email to approximately 150 clients and producers which includes the DeKalb County Cattleman's Association. We also print the newsletter and make it available to approximately 50 individuals through the county office and other meetings that the agent attends around the county.

The purpose of this newsletter is to provide information about classes and educational programs available to clients and producers across the county and including multi-county efforts. Specific information related to current events and trends are also highlighted. The agent compiles tips in gardening, forages and livestock production to better prepare clients and producers for upcoming changes in seasons.

Most recently, the agent added a family favorite recipe to the newsletter. This adds depth to the newsletter and may even generate interest among spouses of clients and producers that receive the newsletter.

As a result of these newsletters, communication between agent and clients/producers has increased. Interest in the Advanced Master Beef Producer classes has also increased. Approximately 35 people have signed up for Advanced Master Beef Producer courses, 13 people have signed up for Master Small Ruminant courses and 15 people have participated in the private applicator and Dicamba trainings. While these numbers may seem small, they are significant since DeKalb County is a small, rural county in Central Tennessee.

Aspen Achen
County Program Director
De Baca

The De Baca County Extension E-Bulletin is an e-newsletter created by Extension Agent, Aspen Achen, and is distributed quarterly to area producers and clientele. The goal of this newsletter is to provide a variety of articles that encompass and promote the different facets of extension programming. De Baca County is small and rural, and the newsletter is designed to be one publication that will target a variety of interests among a diverse population. Topics selected for the newsletter include beef production and pasture management, crop and pest management, 4-H and youth development, horticulture, and family and consumer sciences. Articles are both compiled and written personally. It also includes a section for upcoming events that are held local, area, and statewide. Main distribution for this newsletter is through email (125 on the mailing list) as well as hard copies printed and distributed through the office and at different events. The newsletter is prepared in the De Baca County Extension office and is shared with a few agents in surrounding counties to be utilized for their clientele as they see fit.

Stephen G. Bramwell

Washington State University
Thurston County

The WSU Thurston County Extension Ag Sounder is a monthly newsletter circulated to farmers, food system advocates, farm and food related business owners, residents, and others in the south Puget Sound, western Washington. Monthly newsletters aggregate information on upcoming County Extension programs, salient agricultural news items, events organized by partner organizations, farm resources including webinars and recent publications, outcomes of salient local government decisions, and pertinent guest submissions. The newsletter is circulated utilizing the online email campaign software MailChimp® (The Rocket Science Group 2018). Distribution reaches 237 discrete contacts utilizing a County Extension contact list. Topics covered in 2017 included results from a regional farmer needs assessment, a biostimulant and biofertilizer webinar, a set of new Washington State Department of Agriculture webinars for organic growers, and workshops including for on-farm biochar production, farm production planning, small ruminant livestock health, a regional food summit, safe canning workshops, the County Fair, and a local barley variety trial field day. The Ag Sounder grew out of results from a 2017 producer needs assessment, in which needs related to training, networking and information resources received 120 out of 235 comments. The MailChimp analytical services reported from between 35 and 100 recipients monthly who clicked newsletter links to receive more information between April 2017 and February 2018. The WSU Thurston County Ag Sounder Newsletter provided locally-important, relevant information on a regular basis to the farming community in south Puget Sound. An online version is available at: https://us14.campaign-archive.com/?u=448fe62147499726e1ec13517&id=68b53bef4c.

State Winners

North Central Region

Indiana - Nicholas Held

Iowa - Ron Lenth

Michigan - Heidi M Lindberg

Wisconsin - Richard L. Halopka

Southern Region

Arkansas - Terrell Davis

Florida - Kalyn Waters

Georgia - Heather Kolich

Kentucky - Susan Fox

Mississippi - Pat Drackett

Oklahoma - Trent Milacek

Texas - Tom Guthrie

Newsletter, Team

National Winner

Susan Kerr
WSU NW Regional Livestock and Dairy Extension Specialist
Washington State University
Northwestern Research and Extension Center

Stephenson, Garry*[1], Lucas, Chrissy*[2], Fery, Melissa*[3], Gwin, Lauren*[4], Andrews, Nick*[5], Garrett, Amy*[6], Runkel, Sarah*[7], Powell, Maud*[8], Stoven, Heather*[9], Sullivan, Clare*[10], Noordijk, Heidi*[11], Fernandez-Salvador, Javier*[12], Suits, Rachel*[13], Kerr, Susan*[14]

[1] Extension Small Farms Specialist, Oregon State University Extension Service, Corvallis, OR, 97331
[2] Small Farms Program Assistant, Oregon State University Extension Service, Corvallis, OR, 97333
[3] Benton, Linn, & Lane County Extension Educator, Oregon State University Extension Service, Corvallis, OR, 97333
[4] Extension Food Systems Specialist, Oregon State University Extension Service, Corvallis, OR, 97331
[5] Clackamas & Washington County Extension Educator, Oregon State University Extension Service, Aurora,, OR, 97002
[6] Benton, Linn, & Polk County Extension Educator, Oregon State University Extension Service,, Corvallis, OR, 97333
[7] Douglas County Extension Educator, Oregon State University Extension Service, Roseburg, OR, 97470
[8] Jackson & Josephine County Extension Educator, Oregon State University Extension Service, Central Point, OR, 97502
[9] Yamhill County Extension Educator, Oregon State University Extension Service, McMinnville, OR, 97128
[10] Deschutes, Jefferson, and Crook County Extension Educator, Oregon State University Extension Service, Redmond, OR, 97755
[11] Clackamas & Washington County Program Assistant, Oregon State University Extension Service, Aurora,, OR, 97002
[12] Marion & Polk County Extension Educator, Oregon State University Extension Service, Salem, OR, 97301
[13] Hood River & Wasco County Program Assistant, Oregon State University Extension Service, Hood River, OR, 97031
[14] WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

The Oregon State Small Farms program has started its 13th year of publishing its award-winning newsletter, Oregon Small Farm News (OSFN). This free, full-color digital publication was created to address the educational needs of the burgeoning small farm audience in Oregon. OSFN provides research-based information about livestock and horticultural production, marketing, noxious weed control, irrigation, small farm management, regulations, educational resources, upcoming events, and other issues pertinent to small farmers and rural landowners. A profile of a successful small farm in Oregon or southern Washington is included in most issues. Extension horticulture, livestock, forestry, and agronomy educators contribute to this effort. Additional articles are written by resource personnel such as weed control coordinators, NRCS and conservation district employees, and other Extension educators. There have been 45 quarterly issues of the OSFN since it was first published in 2006. Each issue is 20 to 30 pages long and contains numerous attractive photographs and graphics. Each cover features a unique and colorful example of Oregon agriculture. The newsletter is curated and "wrangled" by the first author and graphically assembled by the second author, who also maintains its electronic mailing list. The last author submitted this application, writes articles related to livestock for most issues, and occasionally submits photographs and farm profiles. The newsletter is available for free downloading from http://smallfarms.oregonstate.edu/node/6. The success of the newsletter is demonstrated in part by its page views, which have steadily grown from 4,000 for the first issue in 2007 to an average of 25,000 for 2017 issues.

National Finalists

David Burton
CIVIC COMMUNICATIONS SPECIALIST
University of Missouri Extension
Southwest

Burton, D.*[1]
[1] CIVIC COMMUNICATIONS SPECIALIST, University of Missouri Extension, Springfield, MO, 65802

Each monthly issue of the "Reaching Out Report" is used by Greene County MU Extension specialists to concisely communicate activities, contacts and events to members of the Greene County Extension Council, Greene County Commission and residents of Greene County. This newsletter can be read online from the Greene County Extension website or by people that follow us on www.issuu.com. Over 300 printed issues of the newsletter are circulated each month through the local extension office as well as the county commission office.

Emailed notices about the monthly newsletter being available are sent out to a subscriber list of over 350. Online reports form issuu.com indicate that over 1,000 people read our newsletter online each month. This newsletter has been a useful too when visiting with legislators or opinion leaders because it gives an up-to-date accounting of activity by the local extension office. Content is more current than an annual report. It also includes our monthly financial report. Annual readership surveys show that different extension clients enjoy the newsletter for different reason. Some appreciate the financial information. Others read it to learn about upcoming programs. Personally, I like the newsletter because it makes a great monthly report to the Greene County Commissioners. About 87% of the readers say they share the monthly newsletter with someone else and 64% say they learn useful or helpful information from the newsletter. David Burton serves as designer and editor of the newsletter. Specialists submit their own reports for inclusion in the newsletter. This newsletter includes monthly reports from each extension specialist working in Greene County. This includes the following NACAA members: Patrick Byers, Kelly McGowan, Tim Schnakenberg, David Burton, Eldon Cole and Bob Schultheis.

Cornell Cooperative Extension Erie County
Farm Business Management Educator
Cornell Cooperative Extension
Erie

Burley, M.*[1], Bachman, Sharon*[2], McKendry, Eva*[3], Held, Diane*[4], Telenko, Darcy*[5]
[1] Educator, Cornell Cooperative Extension, , ,
[2] Educator, Cornell Cooperative Extension, East Aurora, NY, 14052
[3] Administrative Assistant, Newsletter design, Cornell Cooperative Extension Erie County, East Aurora, NY, 14052
[4] Executive Director, Editor, Cornell Cooperative Extension Erie County, East Aurora, NY, 14052
[5] Fresh Market Vegetable Specialist, Cornell Vegetable Program, East Aurora, NY, 14052

Over the past several years Cornell Cooperative Extension of Erie County has developed a quarterly newsletter to keep the farm community updated on pertinent information related to timely topics within the agriculture community. The readership has grown from 50 producers to over 200 producers and ag service providers in a 3 year time frame. The main audience is farmers in Erie County. 150 newsletters are mailed to the farming community. Several farmers and service providers (50+ people) opt for an E-Edition which is emailed to them quarterly.

Andrew Brischke
Area Assistant Agent
University of Arizona Cooperative Extension
Mohave County

Brischke, A.*[1], Lossing, Shelley*[2], Alberts, Dan*[3], Miller, Debbie*[4], Reddick, Linda*[5], Various*[6]
[1] Area Assistant Agent, University of Arizona Cooperative Extension, Kingman, AZ, 86401
[2] Certified Master Gardener Volunteer, University of Arizona Cooperative Extension, Kingman, AZ, 86401
[3] Certified Master Gardener Volunteer, University of Arizona Cooperative Extension, Lake Havasu City, AZ, 86403
[4] Certified Master Gardener Volunteer, University of Arizona Cooperative Extension, Bullhead City, AZ, 86429
[5] Certified Master Gardener Volunteer, University of Arizona Cooperative Extension, Kingman, AZ, 86401
[6] Certified Master Gardener Volunteer, University of Arizona Cooperative Extension, Kingman, AZ, 86401

Wind and Weeds is the Mohave County Master Gardener Program (MCMGP) newsletter written and produced mostly by the volunteer Master Gardeners (MG), with this Agent as the editor. The newsletter has been produced since 1995. Due to size and geography, the MCMGP has three area groups located Bullhead City, Lake Havasu City, and Kingman. The newsletter typically includes a feature article, authored by a volunteer, a message from the Agent or Program Coordinator, area updates authored by area coordinators, and a calendar of events for each area. The quarterly informal newsletter is a tool for the volunteers to develop and practice their research, writing, and communication skills. It is a great avenue for the area programs to share home gardening issues, tips and tricks, and workshop ideas. Wind and Weeds is distributed electronically to active MGs (78) as well as interested public (1486) that have signed up to receive MG information so we also use it as an outreach and marketing tool for our MG program.

Regional Winners

Lisa Scarbrough

Scarbrough, L.*[1], Schultz, Madeline*[2]
[1] , , Ames, IA, 50011
[2] Program Manager, Iowa State University Extension and Outreach, Ames, IA, 50011

Iowa State University Extension (ISU) and Outreach established the Women in Ag program in 2015 to respond to a growing audience of women in agriculture. The mission of ISU Extension and Outreach Women in Ag is to improve the quality of life in Iowa by providing research-based educational programs to women in agriculture and support the community of women in agriculture. Our mission is accomplished through four goals: (1) education, (2) communication, (3) capacity building, and (4) financial management. Goal two is practiced

through Women in Ag communication and connection. As women are taking on new roles in agriculture, the ISU Extension and Outreach Women in Ag program continues to work toward providing educational and networking opportunities. In an effort to share the varied activities offered by ISU Extension and Outreach Women in Ag, the Women in Ag Team produces a monthly newsletter. The newsletter delivers a monthly message from the program director, updates readers on upcoming events, and features a variety of stories. The Women in Ag Newsletter is created and delivered using MailChimp email marketing service. The newsletter is sent to 984 recipients. Of the campaigns that were successfully delivered, 63% of the subscribers opened the newsletter. And of the successfully delivered campaigns, 10.7% of readers registered at least one click. Links to newsletters: September 2017 Women in Ag Newsletter October 2017 Women in Ag Newsletter

Josh Coltrain, Jeri Geren, Keith Martin
District Extension Agent, ANR
K-State Research & Extension
Wildcat District

Coltrain, J.*[1], Jeri Geren*[2], Keith Martin*[3]
[1] District Extension Agent, ANR, K-State Research & Extension, Girard, KS, 66743
[2] Wildcat Extension District Diversified Ag and Natural Resources Agent, Wildcat District, Independence, KS, 67301
[3] Wildcat Extension District Livestock & Forage Agent, Wildcat Extension District, Altamont, KS, 67330

These are examples of our Agricultural Agents Newsletter which is distributed with our Constant Contact email system. The October 4, 2017 edition was sent to nearly 1,000 email addresses (993) and opened by 388 distinct e-mail addresses. While 40% may not seem great, according to Constant Contact, industry average would be less than 25%. The August 1, 2017 newsletter was sent to just over 800 (804) email addresses and opened by 301 distinct constituents. Once again, 38% is much greater than the industry average. Constant Contact offers our team valuable insight into who is reading our material on a regular basis. In addition, it offers our agents a chance to expand the reach of our columns, radio recordings, and videos. In addition, it offers a great way to market upcoming meetings which our post meeting surveys have shown.

Susan Boser
Water Resources Educator
Penn State Extension
Beaver County

Boser, S.*[1], Boser, S. M.*[2]
[1] Water Resources Educator, Penn State Extension, Beaver, PA, 15009
[2] Water Resources Extension Educator, Penn State Extension, Beaver, PA, 15009

The *Watershed Winds* newsletter is published monthly and distributed electronically to approximately 9,000 subscribers in the state of Pennsylvania and beyond. Examples of subscribers include individuals, watershed groups and state agencies. Articles for the newsletter are submitted by members of the Penn State Extension Water Resources Team comprised of educators specializing in various Extension water programing including safe drinking water, watershed education, forestry, and water for agriculture. The award applicant edits the articles submitted from team members, uploads them to the water resources website, and then works with Penn State's web publishing team to create and distribute the newsletter. Highlighted in the newsletter are past successful programs, upcoming programs and projects, and timely water resources information focusing on current events or issues in Pennsylvania watersheds. *Watershed Winds* serves to not only educate its subscribers about the work being done by the Extension water resources team, but also directs readers to the Penn State Extension water website to gain more information and access additional resources.

http://view.email.extension.psu.edu/?qs=572af6e4ddd93b6b5afbde86c3f2713d25ef503b49d41425cb326f112c1b5291df7ec69981257e39c8587ab06c7149f684d483b6d87

Jeffrey Wilson
Regional Horticulture Specialist
Mississippi State University
NMREC

Wilson, J.*[1], Melanson, Rebecca*[2], Barickman, T.C.*[3]
[1] Regional Horticulture Specialist, Mississippi State University, Verona, MS, 38879
[2] Vegetable Pathologist, Mississippi State University Extension, Raymond, MS, 39154
[3] vegetable Specialist, Mississippi State University Extension, Verona, MS, 38879

2 newsletters were each emailed to approximately 250 individuals including: fruit and vegetable producers, industry personnel, and extension employees in MS. Newsletters were designed to provide pertinent information for improved crop production for commercial horticulture producers. Prepared by Dr. Wilson, with articles also written by Dr. Casey Barickman (Vegetable Specialist) & Dr. Rebecca Melanson (Pathology Specialist).

Billy Barrow & Jarette Hurry
Extension Agent
NCSU
Bertie/Northeast

Barrow, B.*[1], Hurry, J.*[2]
[1] County Extension Director, NCSU, Windsor, NC, 27983
[2] Extension Agent, NCSU, Windsor, NC, 27983

Bertie Ag News and Jarette's Farm Journal are two newsletter released in Bertie County for row crop producers. Bertie Ag News written by CED, Billy Barrow covers topics related to Peanuts and Clary sage while Jarette's Farm Journal written by Ag Agent, Jarette Hurry covers topics related to corn, cotton, wheat, soybean, milo, tobacco and pesticide education. During the summer months these newsletters are combined to reduce the amount of mail famers and agribusiness professionals receive. This team newsletter is distributed to 374 Bertie County farmers and agribusiness professionals in print and electronically, through email. Approximately 500 individuals view the newsletter through post on the Bertie County Cooperative Extension website and Facebook Page. The timely information provided in this team newsletter allows farmers to make appropriate crop management decisions and stay up to date on relevant topics and events without being bombarded with mail.

Amy L Dismukes
Extension Agent III
UT / TSU Williamson County Extension
Williamson

Dismukes, A.L.*[1], Williamson County Master Gardener(s) (Tennessee)*[2]
[1] Extension Agent, UT/TSU Extension, Franklin, TN, 37064
[2] certified TN Extension Master Gardener(s), UT/TSU Williamson County Extension, FRANKLIN, TN, 37064

The idea for THE PERENNIAL was envisioned in late 2016, with the first edition available for viewing in mid- April. The newsletter is a collaboration between Extension Agent Amy Dismukes and members of the Williamson County Master Gardeners Association. The newsletter will be published on a quarterly basis. It's intention is to not only keep Williamson County Master Gardeners updated on current events, hot topics and Extension news, but also the general public in and around middle Tennessee.

Jane Mangold
Rangeland Weed Specialist
Montana State University

Mangold, Jane*[1], Tharp, Cecil*[2], Orloff, Noelle*[3], Burrows, Mary*[4], Menalled, Fabian*[5], Wanner, Kevin*[6]
[1] Rangeland Weed Specialist, Montana State University, Bozeman, MT, 59717
[2] Pesticide Education Specialist, Montana State University, Bozeman, MT, 59717
[3] Associate Specialist and Plant Identification Diagnostician, Montana State University, Bozeman, MT, 59717
[4] Plant Pathology Specialist, Montana State University, Bozeman, MT, 59717
[5] Cropland Weed Specialist, Montana State University, Bozeman, MT, 59717
[6] Cropland Entomology Specialist, Montana State University, Bozeman, MT, 59717

The Montana IPM Bulletin is a print and digital (http://www.pesticides.montana.edu/news/bulletins.html) newsletter that provides useful and current information on innovative and ecologically-based integrated pest management (IPM) to the people of Montana. The newsletter is a collaborative effort by on-campus entomology, plant pathology, pesticide education, and weed Extension specialists, and each issue of the newsletter contains articles covering these diverse disciplines of pest management. Since 2010 the Montana IPM Bulletin has been disseminated two times per year, once in the spring and once in the fall. Each issue includes multiple pest management articles within each of the pest disciplines (entomology, plant pathology, pesticide education, and weed science), an "Ask an Expert" section where questions from clientele are shared and answered, a "Pest Management Toolkit" where specialists share upcoming trainings and other useful resources (e.g. publications, websites), and a "Meet Your Specialist" section where on- and off-campus pest management experts are interviewed. While most information is provided by MSU Extension specialists, specialists often invite articles from non-university affiliated colleagues. This allows the network of expertise to expand beyond the university and strengthens partnerships with off-campus entities (e.g. Montana Department of Agriculture). The audience served by the Montana IPM Bulletin includes county and reservation agents, certified crop consultants, county weed district coordinators, state and federal land management personnel, and private and commercial pesticide applicators. An estimated 300 people view each issue of the bulletin through printed copies (200) and a digital version sent via email (100 recipients). Often the primary audience shares articles from the Montana IPM Bulletin with their respective secondary audiences through social media and printed materials. Even one article forwarded to a news outlet, such as a local newspaper, can account for 1,000 additional readers. Drs. Cecil Tharp (Pesticide Education Specialist) and Jane Mangold (Rangeland Weed Specialist) serve as editors with assistance from Noelle Orloff (Associate Specialist and Plant Identification Diagnostician). Additional members of the core team include Drs. Mary Burrows (Plant Pathology Specialist), Fabian Menalled (Cropland Weed Specialist), and Kevin Wanner (Cropland Entomologist Specialist).

State Winners

North Central Region

Ohio - Lee Beers

South Dakota - Amanda Bachmann

Wisconsin - George Koepp

Southern Region

Arkansas - Stewart Runsick

Florida - Caitlin Bainum, Jane Griffin, Alicia Halbritter

Oklahoma - Trent Milacek

Texas - Whitney Grantham

West Region

New Mexico - Bonnie Hopkins

Utah - Helen E Muntz

Personal Column

National Winner

Dennis L Patton
County Extension Agent, Hort
K-State Research & Extension
Johnson County

Each spring and fall The Kansas City Star newspaper publishes special sections called Grow. The Grow sections focus on lawn and garden stories for the season. There were seven issues published in 2017. The audience is local gardeners. The purpose of the personal column is to disseminate gardening information to the public. Column stories are based on the timing of the gardening season and conditions occurring that reflect seasonal changes. The feedback from the readers is extremely high and very positive. Comments are made about the quality of educational information and the personal nature and humor injected in the columns. Due to the changing demands in the industry the special section has ended. The Kansas City Star is a privately held company. They do not release circulation numbers. The personal columns are a vital method of promoting not only the educational message but also Johnson County Kansas State Research and Extension in the metropolitan area.

National Finalists

Emily G. Adams
Extension Educator
OSU
Coshocton County

The educator writes a weekly personal column for the Sunday edition of the Coshocton Tribune newspaper. The two columns selected were published on April 23, 2017 and May 21, 2017. The overall objective for the educator's personal column is to show the connections of Coshocton County agriculture to Ohio and the nation while at the same time acknowledging the aspects of agriculture that make Coshocton County unique. The educator also focuses on the importance of research to both OSU and to Coshocton County producers as well as sound research-based advice for management decisions.

The weekly OSU Extension Agriculture column in the Coshocton Tribune is geared toward both agricultural producers and the general public. The reach of the Coshocton Tribune is 3,000 daily for print (there are 37,000 people in Coshocton County). Online there are approximately 85,000 unique visitors a month and 900,000 total page views. The educator had been in the Saturday paper for 4 years, but in early 2016 the Coshocton Tribune has moved this personal column to the Sunday paper.

The two articles selected highlight the variety of topics covered in this weekly personal column. These address ticks and hay field fertility. Since this weekly column is read by farmers as well as the general public, it is important for the educator to include background information that might not always be needed by the producer. It is a great way to educate the public on the diversity and breadth of agriculture and how different agriculture topics affect Coshocton County.

The column topics are many times the result of questions from clientele. Ticks are often brought into the office for identification since black-legged or deer ticks are becoming more and more common in Coshocton County. Sometimes the topics are the result of the educator's observations of needed management changes in the county. Hay yields in Coshocton County are below the state average and this is partly because fertility programs are not well planned or executed.

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

I have a column, in Lock Haven's *The Express,* under the standing line "*Keeping It Green*". I always submit several photographs, that I have taken, with the written column to add a visual component to attract the reader to the column. I let it up to the editor to determine which ones they want to show. My information is submitted via *The Express*'s virtual newsroom; therefore, it never prepared with letterhead. At

times, I try to pick topics which most readers might observe in their landscape or movement within their communities. From there, I try to insert some facts about the subject and use it as a teachable moment. The June 17th column explored the yearly occurrence of birds and nesting. This opening then allowed me to delve into bird mites, a question that occasionally comes into the extension office. The September 23rd column explored the reasoning for stinging insects to gather at late season picnics. A Nikon D3100 was used for submitted pictures. *The Express* has a daily circulation over 10,000. Small town and rural central Pennsylvania affords me the opportunity to interact with readers on a regular basis and I receive many positive comments on the column.

Allison Kosto
Extension Agent

Broadwater

Since 2015, I have written a weekly column in the local newspaper, the Broadwater Reporter. My goal is to provide unbiased, research-based information that is relevant to the residents of Broadwater County. My objective is to write to a lay audience on issues related to gardening, lawn and tree care and pest management and occasionally discussing upcoming programs, emerging agricultural issues, home and nutrition. I discuss issues specifically related to the county's unique climate and growing season. One of the main features is a "Noxious Weed of the Month" where I highlight a new plant on the Montana Noxious Weed list with basic information, identifiable characteristics and control recommendations.

My anticipated impact is that by providing accurate information, residents can make informed decisions and know where to seek additional information. The current distribution of the paper is about 2,000. The population of Broadwater County is about 5,612 (2010 census). The column is prepared in Microsoft Word and sent to the newspaper editor via email.

No formal evaluation has been conducted. Residents and the editor continually provide positive feedback on the articles. I have clientele who come to the office to seek services or information as a result of the articles. For example, a recent article on well testing resulted in nearly 10 people obtaining test kits. Due to the popularity of the articles, I started an office blog in 2018. This is an online source for the articles plus photographs and links to additional resources that are not the paper. This online resource is a direct result of the success of the newspaper articles.

Regional Winners

Phil Durst
Sr. Extension Dairy & Beef Educator
MSU EXTENSION
OGEMAW

One hundred years is a special milestone. In 2017, Michigan State University Extension marked the 100th anniversary of Extension's presence in Ogemaw County. This was an opportune time because the county commissioners were dropping funding for Extension from the budget. This Extension Educator wrote three columns about the history of Extension in Ogemaw County to draw attention to the importance not just then, but now as well. As the millage vote for MSU Extension will be held this August, we hope that voters will continue the legacy of Extension in Ogemaw County. This entry is the 2nd and 3rd of those columns. The audience was the voters of Ogemaw County and the vehicle to get the columns in front of them was the Ogemaw County Herald, a local newspaper delivered to around 5000 households. By the time the third column (What does history mean?) was written, the Herald put together a special section in the November 9 issue recognizing the centennial celebration at our office. The column was featured in that section. In addition, one column was adapted for a centennial article in two neighboring counties in which the first Emergency Agricultural Agent started in 1917, and published in their local papers and The Valley Farmer, a regional agricultural paper. The author researched the history of Extension using both resources from Michigan State University and the Ogemaw County Historical Society.

Judith L Wright
Senior Agriculture Resource Educator
Cornell Cooperative Extension
Cayuga County

EcoTalk is weekly column printed in The Citizen newspaper with a distribution of 30,000 principally urban and suburban demographics. The purpose of the weekly column is to create awareness of our actions on the environment. Topics addressed include: invasive species, water quality, recycling, nature and agriculture. Cayuga County is a rural county with a significant agriculture presence. Most residents are several generations removed from farming and do not realize all the advances and practices farms are implementing. Recent concerns due to increased harmful algal blooms have caused many to assume that farms are to blame for the decreased water quality. These two columns were intended to highlight and inform the non-farm audience of the care and advances both farmers and researchers are making to improve agricultural practices and the contributions being implemented towards protecting the environment.

James J. Barrett
Ag & Natural Resources Extension Agent
WVU Extension Service
Wood

The Backyard Gardener is a weekly horticulture and home gardening column published in the Parkersburg News and Sentinel in Parkersburg, West Virginia. It reaches over 26,000 people in the Mid-Ohio Valley on a daily basis. This is a great tool to disseminate research-based information to the public, who are eager to learn home horticulture and gardening tips and receive lawn care advice. The column focuses on timely recommendations during the growing season and mixes in local themes as well as personal stories to engage readers. As an unbiased source of information, Extension must continue these avenues of communication to a mass audience. The column generates numerous phone calls and e-mails to the Extension office for citizens who request follow-up information. Many who request information are sent Extension Fact sheets which include more detailed information. The column covers various topics and this year included insect identification and control tips (hornets, bagworms), growing vegetables (squash, asparagus), cultivating herbs (chives), soil fertility recommendations and apple varieties. "Horseradish: A Root Crop that Packs Some Heat" and "The Walnut: Versatile and Valuable" are prime examples of the columns appeal to farmers, home owners and avid gardeners to take some of the information and apply it on their home property or garden.

Gary Bachman
Horticulture Specialist
Mississippi State
SE - Biloxi

Southern Gardening is a weekly column designed to be published by print outlets across Mississippi. The columns are designed to be of relevance for persons interested in lawn and garden care. The submitted example columns address the relevant topics of intelligent landscape/garden use and showing the benefits of growing landscape plants in raised beds. I take all my own images using a Nikon 7200 DSLR using a Nikon DX VR AF-S Nikkor 18–300mm 1:3.5-6.3 lens for all the images for the Southern Gardening column.

Determining impact of the Southern Gardening Column is an important measure of the Extension effectiveness in making connections with our Mississippi clientele as well as nationally. The Southern Gardening column is picked up by up to 104 newspapers and other publications weekly across Mississippi with a subscription base of greater than 1.6 million.

Amy Dabbs
Clemson Extension Agent
CLEMSON UNIVERSITY
Charleston, Berkeley, Dorchester Counties

I wrote a monthly personal column from January 2017-March 2018 for South Carolina Living Magazine, the publication for members of the South Carolina Electric Cooperatives. SC Living Magazine has a circulation is 573,000 with an estimated readership of 1.1 million people. The focus of the column is to disseminate timely, research-based gardening information that is of interest to area gardeners.

Amy L Dismukes
Extension Agent III
UT / TSU Williamson County Extension
Williamson

IT'S A HOMEGROWN TRADITION began in 2015, as a monthly column for the Franklin Online Homepage. The reach of the column has now spread to four other areas across middle TN (Brentwood, Spring Hill, Nolesville and Sumner Co), with an average yearly impact of approximately 21,000,000. Monthly topics are determined by time of the year and what is 'hot' at the moment. The articles may be viewed at (1) https://franklinhomepage.com/a-homegrown-tradition-wooly-aphids-cause-a-mess-with-their-honeydew/ and (2) https://franklinhomepage.com/a-homegrown-tradition-wooly-aphids-cause-a-mess-with-their-honeydew/, respectively.

Andrew Brischke
Area Assistant Agent
University of Arizona Cooperative Extension
Mohave County

In 2011, a group of rangeland professionals were gathered around a campfire at the Society for Rangeland Management (SRM) Arizona Section Summer Meeting regaling each other of adventurous days working in the field. The author, seemingly to have faced more adversity in the field in his short career than many others in the group, suggested that he could write a book about the misadventures he has experienced. As a book was too daunting of a project to accomplish during the authors extended graduate student career, he agreed to write short stories reminiscing his "Field Follies" for the section newsletter. The objective of Field Follies is simply a collection of light-hearted, humorous stories about calamities that have happened to the author while working in the field. The intent is for the stories to be relatable to others involved in natural resources and to have a laugh at similar, often extremely frustrating situations of their own. Most stories include a warning or tip of how a folly could have been avoided, others do not and are merely about forgetting appropriate footwear and completing fieldwork in flip-flops. Circulation is small and limited to clientele receiving the AZ SRM Newsletter, though

recently articles have expanded into another local newsletter, The Diablo Trust Newsletter. The author is looking to expand circulation by submitting to the National SRM Newsletter. Field Follies has received many positive comments, including that it is often the highlight of the newsletter.

Kurt M Jones
COUNTY DIRECTOR
Colorado State University Extension
Chaffee

Learning how to garden in Chaffee County, Colorado with elevations ranging from 7,000 feet to over 14,000 feet can be a challenge for both natives and newcomers. One component of the Home Horticulture outreach program in Chaffee County is a weekly gardening column, published every Thursday in the local daily newspaper, "The Mountain Mail." Local growing conditions are challenging with approximately 95 frost-free days, occasional late and early frosts, high pH soils, desiccating winds, and annual precipitation of 10.5 inches per year. Because of these challenges, the author tries to incorporate levity and personal stories, along with research-based advice to help local growers have success in the garden. This column has been successful at reaching 3,700 readers each week, and has been a useful tool for advertising local classes and recruiting new Master Gardener volunteers.

State Winners

North Central Region

Indiana - Kristine Medic

Minnesota - Emily Wilmes

Missouri -David Burton

South Dakota - Ruth Beck

Wisconsin - Sarah Mills-Lloyd

Northeast Region

New Jersey - Nicholas Polanin

Southern Region

Alabama - Angela S. Treadaway

Arkansas - Sherry Beaty-Sullivan

Florida - Julie Mcconnell

Georgia - Roger N Gates

Kentucky - Annette Meyer Heisdorffer

North Carolina - Stefani Garbacik Sykes

Texas - Allison Watkins

West Region

New Mexico - Bonnie Hopkins

Utah - Ronald K Patterson

Program Promotional Piece

National Winner

Kenneth Johnson
Horticulture Educator
University of Illinois Extension, Unit 15
Central

Johnson, K.*[1]
[1] Horticulture Educator, University of Illinois Extension, Unit 15, Jacksonville, IL, 62650

The public has become increasingly aware and interested plight of pollinators, particularly honey bees. Because of this increased interest in beekeeping in the area, the Calhoun-Cass-Greene-Morgan-Scott Unit offered a Beginning Beekeeping course. This 5-part course covered the basics of keeping honey bees, including a hands-on Hive Day. The promotional material was designed as a two-sided flyer. The pages were designed so that they could be used as a standalone flyer as well. The promotional material was distributed via email to Unit Master Gardeners, Master Naturalists as well as individuals who had expressed interest in attending educational programming related to honey bees (approximately 75 individuals). Full-color flyers were distributed to unit offices, local businesses, the local beekeeping club as well as during educational programs (approximately 200). Additionally, it was placed on the unit website. Twenty-five individuals registered for the class (maximum), with an additional waiting list. Based on evaluations, 94% of respondents stated they intended to keep bees in the next two to three years.

National Finalists

Kapil Arora
Field Agricultural Engineer
Iowa State University Extension

Arora, K.*[1]
[1] Field Agricultural Engineer, Iowa State University Extension, Winterset, IA, 50273

Manure applicators need to learn how distribution of manure may be variable with the current manifolds being used in application. There are manifolds which can achieve low variability at low application rates where as there are other manifolds which may achieve it at high application rates. Uniformity of manure distribution across the tool-bar points depends on application rate being used, drive speed of the applicator, manifold pressure, location of manifold in relation to tool-bar points, and discharge hose orientation. Use of an appropriate manifold with its proper installation can help to better distribute manure nutrients, especially nitrogen. This can help reduce the need to apply supplemental nitrogen fertilizer, thus resulting in cost savings and water quality benefits. In addition to uniformity of manure distribution, a calibration of the application rate is also needed to achieve the targeted application rate. A research project, funded by National Pork Board was conducted in 2015 and 2016 to better understand manure distribution. Upon conclusion of the research project, field days were organized in 2017 to demonstrate to manure applicators the factors influencing manure distribution, and how the distribution can be improved. I developed the flyer to promote the manure distribution and calibration field days. The promotional flyer was mailed to 531 confinement site and commercial manure applicators in eleven counties in Iowa. As the sole author of this promotional piece, I developed language used on the promotional flyer and designed the layout of the flyer. The photographs on the flyer show how distribution of liquid manure across the tool-bar points can be measured using 55-gallon drums. In response to the promotional flyer, ninety-two participants attended the two field days in Iowa Falls and Hills.

Christine Gelley
Extension Educator, ANR

Noble County

Gelley, C.*[1]
[1] Extension Educator, ANR, , Caldwell, OH, 43724

This beginners beekeeping class was offered on February 17, 2018. It was taught by Noble County Bee Inspector- Don Crock and hosted by Nible County OSU Extension. The flyer created was distributed through the county agriculture and natural resources newsletter from November through January. Approximately 650 flyers were distributed through the mail and the flyer was also available online at the county website noble.osu.edu and the local radio station website. Twenty-four beginning beekeepers enrolled in the course and became members of the Guernsey-Noble Beekeepers Association and the Ohio State Beekeepers Association as a result. The photo featured on the flyer was taken by Christine Gelley.

Matthew Chadwick
CEA for Agriculture/Natural Resources

Calloway

Chadwick, M.*[1]
[1] CEA for Agriculture/Natural Resources, , Murray, KY, 42071

Matt Chadwick, the Agriculture and Natural Resources agent in Calloway County, KY., designed this promotional piece. The objective of creating this piece was to raise awareness about the Calloway County 4-H livestock club and recruit new members. This club has seen a decline in membership over the last two seasons. This piece was developed strictly for social media, and was very effective at reaching new individuals. It was posted on our office Facebook page and has reached over 4000 people (this is significantly over our average post reach of 2,110 people), with over 150 post clicks and over 105 interactions. This was an extremely successful promotion for us, we have gained four new families which accounts for twelve new children, this doubled the children in our club that are eligible for competition.

Regional Winners

Steven Yergeau
Environmental & Resource Management Agent
Rutgers Cooperative Extension
Ocean County

Yergeau, S.*[1], Howard, Nicole*[2], Emhardt-Servidio, Susan*[3], Walzer, Karen*[4], Laboy, Becky*[5], Raabe, Christine*[6]
[1] Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755
[2] Graphics Specialist, Ocean County College, Toms River, NJ, 08755
[3] Horticulturist & Rutgers Master Gardeners Coordinator, Rutgers Cooperative Extension, Toms River, NJ, 08755
[4] Public Outreach Coordinator, Barnegat Bay Partnership, Toms River, NJ, 08755
[5] Education & Outreach Specialist, Ocean County Soil Conservation District, Forked River, NJ,
[6] Director, Ocean County Soil Conservation District, Forked River, NJ,

The objective of this program promotional piece was to attract residents, the public, and Master Gardeners from throughout New Jersey to a one-day conference titled, "Bringing Nature Home to Your Jersey-Friendly Yard."

The goal of this conference, held on October 14, 2017, was to educate residents on best practices to create native habitats, maintain healthy soil, and conserve water in the home landscape. The target audience were residents and homeowners from throughout New Jersey. The flyer was developed by the conference organizers, and was designed to be both eye-catching and informative. The program for the conference was developed around the keynote speaker, Dr. Doug Tallamy, the nationally known University of Delaware Professor of Entomology and Wildlife Ecology and author of "Bringing Nature Home" and "The Living Landscape." Highlights of the day included presentations on incorporating native plants into one's yards, proper techniques to ensure good soil quality, and using water wisely in landscaping. An accompanying event website was developed, http://www.jerseyyards.org/resources/workshops-events/, to provide detailed information on the conference and to guide interested attendees through the registration process. The various organizers and sponsors publicized the conference using the flyer and website. These efforts resulted in 146 residents, Rutgers Master Gardeners, and environmental organization staff attending the conference. Based on the success of this conference, all parties involved are planning to make this an annual event.

Henry Bignell
Sr. Livestock Resource Educator
Capital Area Ag and Hort Program- Cornell Cooperative Extension
Capital Area

Bignell, H.*[1], Ford, T.*[2]
[1] Sr. Livestock Resource Educator, Capital Area Ag and Hort Program- Cornell Cooperative Extension, Troy, NY, 12180
[2] Senior Administrative Assistant, Capital Area Ag and Hort Program- Cornell Cooperative Extension, Voorheesville, NY, 12186

Marketing programs to benefit potential clientele to serve the needs of the agricultural community can be quite challenging. The Winter Green-Up Grazing Conference benefits pasture based farmers in NY state and the North East with access to resources about grazing, marketing, and nutrition strategies, along with networking with local and national educators, farmers and research specialists. This promotional piece, not only served as a marketing tool for participants but as well as a marketing tool to secure sponsors and vendors for this event. This flyer was sent out to the CAAHP electronic newsletter, local newspapers, and to extension educators in NY and in Vermont. There were 84 participants, 15 vendors, and 2 sponsors who attended this event.

Emelie Swackhamer
Horticulture Educator
Penn State Extension
Montgomery County

Swackhamer, E.*[1], Korman, A*[2]
[1] Horticulture Educator, Penn State Extension, Colllegeville, PA, 19426
[2] Horticulture Educator, Penn State Extension, Nazareth, PA, 18064

A new invasive insect pest, *Lycorma delicatula*, commonly known as the spotted lanternfly (SLF), was discovered in Pennsylvania in September 2014. SLF has a wide host range including hardwood trees, apples and grapes. Pennsylvania ranks first nationally for hardwood production, fourth in apple production, and fifth for grape production. A containment and eradication effort is underway. A quarantine order has been enacted by the Pennsylvania Department of Agriculture (PDA) to slow the spread. Residents are seeking opportunities to learn about the SLF and about actions they can take to help in the fight against it. Eight public meetings were held in April to provide an opportunity for residents to learn about the biology, the concern, how to comply with the quarantine order and what management options are available to landowners. Participants who were interested in acting as volunteers to kill SLF with sticky bands places on trees were invited to remain for the last half hour to receive training and supplies. There was no fee to attend and all meeting room space was donated by partner organizations. The promotional piece was sent via email, surface mail, posted in local businesses and posted as an article in several e-newsletters. A total of 204 people attended. In September a follow up survey was sent electronically to 144 of the participants. Fifty responded. Ninety-eight percent said they taught 775 other people in their community about SLF. Fifty-two percent said they killed SLF on their properties. The meeting helped recruit a total of 43 volunteers to band trees. To date, over 1 million SLF have been killed by tree banding and reported to a database managed by the PDA. Sixteen participants reported killing a total of 273 of the host trees preferred by SLF.

Brady Self
Assistant Extension Professor

NW - Grenada

Self, B.*[1], Rousseau, R.*[2]
[1] Assistant Extension Professor, , Grenada, MS, 38901
[2] Professor, Mississippi State University Extension, Mississippi State, MS,

This brochure was created to advertise a short course that was held during June of 2017. The brochure was sent as a mailout to landowners in Madison County. Additionally, the brochure was posted to a variety of social media outlets, the

Mississippi Forestry Association-Voice of Forestry website, and on the Mississippi State University Extension-Upcoming Programs webpage. Participants at this program totaled 33 attendees.

Virginia R Sykes
Assistant Professor
UT Extension
Eastern

Sykes, V.R.*[1], Bumgarner, N.R.*[2]
[1] Assistant Professor, UT Extension, Knoxville, TN, 37996
[2] Assistant Professor, UT Extension, Knoxville, TN, 37996

Edible gardening is an important part of consumer horticulture because of its potential to improve human well-being through physical activity and food provision. With participation in food gardening estimated to be one-third of households nationwide, including younger generations and first-time gardeners across the rural to urban continuum, the stakeholder audience is both wide and diverse. Questions related to variety selection for the home garden are frequent questions for Extension educators. However, these are particularly challenging to answer due to a lack of geographically pertinent data. The time and expense of managing cultivar trials, limited funding for consumer horticulture research, and the wide range of growing conditions across the highly varied geographical regions of Tennessee create significant hurdles for researchers trying to answer the question, "which variety should I grow in my home garden?" A collaborative approach between researchers and citizens may hold the key to addressing these challenges. In 2017, a home garden vegetable trial program was established to evaluate home vegetable crops and cultivars in Tennessee. This trial took a citizen scientist approach by providing home gardeners the opportunity to evaluate variety performance in their own backyards and provide data to be compiled into a statewide report. Due to successful participation and positive feedback in the pilot year, this program is being continued in 2018. The 2018 Home Garden Variety Trials catalog is a promotional piece prepared to provide information to potential participants on trial methods and available paired comparison trials. Both authors contributed to catalog content and design. A total of 100 bookletized catalogs were professionally printed and distributed by mail or in person beginning in late February 2018 to any Tennessee county requesting material. As of the 2018 application deadline, 88 participants from 24 counties have signed up to put out a total of 364 trials, with additional entries still arriving. In addition to producing previously unavailable information on variety performance in Tennessee, this project has provided an opportunity for Extension to directly engage citizens; increasing knowledge of vegetable gardening, encouraging physical activity and healthy eating, and expanding knowledge of the scientific process within the stakeholder audience.

Jessica Swapp
Extension Ag Agent
New Mexico State University Cooperative Extension Service
Grant County

Swapp, J.*[1], Swapp, J. J.*[2]
[1] Extension Ag Agent, New Mexico State University Cooperative Extension Service, Silver City, NM, 88061
[2] Cattle Producer Workshop, , Silver City, NM, 88061

This promotional piece was used to advertise for a cattle producer workshop. The objective of the workshop was to focus on the educational needs of cattle producers in the area. Producers in the area face many difficulties when producing their calf crop. The purpose of the workshop was to provide producers with applicable skills that can be used on their individual operations to benefit their bottom line. Presentations on the ACES and ACES HIGH marketing programs were offered to educate producers of marketing options to increase their profits. Presentations on managing your herd in drought were also offered as most of the county received marginal rains during the monsoon season. Along with managing herd health in drought conditions, a presentation on preparedness for wildfire season was also provided. Additionally, producers were able to participate in an educational presentation on BQA (Beef Qualify Assurance). After the presentation producers were able to take the test to become BQA certified. The workshop was advertised using email, social media (Facebook) and was posted in rural areas at frequently visited places such as stores and post offices. The flyer on Facebook reached 1,652 people in the community. This was the first time, in several years a workshop of its kind was offered to the community. The workshop was well attended by 23 people participating on a Saturday afternoon. This flyer was made by agriculture/4-H agent Jessica Swapp using Microsoft publisher.

Ronald K Patterson
Agriculture/4-H Youth Agent
UTAH STATE UNIVERSITY
Weber/Morgan County

Patterson, R.K.*[1]
[1] Agriculture/4-H Youth Agent, UTAH STATE UNIVERSITY, Ogden, UT, 84404

Many urban areas have adopted ordinances that allow backyard poultry production within city limits on average-sized lots. In 2015-17 Ogden City (county seat of Weber County Utah) was determining if they should allow backyard poultry production within the city limits. A public opinion poll on backyard poultry production indicated that residents were strongly in favor of allowing backyard poultry production. While the political discussions were taking place the USU Extension State Poultry Specialist was called in to educate the politicians. The Weber County Extension Agriculture Agent worked with the specialist to develop the Responsible Poultry

Production Certification program. The target audience is beginning poultry producers to help them understand what is needed to have healthy chickens and happy neighbors. The class has been taught in Ogden Utah twice and once in Salt Lake City. Since October 2017 there have been over 70 people attend the program and the next scheduled class will be offered in Spanish. Evaluations indicate the classes are meeting their objectives.

Caitlin Youngquist
Area Extenstion Educator
University of Wyoming Extension
Washakie

Youngquist, C.*[1]
[1] Area Extenstion Educator, University of Wyoming Extension, Worland, WY, 82401

WESTI Ag Days is an anual 2-day education program for farmers and ranchers. While this event has a 30 year history, the last several years have shown declining attendance and loss of sponsors. This brochure was mailed to 1,500 residents in three counties as part of an increased advertising and outreach effort. As a result, 225 people attended WESTI Ag Days 2018. This was the highest attendance in 4 years. The brochure is designed for printing double sided on 8.5 x 14 inch paper and folded for mailing.

State Winners

North Central Region

Kansas - Jeri L. Geren

Michigan - Phil Kaatz

Minnesota - Robin Trott

Nebraska - Katie Pekarek

North Dakota - Lindy L Berg

Wisconsin - Katie L Wantoch

Southern Region

Alabama - Kevin S. Burkett

Florida - Jane Cant Griffin

Georgia - Caitlin Bennett Jackson

North Carolina - Kelsey Lichtenwalner

Oklahoma - Zack A. Meyer

South Carolina - Kerrie Roach

Texas - Whitney Grantham

Publication

National Winner

Jodi DeJong-Hughes
Extension Educator, Crops
University of Minnesota Extension
Willmar Regional Center

DeJong-Hughes, J.*[1]
[1] Extension Educator, Crops, University of Minnesota Extension, Willmar, MN, 56201

The Upper Midwest Tillage Guide is a regional resource for producers and agronomic personnel who are interested in reducing tillage, but who may not feel comfortable choosing the best options for their specific operation. The guide lays out the benefits of various equipment types and tillage options and is conveniently broken into four chapters that may be read consecutively or individually. Chapter 1 begins with a brief history of soil tillage to set the tone and continues into a detailed list of tillage implements used in the upper Midwest, their purpose, and conditions that optimize their use in Chapter 2. Readers are then presented with the various benefits and challenges that can be expected while reducing tillage on their soils in Chapter 3. The guide then concludes with a detailed look into the economics of these tillage options and are presented with numerous regional examples and research results in Chapter 4. The guide was published in print by Off the Wall Advertising (Fargo, ND) and created online in November 2017. (http://www.extension.umn.edu/agriculture/soils/tillage/#tillage-guide). Since then, approximately 320 printed sets have been distributed and the online version has received 1370 views, with chapter 2 (Tillage Implements, Purpose, and Ideal Use) receiving 50 percent of the views. Jodi DeJong-Hughes' role was to summarize the data, author (primary) for chapters 2-4, coordinate peer-review and design, and manage the grant funding. Co-author Aaron Daigh was primary author for chapter 1 and edited the three remaining chapters.

National Finalists

Natalie Bumgarner
State Specialist
UT Extension
Knox/Eastern

Bumgarner, N.*[1], Bob Ary*[2], Darby Payne Allday*[3], Carol Reese*[4], Melody Rose*[5], Lee Sammons*[6], Virginia Sykes*[7], Gregg Upchurch*[8]
[1] State Specialist, UT Extension, Knoxville, TN, 37996
[2] Extension Agent, University of Tennessee, Gallatin, TN, 37066
[3] Extension Agent, Tennessee State University, Pulaski, TN,

38478
[4] Extension Specialist, University of Tennessee, Jackson, TN, 38301
[5] Extension Agent, University of Tennessee, Greeneville, TN, 37745
[6] Extension Agent, University of Tennessee, Bolivar, TN, 38008
[7] Extension Specialist, University of Tennessee, Knoxville, TN, 37996
[8] Extension Agent, University of Tennessee, Crossville, TN, 38557

This publication was developed for the purpose of reaching vegetable gardeners across Tennessee with practical, applicable, and accessible information to guide them throughout their gardening year. Additionally, this calendar was used to link stakeholders to all the additional home vegetable garden resources available through UT Extension. The intended audience was home gardeners across Tennessee as well as more specifically those who participated in a new home vegetable training program. The calendar was developed to be used in conjunction with a vegetable garden workshop series that has been implemented around the state by county Extension personnel. Through both the printed form and the fillable pdf developed for web distribution, this calendar can meet the needs of different generations of vegetable gardeners. Three thousand copies were printed in the first year, and it was also released as a web publication through the UT Extension publications site. The submitter was the primary author of the publication and worked in conjunction with other authors to review and finalize the calendar.

Betsy Greene
Extension Equine Specialist

Arizona

Greene, B.*[1], Wright, A. D.*[2]
[1] Extension Equine Specialist, University of Arizona Cooperative Extension, Tucson, AZ, 85721
[2] Livestock Area Agent, University of Arizona Cooperative Extension, Willcox, AZ, 85643

According to the Arizona Horse Council, over 60,000 Arizona households have 177,000 horses in an industry worth $1.6 billion dollars annually. Over the past few years, this industry has been affected by incidences of zoonotic or highly contagious disease outbreaks, including cases of Vesicular Stomatitis and Rabies. More recently, the neurological form of Equine Herpesvirus (EHV-1) caused the quarantine of major equine event facilities. These events have created significant opportunities for Arizona Cooperative Extension to reach out the equine community and bring the focus onto how to protect their horses, and themselves, from disease. The Barn Smarts for Biosecurity publication was geared to make simple changes obvious and memorable through the use of themes and memes. Using these memes, this information has been presented in seminars, workshops, youth horse camps, and distributed at horse facilities throughout Arizona. KVOA recently interviewed the author regarding the most recent EHV-1 outbreak. The interview (http://www.kvoa.com/story/37663532/ua-equine-expert-gives-lowdown-on-horse-herpes-virus) aired on the evening news across southern Arizona and gathered a significant amount of attention. The EHV-1 story reached 6,185 Facebook users in just two weeks and directed a substantial increase in web traffic to the Barn Smarts for Biosecurity publication. To date, over 350 have been distributed statewide and beyond. At a biosecurity workshop, the "Barn Smarts" fact sheet was utilized as a teaching tool and attendees answered 3 pre and post lecture questions. Many participants used the actual tip titles (e.g. "No double dipping", "Stranger danger") to indicate the biosecurity measure they had learned and/or were planning to implement. The number of attendees indicating they would incorporate a new biosecurity practice (82%) gives credence to the fact that teaching simple biosecurity techniques, such as those illustrated, can lead to behavior changes. The publication is available online and has been disseminated in print and discussed at equine and rancher workshops/seminars, statewide 4-H in-service trainings, a veterinarian industry event, and has been utilized in an icorp concept map grant training. Authors are 100% responsible for content, layout, and image concepts, with illustrations by Nicole Ludwig.

Susan Kerr
WSU NW Regional Livestock and Dairy Extension Specialist
Washington State University
Northwestern Research and Extension Center

Kerr, S.*[1]
[1] WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

Practical Biosecurity Recommendations for Farm Tour Hosts Virus (FS257E) was published by Washington State University (WSU) Extension in April 2017. It was written for livestock producers who wish to open their farms to the public for tours or educational workshops, yet reduce potential disease risks associated with such visits. The author was motivated to create this resource after observing lack of biosecurity protocols on a homestead dairy tour: attendees whose boots were covered with manure from their own farms were observed standing on bales of hay to be fed to cattle on the tour farm. Subsequent discussions with farm tour hosts and attendees highlighted the glaring need for biosecurity education. The author wrote the entire publication; took four of the seven photos included; developed both tables; and created one of the two graphics and adapted the other. Topics in this publication include why tour hosts should care

about biosecurity; biosecurity strategies; risk assessment; communication strategies; traffic flow; requirements for farm visitors; costs vs. benefits of biosecurity; and considerations for organic livestock production systems (OLPS). The publication includes a biosecurity planning checklist for livestock farm events. An extensive table of disinfectants was created from information summarized from numerous sources; it includes types and examples of disinfectants, advantages and disadvantages, additional comments, and OLPS status. Text call-out boxes emphasize key points and add visual interest. The adapted graphic depicts a practical, low-cost portable handwashing station for remote sites, and an original graphic depicts the factors to consider when selecting a disinfectant. The work was submitted as a Word document to the WSU Extension Fast Track publication system, where it was edited, peer reviewed, graphically designed, converted to a pdf, and uploaded to the WSU Extension publications site. The publication passed mandatory review by the Director of the Washington State Pest Management Resource, permitting inclusion of the official WSU "safe pesticide use" statement and allowing it to be published. This 16-page, full color publication has been downloaded 69 times, adapted for use in various newsletters, and distributed at educational events for livestock producers. It is available for free downloading from http://cru.cahe.wsu.edu/CEPublications/FS257E/FS257E.pdf.

Regional Winners

Ashley McFarland
Extension Educator
Michigan State University
Upper Peninsula Research and Extension Center

McFarland, A.*[1], Baas, D.*[2], DeDecker, J.*[3]
[1] Extension Educator, Michigan State University, Chatham, MI, 49816
[2] Extension Educator, Michigan State University Extension, Centreville, MI, 49032
[3] Extension Educator, Michigan State University Extension, Rogers City, MI, 49779

The Michigan State University Malting Barley Research Program is committed to disseminating research data to barley producers in a timely manner to inform decision-making that promotes best management practices in the cultivation of high-quality malting barley for Michigan's craft malt and beer industries. The *2016 Michigan State University Spring Malting Barley Variety Trials* publication outlines the research done to evaluate spring malting barley varieties as part of the Eastern Spring Barley Nursery – a collaborative research network of barley research programs in 10 states organized by North Dakota State University. The main objective of the publication is to outline yield and barley and malt quality data collected on twenty-eight varieties at three locations across Michigan. This data informs variety selection for the producer in the coming year and assists the seed industry on what varieties to focus on for future releases. The publication was drafted and designed by McFarland, with contributions and editing offered by other collaborators. It now serves as a template for the spring barley data each year. The file was printed and made available in booklet form and also posted to the program's website - http://www.canr.msu.edu/malting_barley/research. It was distributed to 200+ stakeholders at various field days throughout the summer of 2017 and sent out through the MSU Malting Barley Listserv, which reaches 300+ barley stakeholders throughout the country. The exact number of downloads from the website is unknown. It was also distributed to 100+ attendees of the Great Lakes Hop and Barley Conference.

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

Bauder, S.*[1], Beck, R.*[2], Rusche, W.*[3], Bly, A.*[4]
[1] SDSU Extension Agronomy Field Specialist, SDSU Extension, Baltic, SD, 57003
[2] Extension Agronomy Field Specialist, SDSU Extension, Pierre, SD, 57501
[3] Extension Beef Feedlot Management Associate, SDSU Extension, Brookings, SD, 57007
[4] Extension Soils Field Specialist, SDSU Extension, Sioux Falls, SD, 57103

The "Alternative Uses of Drought Stressed Corn" publication was created in August of 2017 with foresight of many central South Dakota corn acres failing to produce grain production-level yields due to drought conditions. The publication provides a quick guide for farmers to find alternative uses for failing corn grain crops that may still be of use as a forage. This publication also serves as a guide to other extension professionals when providing advice in drought-stressed areas to corn producers. It was published on the SDSU Extension website, iGrow.org, and circulated in print at seven drought meeting locations to 288 constituents across South Dakota in the summer of 2017. It was also circulated at six public agriculture events (fairs, meetings, farm shows) across South Dakota in 2017 and has been provided at 22 pesticide applicator meetings across southeastern South Dakota from January to March of 2018 with over 675 attendees. Although the entire state did not experience corn crop failure in 2017, this publication was created in a timeless manner, and should be useful for years to come. South Dakota farmers are often reactive to cropping situations by nature, and by providing this publication in print and online at any time of year, I hope to encourage producers to think ahead and plan accordingly when they foresee drought in the near future.

Amy A Rowe
Environmental and Resource Management Agent
Rutgers Cooperative Extension
Essex

Rowe, A.A.*[1], Bakacs, M.*[2], DiNiardo, Madeline Flahive*[3], Hlubik, William*[4], Polanin, Nick*[5], Weidman, Rich*[6]
[1] Environmental and Resource Management Agent, Rutgers Cooperative Extension, Roseland, NJ, 07068
[2] County Agent, Rutgers Cooperative Extension, North Brunswick, NJ, 08902
[3] County Agent, Rutgers Cooperative Extension, Westfield, NJ, 07090
[4] County Agent, Rutgers Cooperative Extension, North Brunswick, NJ, 08902
[5] County Agent, Rutgers Cooperative Extension, Bridgewater, NJ, 08807
[6] Agricultural Program Associate, Rutgers Cooperative Extension, North Brunswick, NJ, 08902

There is a need to educate the professional landscaping community on environmentally-friendly land care practices that will help them successfully maintain their properties and satisfy client needs. New Jersey recently enacted one of the strictest fertilizer laws in the nation, which restricts the type and amount of fertilizer that landscapers and homeowners can apply. In addition, many municipalities have banned the use of pesticides on recreational playing fields and public facilities. Currently, there are no federal standards for organic land care which has led to confusion in the landscaping industry and the general public over what organic actually means. The prevailing notion is that "going organic" is simply about the type of fertilizer or pesticide applied. In addition, organic land care is an emerging field, with little research having been conducted on its effectiveness. The Rutgers Organic Land Care working group has reviewed the limited number of organic land care guidelines currently in existence and has written a New Jersey best practices manual that outlines recommended practices for an organic land care program.

This manual was written by a team of extension agents, extension specialists, and professional landscapers. Madeline Flahive DiNardo, William Hlubik, Nick Polanin, and Rich Weidman each wrote sections of the manual and Amy Rowe and Michele Bakcs wrote sections and also edited the document while providing references and creating the "Recommended" and "Not Recommended" graphics. The intended audience is professional landscapers and turf managers, as well as interested parties such as Master Gardeners and homeowners looking for a systems-based approach to landscaping. The manual has been distributed electronically to all participants of the 4-day Rutgers Organic Land Care Certificate Program (112 attendees) and has been downloaded from the Rutgers Organic Land Care website 837 times since its release on 4/26/17.

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1]
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The Managing Fertility and Nutrients in Pastures publication was developed as part of a Livestock Grazing Home Study Course, a six lesson course designed to teach livestock producers how to improve their pasture management skills. The publication is part of the lesson regarding pasture management practices. It was designed to give an overview of the best management practices for managing soil fertility in pasture systems. The publication was formatted to a CD and mailed out as part of the postal version of the course and was also loaded onto a website. Thirty-one livestock producers (24 via internet/email and 7 via postal service) participated in the course last fall. As a result of participating in the course, 100% of post evaluation respondents (N=10) indicated they learned something new, 90% indicated they learned a moderate to considerable amount, and 90% planned to make changes to their pasture management techniques. A follow up evaluation of the 2015 course participants found that 12.5% saved an average of $467 in feed costs through increased grazing. The publication was prepared using Microsoft Publisher software and was converted to a pdf file. Entrant wrote the publication, took photos, formatted the publication for print, and loaded the publication to the Penn State Extension website.

Ayanava Majumdar
EXTENSION SPECIALIST
ALABAMA COOPERATIVE EXTENSION SYSTEM

Majumdar, A.*[1], Henry Fadamiro*[2], Balusu, Rammohan*[3], Carter, Brittany*[4], Stokes, Annabelle*[5], Willis, Harli*[6], Carroll, Dani*[7], Schavey, Eric*[8], East, William*[9], Kelly, Neil*[10], Chambliss, Ann*[11]
[1] EXTENSION SPECIALIST, ALABAMA COOPERATIVE EXTENSION SYSTEM, Auburn University, AL, 36849
[2] Professor of Entomology, Auburn University, Auburn, AL, 36849
[3] Research Fellow, Auburn University, Auburn, AL, 36849
[4] Project Assistant, Auburn University, Auburn, AL, 36849
[5] Project Assistant, Alabama Cooperative Extension System, Auburn, AL, 36849
[6] Project Assistant, Alabama Cooperative Extension System, Auburn, AL, 36849
[7] Regional Extension Agent, Alabama Cooperative Extension System, Anniston, AL, 36201
[8] Regional Extension Agent, Alabama Cooperative Extension System, Gadsden, AL, 35904
[9] Regional Extension Agent, Alabama Cooperative Extension System, Ashland, AL, 36251

[10] Regional Extension Agent, Alabama Cooperative Extension System, Headland, AL, 36345
[11] Extension Associate, Alabama Cooperative Extension System, Auburn, AL, 36849

The Alabama Vegetable IPM and Alabama Beginning Farmer Programs are two major educational campaigns in the Alabama Cooperative Extension System. The Commercial Horticulture Extension Team comprising of Extension Specialists, Regional Extension Agents, and County Extension Coordinators are the backbone of those programs. Team publication called the "Home and Market Garden (Urban Farm) IPM Toolkit" (first published in July 2017) is a critical resource for small producers and urban farms in Alabama. The toolkit is also available for school and community gardeners. Alabama has over 1,000 producers registered at nearly 130 farmers markets across the state; nearly 80 percent are small family farms that use mixed methods (conventional + organic IPM) for insect pest management – we intend to provide all small producers in the state with this IPM resource along with hands-on training. This wheel slide chart (attached photos show both sides) consists of three interlocked discs containing IPM information in an attractive and condensed format with 20 insect images (major pests). Information about 30+ insects for 18 vegetable crops is organized on the central disc while the two smaller discs contain information on nine organic and eight chemical insecticides commonly available at the farmers cooperative and garden stores, and big-box outlets. A number of retailers were surveyed during the development of this tool and product names are listed with chemical class for encouraging scouting and insecticide rotation. In other words, this IPM toolkit is for urban and rural audience that shop locally and purchase insecticides available in small packaging. Presently 5,000 copies of this IPM Toolkit have been published; AFC has purchased and distributed 3,500 copies to 67 stores statewide. Vegetable producers and gardeners that have received the IPM toolkit after training are very positive about the immediate usefulness of this resource. This IPM toolkit will be improved with fresh funding from submitted grants in 2019 and beyond. This publication has also been provided as samples to many other extension organization, funding agencies, and nonprofit groups. Impact assessments will be done in Fall 2018 to truly assess the dollar savings and gather testimonials regarding this unique extension publication.

Sam Marshall
Extension Agent, Ag/Horticulture

Brunswick

Marshall, S.*[1]
[1] Extension Agent, Ag/Horticulture, , Bolivia, NC, 28422

There is considerable need for pesticide education for home gardeners in Brunswick County based on the types of gardening and pest-related questions received from consumers throughout the year. With many different brand name products available to consumers, many of which have the same active ingredients, choosing the "right" product can be difficult and overwhelming. "Making Sense of Pesticides" is a series of publications broken down by category—fungicides, herbicides, insecticides—that addresses this challenge and assists homeowners when they choose pesticides for a specific problem. Each publication introduces the concept of integrated pest management and breaks pesticides into three general categories: active ingredient, brand name, and types of pests that are controlled. This was a class project for the Extension Master Gardener Volunteer trainees and was conducted throughout October 2017. Data was collected from nearly 15 local garden centers and retail stores throughout the Cape Fear Region that sold pesticides to consumers. Nearly 300 brand name products with over 100 active ingredients were recorded from those garden centers. All raw data and information for the final publication was compiled by the Brunswick County Horticulture Agent and finalized in December of 2017. Because of the project, 100% of EMGV trainees indicated that they were better able to read pesticide labels and to distinguish between active ingredients and brand names. Further, 100% indicated that they would communicate this information with homeowners at outreaches, information line, etc. and would encourage integrated approaches to pest management. Since its publication, over 200 hard copies of Making Sense of Pesticides have been disseminated to Brunswick County residents and has been downloaded 300 times from the Brunswick County Extension portal. Initial evaluations from homeowners have indicated greater clarity in how to choose the correct product, including easier discernment between active ingredient and brand name products.

Nicole Anderson
Regional Field Crops Extension Agent
Oregon State University
Willamette Valley

Anderson, N.*[1], Pirelli, G.J.*[2], Craig, A.M.*[3], Young, C.A.*[4]
[1] Regional Field Crops Extension Agent, Oregon State University, Mcminnville, OR, 97128
[2] Regional Livestock and Forage Extension Specialist, Oregon State University, Dallas, OR, 97338
[3] Professor Veterinary Medicine, Oregon State University, Corvallis, OR, 97331
[4] Associate Professor, The Samuel Roberts Noble Foundation, Ardmore, OK, 73401

This Extension publication is intended for livestock producers, independent consultants, feed companies, NRCS and other governmental agencies. Several hundred copies have been distributed at Oregon State University (OSU) Extension meetings and other industry related events in the region. The publication is also available electronically on the OSU Extension and OSU Endophyte Testing Lab websites.

The primary purpose of this publication is to provide comprehensive research-based information on basic endophyte concepts to practitioners who produce and/or feed grass food sources to livestock. Oregon is unique in that it is the world's largest producer of cool season grass seed and therefore non-traditional feed sources such as grass seed straw, seed screenings and other byproduct materials are widely available at a low cost. Many of these feed sources are generated from producing turf varieties of tall fescue or perennial ryegrass which are infected with endophytes that produce compounds toxic to livestock. This publication provides practical information on how endophytes work and why they are used, clinical symptoms of toxic endophyte related livestock illnesses, how to test feed material for toxins, and recommendations for minimizing problems associated with feeding toxic endophytes. These recommendations include grazing animals on fields that contain novel endophyte or endophyte free grass varieties, regularly testing grass seed straw, hay, and seed screening pellets for lolitrum B and ergovaline, and diluting toxin concentrations in feed sources by adding high quality legume or novel endophyte forage to the diet. Gene Pirelli and Nicole Anderson (NACAA members/OSU Extension Agents) lead efforts to develop, write and publish this Extension guide. They worked closely with co-authors who are leading experts in endophyte science.

State Winners

North Central Region

Iowa - Kapil Arora

Kansas - Dennis L Patton

Nebraska - David Lott, David

North Dakota - Gregory J Endres

Ohio - Eric A. Richer

Wisconsin - Sarah Mills-Lloyd

Southern Region

Arkansas - Rebecca J. Mcpeake

Florida - Qingren Wang

Georgia - Caitlin Bennett Jackson

Kentucky - Michele Stanton

Mississippi - Gary Bachman

South Carolina\ - Brian Beer

West Region

Utah - Michael Caron

Published Photo & Caption

National Winner

Joshua Sherman
Extension Agent
The University of Arizona
Cochise, Graham, Santa Cruz, Pima

The objective of this photo and article is to educate pecan producers on the physiological processes occurring during the shuck-split phase of pecan development, the final stage of fruit ripening. With this knowledge, they are to better understand the importance of the process, and the timing, so they may avoid disruption of the natural biochemical processes. It is quite a dynamic event involving a "dance" amongst bio-chemicals and the environment. The featured story was showcased in an industry-leading magazine, Pecan South, which reaches 3,342 subscribers in the United States and 87 international subscribers (Mexico and South America). Pecan South is both a trade magazine and scientific resource for pecan growers, shellers and other industry members around the world. The magazine strives to connect all parts of the industry by providing the scientific information, industry updates, interest pieces and other pecan-related news and information that the readers want and need. This agent's assigned area is in Commercial Horticulture and Cochise County supports the largest pecan acreage in the state of Arizona. This agent was 100% responsible for the idea, research, and writing of this featured story. The published article reached approximately 80 Arizona pecan producers who are members of the Arizona Pecan Grower's Association and was showcased on the front cover of the Pecan South magazine in October 2017, timely in that the pecan shuck splits around late October and the agent wrote/submitted the month prior.

National Finalists

Hemant Gohil
Agriculture and Resource Management Agent
Rutgers Cooperative Extension
Gloucester County

The photo was taken by the author on 10 March 2017 during a visit to Plum orchard in Salem County in Southern New Jersey. The snow events on the previous day and the sudden temperature drop on that night, caused substantial damage to the Plums which were in the middle of bloom. As a result, an almost entire crop of Plums was lost in New Jersey. During the summer of 2017, in the absence of plums in the local markets, Staff writer from *Philadelphia Enquirer* contacted the author to investigate the cause of plum unavailability. The discussion on the icing and frosting was followed by sharing the photo. That photo was published as a part of August 15 newspaper article, *This Summer Where are the Local Plums?* The photo clearly

depicts the cause – snow deposition on the bloom which killed most of the flowers. The article also quotes author explaining to general public, how warm winters can hasten the blooming, making it prone to early spring frost damage and ultimately affecting the availability of local fruits. Philadelphia Enquirer has a print circulation of 158,548. The story is also available at *http://www.philly.com/philly/food/local-plums-Philly-late-frost-jersey-farmers-market-20170816.html*. (2560 page views)

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

The article appeared on May 20, 2017 in Lock Haven's *The Express*. The article was written to assist gardeners in identification of common garden insect pests. To catch their attention, a catchy title was utilized along with several photos. Photos included the common and spotted asparagus beetle (and the egg stage) along with two life stages of the Colorado potato beetle. A Nikon D3100 was used for submitted pictures. My information is submitted via *The Express*'s virtual newsroom; therefore, it never was prepared with letterhead. *The Express* has a daily circulation over 10,000. Small town and rural central Pennsylvania affords me the opportunity to interact with readers on a regular basis and I receive many positive comments on my material.

Captions:

- Asparagus beetle eggs - Eggs are usually found in groups of 3 to 8 and attached by one end to the host plant.
- Common asparagus beetle - asparagus beetle has a black body with a metallic blue head. On each wing cover there are three rectangular metallic yellow spots that frequently have red markings along the margin.
- Spotted asparagus beetle - spotted asparagus beetles are orange with 6 black spots on each wing cover.
- CPBI – adult Colorado potato beetle on left, larva on right

Gary Bachman
Horticulture Specialist
Mississippi State
SE - Biloxi

CAPTION 1: African Sunset is a variety of black-eyed Susan vine that changes its color as it ages to reflect the warm colors of sunsets. (Photo by MSU Extension/Gary Bachman)

I took this image using a Nikon 7200 DSLR using a Nikon DX VR AF-S Nikkor 18–300mm 1:3.5-6.3 lens. The Southern Gardening column is picked up by newspapers across Mississippi on a weekly basis with a subscription base of greater than 1.6 million.

Regional Winners

Kapil Arora
Field Agricultural Engineer
Iowa State University Extension

Author took the photograph in May 2017 when the liquid manure application equipment was freed-up after performing operations. The photograph was to show how the discharge from different outlets of the distribution manifold can be captured into 55-gallon drums and measured for uniformity. Non-uniform application of liquid manure across the tool-bar points can lead to variability in crop yields forcing the farmer to doubt availability of manure nutrients. This can lead the farmer to apply additional nutrients to negate the impact of non-uniform application. Applying additional nutrients is an added cost, which can be avoided if manure is applied uniformly. It is important to operate the distribution manifold at a suitable flow rate such that uniformity is achieved across the tool-bar points. It is important to maintain good flow rate so that the manure flows down gradient in the discharge hoses from the manifold outlets to the tool-bar points. The pressure achieved in the discharge hoses depends on the total cross sectional area of the outlets accompanied with flow rate passing through them. Flow rate passing through the manifold depends on the nutrient concentration of the liquid manure being applied as well as the drive speed of the applicator. Knowing manure nutrient concentration is important as high concentrations can lead to low flow rates resulting in low pressure in the manifolds. At low pressures, the uniformity of discharge depends on elevation difference between the outlet location and the tool-bar points. Learning is required to appropriately check for all these factors influencing uniformity. The photograph and its caption "Check it" were published in the July 2017 edition of the Wallaces Farmer. Fifty-four thousand copies were printed and distributed in Iowa and neighboring states. The photograph and the caption were also printed in the on-line version of the Wallaces Farmer which has an average of 3,150 daily hits. The purpose of the publishing the photograph and its caption was to draw the attention of Iowa farmers, manure applicators, contractors, and landowners to learn more details about uniformity of manure application and how to check such uniformity at an up-coming half-day-long workshop.

Robin Trott
Extension Educator
University of Minnesota Extension
Douglas

This photo was included in an article entitled "5 Steps to Water-Wise Gardening" in Minnesota Gardener Magazine, Volume 5, Number 4 Published July/August 2017 on page 37.

The article is a continuation of the 2016 Water Wisely education campaign developed and initiated by the UofM Extension Consumer Horticulture Team, of which I am a member. The purpose of the article was to educate the public on methods of reducing water consumption in their gardens. One of these methods is to select drought tolerant plants. I took this photo in my own garden in mid-summer and included it in the article to demonstrate the beauty of this drought tolerant plant and its benefit to monarchs. The caption for this photo is "Drought Tolerant swamp milkweed (Asclepias incarnata) supports monarch butterflies and their larva in the garden."

Mark Allen Badertscher
Agriculture and Natural Resources
OSU Extension
Hardin County

Don Spar, (left) and Paul Ralston, (right) compare marbling photos with carcass show judge Tori Trbovich September 14 at Mt. Victory Meats.

This photo and caption was taken at the 2017 Hardin County Carcass Show of Champions held at Mt. Victory Meats. This show features carcass evaluations of the champion and reserve champion steers, barrows, gilts, lambs, and goats. The attached article provided the results of the show and the photo showed two adults who attended the show comparing the carcass marbling to the marbling grading cards provided as part of the educational activity. Both youth and adults are invited to this annual program along with the general public, usually producers of the livestock to learn how the project graded out on the rail. Carcass evaluation is done by an OSU meat science professor and often members of The Ohio State University Meat Judging Team. Sponsors are the Hardin County Cattle Producers, Hardin County Pork Producers, Hardin County Sheep Improvement Association, and the Hardin County Fair Sale Committee. The event is held the week after the county fair, after the local slaughter house has the opportunity to process the winning carcasses for evaluation.

Sandra Buxton
Association Resource Educator
Cornell Cooperative Extension
Capital Area

Photos are a popular feature in the weekly electronic newsletter, the printed publication and on the website and Facebook page for the regional team covering six counties. Photos are often included with articles to highlight or demonstrate additional points to be stressed. In this case, the photo was simply added to the publication to highlight some information from a recent on-farm meeting. The audience for this information consists of all members of the farm business community in Eastern New York since the information often provides reinforcement of the need to think about how they present themselves to the public in this day of animal welfare and environmental concerns. This opportune photo was taken with a Samsung Galaxy S8 at 16.0 megapixels and saved as a .jpg file. Chosen to enhance the publication, the caption and this photo were transmitted as a .jpg file via e-mail to a staff professional who formats them in for uploading to the web and the newsletters. The weekly e-newsletter including the photo was emailed at 4:00 p.m. on Friday March 2 to 1873 subscribers.

Stacey R Jones
Area Specialized Agent
North Carolina State University
Central North Carolina

Crape Myrtle Bark Scale (CMBS) is an invasive scale insect pest that has recently been found in North Carolina. This is a major issue for nursery growers and landscapers because the crape myrtle is a favorite landscape tree in our state. Controlling this pest could be very expensive and time-consuming if the populations continue to increase. And since many nursery and landscape professionals don't know it's here, it could easily become a large problem before it's noticed. This article was written to alert North Carolina green industry professionals about the pest presence in NC and educate them on how to manage it using the latest research. It was also written to inform them that Extension agents in NC are researching this pest and are working to find management solutions for this insect.

The publication this article was featured in is a magazine by the North Carolina Nursery and Landscape Association called *Nursery and Landscape Notes*. This is a professionally printed and duplicated publication that is also available to members online. It has a readership of 1,200 members. The article was written by Stacey Jones (75 percent) and Matt Lenhart (25 percent effort).

Jeannie Layton - Dudding
Extension Agent
Virginia Cooperative Extension
Giles County

With the growing interest in local foods, the global issue of a rising demand for more food to feed an increasing population, and the climbing age of the American farmer, the need for young people in the agriculture industry couldn't be greater. In recognizing this, Giles County utilized fallow land behind and adjacent to Giles High School to develop a working farm. This farm is currently being utilized by students at Giles and Narrows High School, Virginia Cooperative Extension programs, 4-H, Virginia Tech Ag Technology program, and other community based groups.

Since breaking ground in 2011 and active production since 2015, there is now ~35 acres of fenced pasture, ~40 acres of hay land, a small barn, a storage shed, cattle handling facilities, and 15 head of cattle. There is a 12,000sq.ft garden which provides produce for the school summer lunch program, farmer's market sales, and the Senior Center. Over 2,000 pounds

of beef has been provided to the school lunch program. The program has fostered 12 interns over the past two summers in addition to an average of 75 students per week during the school year. Through the partnership with Extension, we have engaged multiple Extension Specialists, faculty from Virginia Tech, and industry professionals to complete some amazing projects and programs such as the VFGC Fall Fencing School and involvement in Dr. Fike's Conservation Innovation Grant project working with the conversion of wildtype fescue pastures. The future of this program is promising and it serves as a role model for programs across the Commonwealth of Virginia.

We have captured many great photos of students learning by doing through activities at the Land Lab. This particular picture was published on the Giles County Agriculture Land Lab Facebook page, received 17 likes (average for most of the pictures on that page), and was shared by the Giles Youth Adult Partnership and Giles/Bland Agriculture Extension. The photo was captioned "Mrs. Gwaltney's and Mrs. Dove's students from GHS & NHS worked with Extension Agent Jeannie Dudding today vaccinating, tagging, & banding lambs."

State Winners

North Central Region

Michigan - Ashley McFarland

Nebraska - Katie Pekarek

Wisconsin - Sarah Mills-Lloyd

Southern Region

Alabama - Ayanava Majumdar

Florida - Bonnie C. Wells

Georgia - Caitlin Bennett Jackson

Kentucky - Eric Baker

South Carolina - Ryan Bean

Tennessee - Amy L Dismukes

Video Presentation

National Winner

Tyler Williams
Extension Educator
University of Nebraska-Lincoln
Lancaster County

Williams, T.*[1]
[1] Extension Educator, University of Nebraska-Lincoln, Lincoln, NE, 68528

County and state Extension personnel need hail-related information they can deliver to agricultural producers through multiple platform. These resources need to appeal to all types of learners, and they must be developed with the targeted audience's limited time in mind. The Nebraska Extension Hail Know team identified six stages in the hail recovery process to guide resource development. The Hail Know team, consisting of Tyler Williams (co-Lead), Ashley Mueller (co-Lead), Nathan Mueller, and Roger Elmore all with the University of Nebraska-Lincoln (UNL), worked with UNL's IANR Media and Jacht Ad Lab, a UNL student organization, to create a six-video series for each critical stage in the hail recovery process. These videos provide a quick overview of the most critical information sought out by producers, advisors, or educators and guide them to more information developed by the Hail Know project. These videos are strategically designed to be approximately three minutes long, in order to maintain the attention of the user, as opposed to having a longer, combined video. The videos are placed on YouTube as a part of UNL CropWatch (link below). These videos (more than 230 views in first 75 days after being released in Dec. 2017) have been promoted through UNL CropWatch newsletters (3000+ users), social media, Crop Management Clinic, and other in-person presentations.

https://www.youtube.com/watch?v=V8FjdD_jnXc&list=PLdssrgg38jJ0tHOZLvhq2f4RN-dP0M1wo

National Finalists

Larry Caplan
EXTENSION EDUCATOR
PURDUE EXTENSION, VANDERBURGH COUNTY
Vanderburgh County/North Central Region

Caplan, L.*[1]
[1] EXTENSION EDUCATOR, PURDUE EXTENSION, VANDERBURGH COUNTY, Evansville, IN, 47725

The Southwest Indiana Master Gardener Association (SWIMGA) is celebrating its 30th anniversary in 2018. To promote the association and educate the public on the Master Gardener program, a video was created by the Master Gardener volunteers in 2017. This video is used by SWIMGA

volunteers and the Extension Educator at local garden clubs and conferences to promote the Purdue Master Gardener program and SWIMGA. The video can be found at: https://youtu.be/lG2txGqA5VM .

Paul J. Pugliese
County Extension Coordinator
University of Georgia
Bartow/Northwest

Pugliese, P.J.*[1]
[1] County Extension Coordinator, University of Georgia, Cartersville, GA, 30120

Paul Pugliese, Bartow County Extension Coordinator, has been featured on the Georgia Farm Monitor to record several video segments titled "Extension Corner: Gardening with Paul Pugliese". These shows are viewed on a network of eleven stations across Georgia, as well as nationally on the RFD-TV Network. In 2017, Paul Pugliese filmed five video segments that were aired on the Georgia Farm Monitor television show, which has an average of 310,000 viewers per episode. Most video segments last about five minutes long. Paul Pugliese outlined the content for each segment, selected the filming location, and acquired the set props. For the purpose of this award entry, a segment titled "Drawbacks to Bradford Pear Trees," which aired on June 29, 2017, can be viewed online at: https://www.youtube.com/watch?v=pairNUw7bjc. In this Extension Corner segment, UGA Extension's Paul Pugliese discusses the Bradford pear tree. While they are very popular in Southern landscapes, he explains why they might not be the best choice for your yard. Problems associated with invasive characteristics of Bradford pear trees are discussed along with options for preventing the spread of wild Callery pears. The Farm Monitor staff travels across Georgia, the Southeast, and to other parts of the country to cover stories of interest to farmers and consumers. While the primary focus of the weekly program is agriculture in Georgia and the Southeast, national agriculture issues, consumer information, recipes, home gardening, and interesting feature stories about rural life are also part of the show. All shows are filmed, edited, and published by the Farm Monitor staff. Episodes and video segments are archived on the Farm Monitor website https://www.farm-monitor.com and the Georgia Farm Monitor YouTube channel at: https://www.youtube.com/user/GeorgiaFarmMonitor/videos.

Joanna Coles
County Extension Agent for Agriculture and Natural Resources
UK Cooperative Extension Service

Coles, J.*[1]
[1] County Extension Agent for Agriculture and Natural Resources, UK Cooperative Extension Service, Bowling Green, KY, 42101

"Uses of Corn," aired as part of the UK Cooperative Extension Service Show *Country Cottage*. The Country Cottage is a 30-minute program on Spectrum Cable that airs daily with content provided by the Warren County Cooperative Extension Service. The program reaches 5000 households. The viewing audience is primarily people who live in the city limits and subscribe to cable. The objective of the show is to educate the urban audience about the importance of agriculture, give horticulture tips and education, and provide nutritional information and education and to highlight Cooperative Extension Service events.

The objective of the corn segment was to highlight how we all utilize corn in products we use daily. After airing, the segment was uploaded to the Warren County Agriculture's Facebook page and shared on Living Well in Warren County's Facebook page where it received an additional 821 views. The video is also available on Warren County Agriculture's YouTube Channel at https://www.facebook.com/warrencountyag/videos/10156600738907678/.

Regional Winners

Marissa Schuh
Extension Educator
Michigan State University Extension
Southeast

Schuh, M.*[1], Werling, B.*[2]
[1] Vegetable Educator, Michigan State University Extension, Adrian, MI, 49221
[2] Extension Educator, Michigan State University Extension, Hart, MI, 49420

Corn earworm is the biggest pest of sweet corn in Michigan, but the pest biology makes management difficult. One IPM practice that is often recommended is trapping moths to track their movement and time sprays, but choosing, assembling, and correctly positioning these traps can be a challenge. To address this issue, we collaborated a video which highlighted corn earworm trap placement and assembly (video here: https://goo.gl/ETPv3g). The segment can help a grower select and assemble a trap, helping them produce earworm-free sweet corn with fewer sprays. This video is hosted on the Michigan State University Extension website, along with other relevant videos and resources for corn earworm management (goo.gl/gjaDsE, video 2). This video can be shared with growers in personal emails, general newsletters, and weekly educator reports.

Peter J Nitzsche
County Agent II
Rutgers Cooperative Extension of Morris County
Morris

Carleo, J.*[1], Matthews, J.*[2], Nitzsche, P.J.*[3], Garrison, S.A.*[4], Heckman, J.*[5], Sheppard, T.*[6], Waide, S.*[7], Brumfield, R.*[8],

Gohil, H.*[2], Govindasamy, R.*[10], Kluchinski, D.*[11], McGrady, F*[12], Melendez, M.V.*[13], Polanin, N*[14], Sutton, D*[15], Wyenandt, C. A.*[16]
[1] County Agent II, Rutgers NJAES Cooperative Extension, Cape May, NJ, 08210
[2] Program Associate, Rutgers NJAES Cooperative Extension, Cape May Court House, NJ, 08210
[3] County Agent II, Rutgers Cooperative Extension of Morris County, Morristown, NJ, 07963
[4] Professor Emeritus, Rutgers NJAES, Bridgeton, NJ, 08302
[5] Videographer, Rutgers, Office of Continuing Professional Education, New Brunswick, NJ, 08901
[6] Farmer/Owner, Eastern Fresh Growers, Inc, Cedarville, NJ, 08311
[7] Chef/Farmer, Stumble Meadow Farm, Cape May, NJ, 08204
[8] Extension Specialist in Farm Management, Rutgers NJAES Cooperative Extension, New Brunswick, NJ, 08901
[9] County Agent III, Rutgers NJAES Cooperative Extension, Clayton, NJ, 08312
[10] Professor in Marketing, Rutgers NJAES Cooperative Extension, New Brunswick, NJ, 08901, NJ, 08901
[11] County Agent I (Deceased), Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[12] Media Assistant, Rutgers, Office of Continuing Professional Education, New Brunswick, NJ, 08901
[13] County Agent III, Rutgers NJAES Cooperative Extension, Trenton, NJ, 08648, NJ, 08648
[14] County Agent II, Rutgers NJAES Cooperative Extension, Bridgewater, NJ, 08807, NJ, 08807
[15] Media Assistant, Rutgers, Office of Continuing Professional Education, New Brunswick, NJ, 08901
[16] Extension Specialist in Vegetable Pathology, Rutgers NJAES Cooperative Extension, Bridgeton, NJ, 08302, NJ, 08302

The Rutgers NJAES Ultra-Niche Crops for the Progressive New Farmer Program focuses on the cultivation, marketing, and business management of "ultra-niche" crops - exceptionally high-value crops grown on ten acres or less. In December of 2017, the team released a 29-minute virtual field trip video featuring asparagus production and marketing. This video - scripted, filmed, edited, and produced by the project team - features a current farmer, a buyer, and an Extension professional filmed in an interview format explaining critical crop production and marketing information specific to asparagus. The format included the use of drone-based footage and both on-camera and voice-over descriptions of the planting, production, perennial management, harvesting, storing and marketing of asparagus. This video allows participants to "visit" on farm asparagus production to learn how the crop is grown and what both retail and wholesale buyers look for. It was featured during a live two-hour class on asparagus offered in December 2017 and attended by 22 participants at two sites. A live panel discussion folloewd, with the same experts interviewed in the video. The live speakers panel was recorded and posted for further self-study and asynchronous learning on the program's YouTube Channel https://www.youtube.com/channel/UCQ3vTwbKmePQmoezlBVuEQA and website http://njaes.rutgers.edu/ultra-niche-crops/asparagus/. Respondents to class evaluations rated the overall quality of the presentation and instruction at 4.6 (1-5, 5=extremely good), and the quality and value of the content and information at 4.7. Since the original posting of this video online, it has been viewed 209 times.

John Rowehl
Agronomy Educator
York

Rowehl, J.E. [1]

[1.] Extension Educator, Penn State Cooperative Extension, York County, Pennsylvania 17402

Farmers and crop advisors are the target audience for this video. Fungicide applications for control of foliar diseases on wheat are most effective when applied as the flag leaf begins to emerge. The period of time a farmer has to do this is fairly short. In order to be prepared to make a fungicide application on time, it is helpful knowing how close the wheat plants are to the stage of flag leaf emergence. Many farmers are not sure how to determine if the most recent leaf that has emerged from the whorl of the plant is actually the flag leaf. Also, timing is extremely critical for fungicides applied for Fusarium Head Blight. Fungicides must be applied in the early stages of flowering in order to be most effective. The video also provides guidance on how to anticipate flag leaf emergence, flowering and recognize when those growth stages are occurring.

The video was completed in December of 2017 so has not been in use during a growing season for which it is applicable.

https://extension.psu.edu/identifying-wheat-stages-for-fungicide-application

Joshua Peplowski
Extension Agent
West Virginia University
Greenbrier Co.

Peplowski, J.*[1]
[1] Extension Agent, West Virginia University, Lewisburg, WV, 24901

Over the last 70 years dairy farming in West Virginia has almost completely vanished from the farming community. Dairy cow numbers in the 1950's were over 225,000; that number has now plummeted to less than 8,000 cows in 2017. As population demographics continue to get further and

further away from the farm, the understanding and knowledge of farming practices is lost among the general population. The purpose of this video was to give the public an education on the milk industry and common practices while they were attending the 2017 State Fair of West Virginia. The State Fair has hosted a calving exhibit for the past few years as an attraction for fair participants to enjoy. This is done in conjunction with a local organic dairy farm who milks Jersey's exclusively. On a regular year there will be anywhere from 20-30 calves born during the 10 day fair. This attraction gets a large following and is a new experience for many of the public in attendance. We viewed this as a perfect opportunity to answer some common questions and educate the public while there. The filming took place on Perk Farms Organic Dairy in Frankfort, West Virginia from May through late July of 2017. Agent Peplowski was responsible for production and editing of the film and contributed to the content of the programing. Operation owner Rem Perkin's also contributed to the content of the film. The State Fair annually has over 150,000 visitors each year. This year's film was a huge success and many people watched it through the full length. The farm owner was quite pleased with the outcome of the project.

This is a shortened version of the 25 minute film.

https://drive.google.com/file/d/1U03Xe1bIyJxkiwaydEUenSUx7Xd3hDn-/view?usp=sharing

Gary Bachman
Horticulture Specialist
Mississippi State
SE - Biloxi

Bachman, G.*[1], Allison, Tim*[2], Parrish, Jonathan*[3], Utley, Brian*[4]
[1] Horticulture Specialist, Mississippi State, Biloxi, MS, 39532
[2] Senior Extension Associate, Agricultural Communications, Mississippi State, MS, 39762
[3] Extension Associate I, Agricultural Communications, Mississippi State, MS, 39762
[4] Senior Extension Associate, Agricultural Communications, Mississippi State, MS, 39762

Southern Gardening Television is a weekly (52 segments per year), 1 1/2 to 2 minute television segment designed to air within Mississippi television newscasts and available on the Mississippi State University Extension Service's web portal, http://extension.msstate.edu/shows/southern-gardening/ video Southern Gardening Television is also a part of the weekly MSU Extension Agriculture show Farmweek aired in Mississippi on Mississippi Public Broadcasting and RFD-TV. Weekly viewers within the state of Mississippi number in excess of more than 360,000. Segments are designed for persons interested in lawn and garden care and seasonal interest. The goal of Southern Gardening Television is to educate and inspire the home gardener in Mississippi. The following segments are being submitted as examples of the body of work for Southern Gardening Television segments. Southern Gardening: Winter Kale, http://extension.msstate.edu/southern-gardening/video/2018/winter-kale

Southern Gardening: Crape Murder, http://extension.msstate.edu/southern-gardening/video/2018/crape-murder

Southern Gardening: Fall Lantana, http://extension.msstate.edu/southern-gardening/video/2017/fall-lantana

Southern Gardening: Roundabout Color, http://extension.msstate.edu/southern-gardening/video/2017/roundabout-color

Southern Gardening: Southern Gardening on Social Media, http://extension.msstate.edu/southern-gardening/video/2017/southern-gardening-social-media

Southern Gardening: Decorative Ponds, http://extension.msstate.edu/southern-gardening/video/2017/decorative-ponds

Brooke Edmunds
Community Horticulture Faculty
Oregon State University
Lane-Linn-Benton

Edmunds, B.*[1], Kowalewski, A.*[2], Ward, S.*[3], Morales, D.*[4]
[1] Community Horticulture Faculty, Oregon State University, Tangent, OR, 97389
[2] Assistant Professor, Turfgrass Specialist, Oregon State University Extension, Corvallis, OR,
[3] Multimedia Tech Designer, Oregon State University Extension, Corvallis, OR,
[4] Publishing Manager, Oregon State University Extension, Corvallis, OR,

Horticulture faculty and Master Gardener volunteers in Oregon are commonly asked for advice on how to best manage moss that is invading lawns. The goal of this communication project was to address that need by providing a resource on identifying and eliminating moss from home lawns using a combination of cultural and other methods. This video was developed to accompany and promote a full-length companion OSU Extension publication (EM 9175). The video script was written using accessible language, high-quality and engaging clips and photos were used, and some information (i.e. detailed pesticide recommendations, etc.) was not included. The video length was purposely kept short so that the video would be suitable for use on social media. The storyboard (including the script and associated imagery) for the video was blind peer-reviewed. The publication authors and video production crew collected still photos and short clips at the Oregon State University turfgrass research farm and home lawn locations. The final edited video was uploaded to the Oregon State University Publication catalog and shared across social media accounts (county and state Extension as well as the state

Master Gardener and University horticulture department.). There have been over 500 views of the video since release in late 2017.

The video can be accessed here: https://catalog.extension.oregonstate.edu/em9176

Ronald K Patterson
Agriculture/4-H Youth Agent
UTAH STATE UNIVERSITY
Weber/Morgan County

Patterson, R.K.*[1]
[1] Agriculture/4-H Youth Agent, UTAH STATE UNIVERSITY, Ogden, UT, 84404

The purpose of this peer reviewed video is to provide research-based information to beginning gardeners, in a format that is readily and commonly accessed, on how to plant beans. The video was produced and edited during the 2017 growing season and published on YouTube in November 2017. This video discusses soil preparation, planting techniques, fertilization, planting depth and seed spacing. It also covers succession planting and the cultural differences between bush beans and pole beans. The target audience is beginning gardeners in Utah, but it is applicable to a worldwide audience via the Utah State University YouTube channel and can be found at https://youtu.be/Ndq1cVYGeGc. It will also be promoted on various USU gardening webpages and FaceBook accounts as the next growing season approaches. Since the posting on November 27, 2017 through February 28, 2018 there have been 212 views.

Don W Mcmoran
Agriculture and Natural Resources Extension Faculty-Director
Washington State University
Skagit County, Washington State

McMoran, D.W.*[1], Goodrich, B.*[2]
[1] Agriculture and Natural Resources Extension Educator-Director, Washington State University, Burlington, WA, 98233
[2] Clinical Assistant Professor, Washington State University, Pullman, WA, 98264

The Viva Farms Digital Storytelling Project is a collaboration between the Washington State University Department of English and the WSU Skagit County Extension office. The project was created in response to the Washington State University Grand Challenge: Opportunity and Equity, which promotes an informed and equitable society, expands individual opportunity, and advances social justice. The result is a collection of short, student-made documentaries that describe the mission and day-to-day operation of Viva Farms---a farming incubator, and the farmers who are undertaking the challenge of learning farming and eventually becoming farm owners.

The intro video can be viewed at https://www.youtube.com/watch?v=YGzHjlVbXR4&feature=youtu.be

State Winners

North Central Region

Iowa - Jennifer Bentley

Kansas - Jeanne S Falk - Jones

Minnesota - Abby Neu

North Dakota - Rick Schmidt

Ohio - Timothy McDermott

Wisconsin - Trisha Wagner

Northeast Region

New Hampshire - Carl Majewski

New York - Sandra Buxton

Southern Region

Alabama - Jennifer W. Davidson

Arkansas - Terrell Davis

Florida - Molly Jameson

North Carolina - Tom Dyson

South Carolina - Paul S Thompson

Tennessee - Anthony Carver

Virginia - Kevin Camm

Website

National Winner

John Porter
Extension Educator/Assistant Professor
Nebraska Extension
Douglas

Porter, J.*[1], Cue, Kathleen*[2], Evans, Scott*[3], Fech, John*[4], Larson, Jonathan*[5]
[1] Extension Educator/Assistant Professor, Nebraska Extension, Omaha, NE, 68124
[2] Extension Assistant - Horticulture, Nebraska Extension, Omaha, NE, 68124

[3] Extension Assistant - Horticulture, Nebraska Extension, Omaha, NE, 68124
[4] Extension Educator - Horticulture, Nebraska Extension, Omaha, NE, 68124
[5] Extension Educator - Entomology, Nebraska Extension, Omaha, NE, 68124

Address: grobigred.com

The GROBigRed website/blog was developed in 2017 by the Community Environment team of the Douglas-Sarpy County Extension Office to serve as an outlet to share timely, evidence-based information to clients for emerging and perennial issues. The team consists of three horticulturalists, an entomologist, and an urban agriculture/farming educator (myself). This format adds a nimble and dynamic tool for responding to needs and issues to the existing extension static website and also allows for topics and information that goes beyond the scope of a traditional extension site. The information is further disseminated through social media (Facebook and Twitter) post for each submission.

The team meets regularly to discuss content themes, potential emerging issues, and timely topics for inclusion in the publication schedule. Each team member contributes their own content to the blog in their respective area of expertise, with posts occurring from two to five times during the week depending on the season.

My roles in the site include writing content related to fruit and vegetable production for home gardeners and producers, co-leading the content development meetings, the initial setup of the Wordpress site, setting up accounts for each team member to post their own content, and continued maintenance and updates of the site and social media.

From inception in May 2017 to March 2018, the page has had 25,478 views from 19,581 unique visitors from 83 different countries. The articles have been shared and linked in extension newsletters and online updates, national extension social media such as the Extension Master Gardener Facebook page, and the local media which are invited to use the blog as a source for articles. In addition, the Facebook page has garnered 32,266 views and 1561 interactions.

To further expand the means of delivering content, the team has started a podcast to feature timely garden information to reach the ever growing podcast-listening client base.

National Finalists

Emily G. Adams
Extension Educator
OSU
Coshocton County

Adams, E.G.*[1], Neal, Nannette*[2], Neikirk, Heather*[3], Scheckelhoff, Beth*[4]
[1] Extension Educator, OSU, Coshocton, OH, 43812
[2] Extension, The Ohio State University, Owensville, OH, 45160
[3] Extension Educator, The Ohio State University, Massillon, OH, 44646
[4] Extension Educator, The Ohio State University, Leipsic, OH,

The Ohio Women in Agriculture blog (http://u.osu.edu/ohwomeninag) provides women involved in agriculture with resources and information to learn, grow, connect, inspire and empower others. The blog is updated biweekly with articles or short posts written by Ohio State University Extension's Ohio Women in Agriculture Team members. Blog topics primarily focus on managing agricultural risks, including financial, human resource, legal, production and marketing risks. Local and state-wide programs and events for women in agriculture are also featured. The Ohio Women in Agriculture blog was created in October of 2016 and currently reaches over 600 subscribers, with new subscribers joining each month. From March 15, 2017 until March 15, 2018 this blog site had 4,793 visits from 3,247 unique visitors. There were 7,700 pageviews. The top three pages were New Dicamba and 2,4-D Herbicides: The Basics of the Product Usage, Selling Food from Your Farm or Farmers' Market, and Annie's Project Retreats. Blog posts are also linked to immediately post on the Ohio Women in Agriculture Learning Network Facebook site which has 680 followers and @ohwomeninag on Twitter with 85 followers.

Joanna Coles
County Extension Agent for Agriculture and Natural Resources
UK Cooperative Extension Service

Coles, J.*[1], Hildabrand, K.G.*[2]
[1] County Extension Agent for Agriculture and Natural Resources, UK Cooperative Extension Service, Bowling Green, KY, 42101
[2] Warren County Extension Agent for Horticulture, UK Cooperative Extension Service, Bowling Green, KY, 42101

Facebook has over 1.88 billion active users and represents a huge potential for outreach for the Cooperative Extension Service. Since July of 2016, the Warren County Agriculture's Facebook page has increased its scope and interaction. The page has focused on timely agriculture and horticulture educational information, promotion of events, agriculture awareness campaigns, and recognition of local farmers. In the program year of July 2017-present, the page doubled its reach and engagement. The page reached 107,527 and had the engagement of 9501. Social media blue book values each post on the page at almost $22.38/post. Based on the 192 posts made this year, that is a $4297 marketing value to our local extension program. In addition, to marketing value, the Facebook page has served as an outreach to non-extension users. The agents receive many questions from non-extension

users through the Facebook messenger feature and some have even attended events promoted on the page.

The Facebook page link is https://www.facebook.com/warrencountyag/. The horticulture and agriculture agents are the content contributors to the site and the Warren County staff assistants help with graphics development and calculating analytics.

Gary Bachman
Horticulture Specialist
Mississippi State
SE - Biloxi

Bachman, G.*[1], Allison, Tim*[2], Coblentz, Bonnie*[3], Graves, Ellen*[4], Gregory, Nathan*[5], Myers, Amy*[6], Parrish, Jonathan*[7], Utley, Brian*[8]
[1] Horticulture Specialist, Mississippi State, Biloxi, MS, 39532
[2] Senior Extension Associate, Agricultural Communications, Mississippi State, MS, 39762
[3] Senior Extension Associate, Agricultural Communications, Mississippi State, MS, 39762
[4] Social Media Specialist, Agricultural Communications, Mississippi State, MS, 39762
[5] News Writer, Agricultural Communications, Mississippi State, MS, 39762
[6] Extension Associate II, Agricultural Communications, Mississippi State, MS, 39762
[7] Extension Associate I, Agricultural Communications, Mississippi State, MS, 39762
[8] Senior Extension Associate, Agricultural Communications, Mississippi State, MS, 39762

The Southern Gardening TV, Newsprint and Radio products are designed for persons interested in lawn, landscape and garden care. Southern Gardening provides the gardening public the opportunity for exposure to the newest ornamental plants, tips on plant care, and landscape plant usage and design ideas using locations all across Mississippi. Southern Gardening is a multi-faceted team product of weekly TV, weekly Newspaper Column and daily Radio and is designed and produced for persons interested in lawn, garden, and landscape care in Mississippi. Southern Gardening TV is distributed to all television broadcast stations in Mississippi, Mississippi Public Broadcasting, and satellite on RFD. The weekly audience across all broadcast stations is greater than 400,000 viewers. The newspaper column is distributed to up to 104 newspapers across Mississippi with a total circulation base of over 1.5 million. Southern Gardening is also available 24/7/365 at the MSU-ES web site, http://extension.msstate.edu/shows/southern-gardening, and in fact has a world-wide audience.

Regional Winners

Diane Dewitte
Extension Educator - Swine
University of Minnesota Extension
Mankato Regional Office

Dewitte, D.*[1]
[1] Extension Educator - Swine, University of Minnesota Extension, Mankato, MN, 56001

https://www.facebook.com/UMNSwine/

University of Minnesota's Extension Swine program has a well-received bi-monthly newsletter, a YouTube channel, monthly research report podcasts, and a public website. On July 21, 2017, the UM Extension Swine Facebook page was launched to more thoroughly connect with swine producers and enthusiasts across social media. At its inception, the Facebook page plan was to post thrice weekly: Production Tip Monday, Wellness Wednesday, and Friday Foodie. Additional posts were added as needed to advertise events, to highlight UM swine activities and personnel, and to immediately share information for swine producers.

In late 2017, a 2018 Editorial Calendar was developed to more completely organize content and topics produced in all of the Extension Swine program's outreach. This year the Extension Swine Facebook page is following a content theme in its Monday, Wednesday and Friday postings. January focused on quality assurance, audits and recordkeeping, February's content covered small farms, niche and organic pig production, and March is targeting swine nutrition. Friday Foodie has changed to Fact-Filled Friday in order to provide more meaningful information to the Facebook consumer. A weekly Small-Farm Swine Saturday post has been added to more fully involve non-traditional pig producers with UM Extension information. As of March 12, 2018, the UM Extension Swine Facebook page has 108 Follows and 99 Likes.

Steven Yergeau
Environmental & Resource Management Agent
Rutgers Cooperative Extension
Ocean County

Yergeau, S.*[1]
[1] Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755

http://ocean.njaes.rutgers.edu/

UnderstandingSoilCompaction.html Compaction is a major problem affecting soil health in agriculture and horticulture as it inhibits root growth, hinders water infiltration, and increases flooding. Some soils can be naturally prone to compaction and much of the soil in Ocean County, New Jersey is classified by the U.S. Department of Agriculture as having a low resistance to compaction making compaction more likely

in these soils. To raise awareness of compaction as well as provide information on how to manage soil compaction, this website was developed. The information used for this website was adapted from the 'Understanding Soil Compaction' program for Rutgers Master Gardeners (RMGs) of Ocean County, which outlines the causes of compaction, its effects on soil health, mitigation options, and how to measure soil compaction in the home landscape. This website follows this same outline and provides similar information for the public. In addition to their own education, this website's objective was to supplement the RMGs knowledge when answering the public's questions on compaction in their yards and grassed landscapes. The website went live in December 2016 and was researched and written by Dr. Yergeau, with maintenance conducted by Ocean County staff. The website has received 210 views from December 2016 through February 2018.

Elizabeth Bosak
Field & Forage Crops Educator
Penn State Extension
Dauphin & Perry Counties

Bosak, E.*[1]
[1] Field & Forage Crops Educator, Penn State Extension, Dauphin, PA, 17018

The average age of an American farmer is 58.3 years. Based on the average, most people would question whether a Facebook page makes sense for farmers. According to the 2018 Pew Research Center Report on Social Media, 65% of adults between 50 and 64 years of age report using Facebook. Over 80% of the next generation uses Facebook. Of all social media outlets, Facebook remains the most frequently accessed in rural areas. With the Field of Dreams idea of "If you build it, they will come", Penn State Extension's Field and Forage Crops Team launched their Facebook page in October of 2015 (https://www.facebook.com/PSUFFCTeam/). The page is used to promote local and statewide events, to provide another outlet for the team's e-newsletter and allow Extension Educators to easily upload images from the field to address current issues. The top five posts last year were for two events, two e-newsletter articles, and one emerging pest issue during the growing season. Since the 2015 page launch, over 400 Facebook users have liked the page, a 68% increase from last year. The majority of these Facebook users are from the United States (87%) but Canada (2%), India (1%), and thirty other countries (10%) are represented as well. From March 15, 2017 to March 1, 2018, posts were viewed 42,426 times; a forty eight percent increase from the previous year. In the same time period, 38,715 unique users accessed the Field and Forage Crops team page.

Tony A. Glover
COUNTY EXTENSION COORDINATOR
ALABAMA COOPERATIVE EXTENSION SYSTEM
CULLMAN

Glover, T.A.*[1]
[1] COUNTY EXTENSION COORDINATOR, ALABAMA COOPERATIVE EXTENSION SYSTEM, Cullman, AL, 35055

https://www.facebook.com/Cullman-County-Alabama-Extension-Office-208455425869717/?ref=bookmarks
Primary social media site for the Cullman County Extension Office to push research based information out, announce events and engage the public on topics in the news.

Mark Platten
County Director
CSU EXTENSION
Teller County

Lockwood, R.*[1], Platten, M.*[2], OMeara, C.*[3], Wood, K.*[4], Mueller, K.*[5], Brown, K.*[6], Eshun, J.*[7], Conner, K.*[8]
[1] Specialist for External & Media Communications, Colorado State Forest Service, Ft. Collins, CO, 80523
[2] County Director, CSU EXTENSION, Woodland Park, CO, 80863
[3] Extension Agent - Horticulture Entomology, Colorado State University Extension, Longmont, Co, 80501
[4] Manager of Urban & Community Forestry, Colorado State Forest Service, Ft. Collins, CO, 80523
[5] Associate Director of Communications & Communities, Colorado State Forest Service, Ft. Collins, CO, 80523
[6] Director, Software Architect for Colorado State University, CSU Research Software Facility, Ft. Collins, CO, 80523
[7] Student Hourly with CSU Research Software Facility, CSU Research Software Facility, Ft. Collins, Co, 80523
[8] Student Hourly with CSU Research Software Facility, CSU Research Software Facility, Ft. Collins, Co, 80523

To help Colorado homeowners determine whether trees on their property are susceptible to being killed by emerald ash borer (EAB), Colorado State University Extension and the Colorado State Forest Service developed and released a free app that will allow anyone to use their mobile device to quickly ascertain whether a tree may be a potential target for the pest.

EAB is a highly destructive, non-native insect from Asia, first detected in Colorado in 2013, which is fatal to all infested ash trees unless the trees have been chemically treated.

"The most important thing Colorado communities can do now is prepare for emerald ash borer's arrival by increasing their EAB awareness, sharing information about how to identify ash trees and learning the symptoms of this pest," said Keith Wood, CSFS community forestry program manager.

The EAB/Ash Tree ID app can be downloaded on almost any modern Apple or Android-based device, and easily located in app stores by simply searching for "ash tree." It offers a step-by-step process to determine if a given tree appears to be a true ash or not and offers links and other information about EAB for users who suspect they might have an ash tree. The app is intended not just for homeowners, but also for business owners, school groups or anyone concerned about the potential impacts of this pest.

The app is intended to prompt homeowners and other landowners to consider early management options for EAB. These may include replacing unhealthy trees before they die, treating high-value trees with the proper insecticides and planting new trees near ash that might ultimately succumb to the pest.

EAB, which is responsible for the death of tens of millions of ash trees in 30 states and two Canadian provinces, has only been detected in Boulder County within Colorado. EAB can fly up to a half mile to infest new trees and spreads much faster through the human transport of firewood and other raw wood. An estimated 15 percent or more of all urban and community trees in the state are ash, which are susceptible to EAB.

https://play.google.com/store/apps/details?id=com.EAB.app&hl=en

Don W Mcmoran
Agriculture and Natural Resources Extension Faculty-Director
Washington State University
Skagit County, Washington State

McMoran, D.W.*[1]
[1] Agriculture and Natural Resources Extension Faculty-Director, Washington State University, Burlington, WA, 98233

Washington State University Extension engages people, organizations and communities to advance economic well-being and quality of life by connecting them to the knowledge base of the university and by fostering inquiry, learning, and the application of research. WSU Skagit County Extension encourages these activities on social media through the WSU Skagit County Extension Facebook site. Please visit the site at https://www.facebook.com/wsuskagit/

State Winners

North Central Region

Iowa - Fred M Hall

Kansas - Sandra L. Wick

Michigan - Garrett Owen

Wisconsin - Aerica Bjurstrom

Southern Region

Arkansas - Colin Massey

Florida - William Lester

Georgia - Andrew Sawyer

North Carolina - Zachary Taylor

Oklahoma - Trent Milacek

South Carolina - Amy Dabbs

Tennessee - Jason de Koff

Texas - Andy Holloway

NACAA Member Presentations

2018 NACAA

103rd
Annual Meeting
and
Professional Improvement Conference

Chattanooga, Tennessee

4-H & Youth

TEACHING TEEN LEADERSHIP TWENTY MINUTES AT A TIME

*Bruynis, K.[1]
[1.] Extension Educator, 4-H, Ohio State University Extension, Hillsboro, OH, 45133

In 4-H and other youth serving organizations the opportunity to teach or facilitate a leadership development activity is frequent, but the experience of the facilitator varies. The Ohio 4-H Teen Leadership Design Team developed Teen Leadership 20 as a tool for any facilitator. The double-blind peer-reviewed Teen Leadership 20 curriculum can be used by teen or adult facilitators to teach one leadership lesson in a 20-minute time frame. The lessons are designed to allow opportunities for teen participants to develop leadership skills through multiple topics. Our nation values leadership, but we do not teach it well." (Baskin, 2012). Parents, teachers, colleges, and employers place a large emphasis on developing leadership skills, however, employers report graduates as being more deficient in desired workplace skills. Leadership was among the top 10 desired skills surveyed, demonstrating its importance, but approximately 28% of graduates are described as being deficient in workforce skills. With such importance placed on leadership, why are so many graduates deficient on these highly desired skills? There is a simple answer. Developing leadership skills takes practice, but there are not enough opportunities for young people to practice the skill of leading (Baskin, 2012).

The presenter will introduce a leadership curriculum that can be used by teen or adult facilitators to teach one leadership lesson in a 20-minute time frame, consecutive lessons in a larger time frame, or a series of lessons over multiple meetings to older youth audiences. The lessons are designed to allow opportunities for teen participants to develop leadership skills through multiple topics, such as communication, goal-setting, inclusion and workforce development, to name a few. If desired, facilitators can utilize the assessment tool to measure impact of each lesson or series of lessons. Each lesson includes background information and directions to facilitate the activity, reflect on the activity, and apply the activity to the participants' life.

Conference attendees will leave with access to all the activities in the curriculum to take back and utilize in their programs.

PREPARING YOUTH FOR CAREERS IN AGRICULTURE THROUGH STATE CROP SCOUTING COMPETITIONS

*VanDeWalle, B.[1]
[1.] Ext. Educator, University Of Nebraska, Geneva, NE, 68361

State Crop Scouting Competitions promote agriculture by introducing youth in Nebraska, Iowa and Indiana to agricultural disciplines and Integrated Pest Management (IPM). Students from state high schools compete as teams to identify insects and plant diseases, growth stage crops, etc. Each station is run by University faculty, staff, or graduate students. A survey was conducted to determine competition impact on students. Results indicate that students improve their problem solving skills and learn about IPM from this competition.

The Crop Scouting Competition provides a unique venue where high school youth can interact directly with Extension specialists and graduate students from a variety of agricultural disciplines. Interactions with specialists in a university setting helps introduce youth to areas of agriculture they may be previously unfamiliar with and can serve as a recruiting tool for the university by creating positive relationships with high schools. Many comments indicated the positive impact of direct interactions with station leaders, demonstrating the value that both students and teachers place on such interactions.

These competitions can serve as a model for other states that wish to improve ties between University Extension Specialists and state high schools.

GPS COWS: LINKING STUDENTS FROM AUSTRALIA AND THE UNITED STATES OF AMERICA WITH PRECISION FARMING THROUGH LIVESTOCK TRACKING

*Knight, C.[1]; Cosby, A.[2]
[1.] State Livestock Specialist, University Of Maine Cooperative Extension, Orono, ME, 04473
[2.] Senior Research Officer – Agri-tech Education and Innovation, Central Queensland University, Queensland, Australia, Qu, 4670

The global workforce of the future need to possess a different set of skills and knowledge to ensure the livestock industry continues to innovate and adopt new technologies. A key issue facing rural communities, in both Australia and the United States of America (USA), is the low level of digital literacy among some cohorts of students. The "GPS Cows" program will provide the next generation with knowledge of the latest advances in livestock tracking and the skills to collect and analyze data which can be used to increase on-farm productivity, profitability and sustainability. The 'GPS Cows' project is a collaboration between researchers, industry professionals and educators in both Australia and the USA to engage students (15-17 years) to increase their digital literacy

skills while showcasing the higher education and career opportunities available in the agricultural sector. Students will learn how to build and deploy a GPS tracking collar before using Geographic Information Systems(GIS) software to analyze data. Using this platform, students will share and compare data across Australia and the USA, allowing project participants to learn about agricultural production systems across the world. The learning resources developed for the 'GPS Cows' project will be evaluated to determine its effectiveness in engaging students in digital literacy and improving knowledge of the relevance of technology in agriculture. The action research protocol being followed ensures that feedback is gained from all participants to improve the learning module and improved understanding of the challenges for all participants. Authors expect students and educators involved in the project will develop an increased appreciation and knowledge of the role of technology in agriculture and the social, economic and environmental benefits that can be obtained.

PASSING THE TORCH TO THE NEXT GENERATION: UGA EXTENSION GWINNETT COUNTY HORTICULTURAL AND ENVIRONMENTAL OUTREACH PROGRAMS IN LOCAL K-12 PUBLIC SCHOOLS

*Daly, T.[1]
[1.] County Extension Agent, University Of Georgia, Lawrenceville, GA, 30046

Gwinnett County, GA, is home to the largest and most culturally diverse school district in Georgia with a total of 144 schools with an estimated enrollment of 180,000 students for the 2017 -2018 school year. As the population increases, environmental awareness and education have increasingly become part of educational curricula in the county schools. UGA Extension Gwinnett receives many requests from educators for assistance in the development of educational programs in horticulture, the environment and the construction of school gardens. The Extension office has responded by partnering with our Master Gardener Volunteers in the development of educational programs for school children to improve their understanding of these areas and engaging them in horticultural projects. The Master Gardeners along with Extension staff visit the schools, consult with the educators to assess their needs, provide fact sheets, grant funding information, and educational materials. Many schools want to plant gardens, and the most preferred types are vegetable, pollinator, annual/perennial, and native plant gardens. We take into consideration that each school is unique outdoor environment, learning goals, parent involvement, etc. Since March, 2017, UGA Extension Gwinnett has ongoing projects at 24 local schools where Master Gardeners have contributed 1300 hours of volunteer service, 12 One-time educational programs at schools with 97 hours. Two training programs for teachers have been conducted on pertinent subject matter, and in the summer of 2018, the Extension office will hold a 'Teachers Master Gardener Class' for 30 local school teachers. Additionally, Extension is collaborating with the school system in their efforts to develop their Science, Technology, Engineering and Math (STEM) programs through the inclusion of horticultural education.

WATER EDUCATION AND INCENTIVES FOR MURRAY 4-H'ERS

*Jackson, B. L.[1]
[1.] County Extension Coordinator, University Of Georgia, Chatsworth, GA, 30705

Stormwater runoff picks up litter, yard waste, excess fertilizers and pesticides, residue from impervious surfaces, and sediment, which then enter waterways by way of storm drains, negatively affecting aquatic life. Much of this pollution is the result of failing and/or inadequate stormwater infrastructure, in areas of both collection and treatment. Non-point source pollution is identified by the Environmental Protection Agency as the nation's main cause of water quality problems. Murray County ANR and 4-H Agents collaborate to educate youth in environmental awareness and water quality using a variety of hands-on activities. With the help of collaborating agencies like Georgia Adopt-a-Stream, Army Corp of Engineers and the University of Georgia Warnell School of Forestry Cohutta Fisheries Center, an annual 4-H2O summer camp provides educational tours and experiential learning that focuses on water conservation, aquatic ecology and sustainable aquaculture. Youth are educated about the importance of reducing stormwater runoff, taught how to monitor water quality and given the GA Adopt-a-Stream exam. They are also taught canoe safety and recovery while picking up trash along Carter's Lake Dam. The Cohutta Fisheries Center shares current research occurring on channel catfish production and sturgeon aquaculture in addition to allowing them the hands on experience of fishing in the stocked ponds (catch and release). The youth that pass the Adopt-a-Stream exam are then offered previously selected locations around the local watershed to adopt and monitor for one year. If they complete a specified number of monthly tests, they are offered a summer camp scholarship appropriate to their age group. In 2016, twenty 4-H members took the exam and passed, ten chose to adopt a location for one year, two 4-H'ers completed at least five monthly tests, and two completed a full year of tests. In 2017, seventeen 4-H'ers took the exam and passed and three are currently testing adopted sites. The data that these students collect is entered into the Adopt-A-Stream website, which they use to monitor the health of our local water systems.

GILES COUNTY 6TH GRADE SAFETY CELEBRATION

*Layton - Dudding, J.[1]
[1.] Extension Agent, Virginia Cooperative Extension, Pearisburg, VA, 24134

When do youngsters begin earning extra freedoms and less supervision? Middle school! Emergencies and safety hazards, healthy lifestyles, and decision-making for youth are priority issues brought to the agents from members of the ELC, the FCS Advisory Council, and identified through the 2013 Situation Analysis. This is why the Giles Extension Office and Extension Leadership Council host the "Sixth Grade Safety Celebration" as an interdisciplinary effort.

The target audience is sixth grade in Giles County. This group of young people is gaining new freedoms like staying home alone after school, learning to cook, and venturing out in peer groups. These youngsters help out at home and engage in activities that involve equipment (lawnmowers and ATVs) with less supervision. Many recreational activities such as swimming, boating, and fishing, involve risk. To support these students as they explore young adulthood, we bring them to the Pearisburg Community Center for a field day focused on safety. Students rotate through stations including food handling, water/swimming safety, domestic animal safety, fire safety, home-alone safety, ATV/farm equipment safety, internet safety, and personal defense. They hear speakers, see demonstrations, participate in hands-on activities, and receive take-home items.

The main outcome is that students who attended will make better decisions when faced with potential safety hazards. They will consider their own health, change detrimental behaviors that put themselves and others at risk, and gain valuable life skills. Students will be surveyed in April of 2018 to measure behavior change in the 10 months following the program. 279 students and 51 adult volunteers attended the program over the past two years.

MAKING THE BEST BETTER BY: PROMOTING AGRICULTURE AS AN OCCUPATION AND FOOD SYSTEMS AWARNESS TO MAKE FUTURE FARMERS

Maddox, M. B.[1]; Strickland, J.S.[2]; Jennings*, E.W.[3]; Taylor, K.A.[4]
[1.] Extension Agent IV, Alachua County FCS, UF/IFAS Extension, Center Hill, FL, 33514
[2.] County Extension Director Osceola County, UF/IFAS Extension, Kissimmee, FL, 34744
[3.] County Extension Director Levy County, UF/IFAS Extension, Bronson, FL, 32621
[4.] 4-H Extension Agent I, Sumter County, UF/IFAS Extension, Bushnell, FL, 33513

Sumter County is a unique county. With over 1,300 farms, most would consider it a rural county, but it has the fastest growing town in the United States (The Villages). With these two distinct populations, it is very important youth continue to learn about the importance of agriculture, especially local agriculture and career opportunities. Youth who learn and understand agriculture along with the importance of local and state agriculture industry and career opportunities available to them become informed citizens who are able to participate in making informed policies that will support agriculture. Increasing youth's knowledge about agriculture, along with the importance of locally grown foods, local food systems, and food safety helps youth make informed decisions about their diets and overall health. In 2015, 2016, and 2017, three summer camps were conducted – Fresh from Sumter County, Farm to Table and Know Your Farmers Market/Role of the Farmers. The purpose of all three camps was to increase participants' knowledge about local food systems, career opportunities, healthy eating habits, and food safety. It also taught youth the significance of the local farmer's market and livestock market. Delivery methods of educational materials included: lectures, PowerPoints, group discussions and activities, educational games, field trips, handouts, and hands-on learning activities. Pre and post-tests were conducted in all three camps with the following results: 112% knowledge gain (n=36). In conclusion, the success of this program was due to the partnerships with local agriculture producers, agricultural organizations, business owners and extension staff.

URBAN YOUTH EDUCATION IN AGRICULTURE, FORESTRY, AND OTHER NATURAL RESOURCES

*Roberts, T.[1]
[1.] Extension Agent, Ut Extension, Memphis, TN, 38120

It is imperative for youth to understand the importance of agriculture and its association to natural resources because the youth in our area are several generations removed from agriculture. Urban Youth Education in Agriculture, Forestry, and Natural Resources is a unique program because it has been built around the National Science Curriculum in education. In most cases, the students are not only learning concepts but they can see, touch, and smell what they are learning to enhance their education. This program utilizes different activities to educate multiple grades from Kindergarten to the Twelfth grade. Because the Memphis Metropolitan Area is so large it is extremely hard to reach so many youth in 4-H alone. The activities are both educational and fun for the students and appeal to visual learners, audio learners, and kinesthetic learners. The program started with a few hundred students and is currently up to approximately 10,000 students. Another unique aspect of the program is that bus scholarships are provided to all schools to assist with the cost of busing. All activities in this program take place at Agricenter International in Memphis, Tennessee. This educational program attracts

students from West Tennessee, North Mississippi, and East Arkansas.

4-H SUMMER ROBOTICS CAMPS HELP BUILD THE STEM PIPELINE

*Schmidt, J. L.[1],M.R. Julson[2]
[1]County Director and 4-H Youth Extension Educator, Washington State University
Whitman County Extension, 310 N Main, Rm. 209, Colfax, WA 99111
[2]Agricultural Education Teacher, Pasco, WA 99301

America faces a future of intense global competition and needs a highly skilled work force particularly in the fields of science, technology, engineering and math. To address the national shortage of teens pursuing science majors and careers, the WSU Extension 4-H programs in Whitman, Asotin, Garfield and Columbia Counties utilized robotics as a way to get youth excited about STEM fields and opportunities at an early age. Focusing on youth 8 – 12years old, 4-H Summer Robotics Camps were offered in four counties in rural SE Washington with a total of 55 participants. Since planning and organizing summer camps is time intensive, a WSU College of Agriculture, Human and Natural Resources Sciences (CAHNRS) Summer Intern was obtained to provide the primary leadership for conducting the camps. Each camp is two to four days long and meets for three hours each day. Using the EV3 Lego Mindstorm kit, youth design, build and program a robot to perform specific tasks such as negotiating a maze or launching a ball into soccer net. Other camps activities included get acquainted games and a snack break. While working with a peer group at camp to accomplish the given tasks, youth demonstrated teamwork, cooperation, critical thinking and communication skills. At the conclusion of each camp, a simple 19 question Qualtrics survey was administered asking for feedback from the youth. The survey revealed that 81% of the youth were first time attendees; 39% of the youth participated because they like Legos and to build things like robots; 53% said that building the robot was the most fun; 79% said they were interested in learning more about science, robots and engineering; and 86% of the youth said they were interested in attending college. Even though the camps were relatively short in duration, they were successful in creating interest in the STEM fields among the camp participants.

INCORPORATING PRECISION RANCHING WITH DIGITAL LITERACY TO IMPROVE STUDENT INVOLVEMENT AND PROMOTE STEM CAREERS

*Wright, A. D.[1]; Knight, C. W.[2]; Cosby, A.[3]
[1.] Livestock Area Agent, The University Of Arizona, Willcox, AZ, 85643
[2.] Assistant Professor of Extension - State Livestock Specialist, University of Maine, Orono, ME, 04473
[3.] Senior Research Officer - Agri-tech Education and Innovation, Central Queensland University, Rockhampton City, Australia, QL, 4702

The average age of ranchers in the USA is 56 years, leaving a demand for youth involvement. With increasing operating costs and a decrease in available land, future ranchers will need to develop and adopt new technologies to improve efficiencies in range and livestock management. In an effort to combat both issues, the University Arizona, the University of Maine, and Central Queensland University engage rural youth to promote digital literacy, STEM learning, and livestock management. This abstract follows one high-school age student's journey into learning about grazing behavior, GPS technology, and scientific method. The student wanted to compare the grazing behavior of both large and small frame cattle on semi-arid Arizona rangelands using GPS tracking collars to determine if either group would be better suited for the range conditions. The student fit large (N=9) and small (N=6) frame Hereford cows with GPS tracking collars and placed them on rangelands in southeastern Arizona for 41 days beginning 30 November 2017. Daily distance traveled, slope utilization, elevation, and distance from water were monitored at 10 min intervals. The student designed the experiment, programmed and deployed the GPS collars, collected and analyzed the data, and interpreted the results with minimal guidance. Some statistically significant differences between large and small framed animals were detected in their distance traveled from water ($P = 0.02$) and max slope utilization ($P = 0.04$). However, the student's engagement with animal science, agri-tech and the skills developed in scientific method and experimental design at a relatively young age was more significant. The student presented the project at the Youth Engineering and Science (YES) Fair in Cochise County and received the grand prize, which includes an opportunity to compete at the 2018 Intel International Science and Engineering Fair. Research has shown that participation in multiple years of science fair projects is positively correlated with choosing a STEM major in college. Working with students at an early age will both encourage them to consider a career in STEM and/or production agriculture and ensure that the next generation of farmers and ranchers possess the ability to utilize precision ranching methods.

Agricultural Economics & Community Development

A NEW PROCESS FOR DEVELOPING A CUSTOMER SERVICE PLAN FOR DIRECT AGRICULTURAL MARKETING

*Barrett, E. E.[1]; Leeds, R. P.[2]
[1.] Assistant Professor, Ohio State University Extension, Canfield, OH, 44406
[2.] Extension Educator, Ohio State University Extension, Delaware, OH, 43015

For direct agricultural marketers, customer service is the brand in action. That is, it is the brand in action from a customer's point of view and from each employee's point of view. Gaining a better understanding of what customers think of the farm and how they interpret the farm's image is a great way to start a plan to improve customer service at the farm through the employees that interact with customers on a regular basis. This presentation will share a new, innovative approach to developing a customer service plan for direct marketers and provide information to assist with teaching this topic at the location level. The new approach includes four steps to providing excellent, awesome customer service. These steps are: 1. Prepare – Write a plan, train and empower employees; 2. Respond & Mitigate – Understand it is a long-term relationship, not just about the issue at hand. Fix things. Respond on social media; 3. Recover – Have a plan for potential customer service fails. Designate who is in charge. Communicate; and 4. Improve Practices – Update the plan. Prepare for next time. Anticipate future customer service issues. This new process assists farm direct marketers in making their customer service plan a concrete process, versus a concept that is often talked about but rarely implemented across the board.

SUPPORTING FARMERS BY EDUCATING AGRICULTURAL PROFESSIONALS

*Wantoch, K. L.[1]
[1.] Agriculture Agent, Specializing In Economic Development, University of Wisconsin-Extension, Dunn County, Menomonie, WI, 54751

Healthy on-farm relationships between farm owners, agricultural service providers, and family members are vital to a farm's success. If these relationships are burdened by stress or lack of clear communication, the farm business may not succeed. Increased volatility in agricultural commodity markets and tighter profit margins realized in recent years have stressed farmers and are resulting in strained and challenged relationships. Sometimes the support farmers need is as simple as having some time to meet with an agricultural professional to talk through some of these challenges and identify strategies that will ease the farmer's stress and allow them to continue to operate their farm business.

UW-Extension educators and agriculture professionals may be called upon to consult with farmers during these challenging times and can play a key role in supporting farmers. When meeting with farmers, educators may be able to identify areas that the farmer could improve upon based on their previous experiences or knowledge gained through professional development opportunities.

A planning committee of educators and agriculture professionals in Western Wisconsin have organized an annual agricultural lenders conference for 35 years. This annual professional development fits a niche in providing timely information to WI bankers on agricultural commodity outlooks, changes in farm financial situations, and leadership development. Presentations are provided by educators, professional speakers and agency representatives. Seminar topics are selected based on planning committee member's perceived knowledge gaps and identified needs from prior evaluations.

This presentation will discuss UW-Extension's role in coordinating this annual event, knowledge gained by over 150 attendees, variety of topics that have been offered, and the multiplier effect that has resulted in reaching thousands of farmers by educating agricultural professionals.

IMPROVING THE FOOD SYSTEM THROUGH THE WESTERN MARYLAND FOOD COUNCIL

*Lantz, W. D.[1]; Frick, S.[2]; McCoy, L.[3]
[1.] Extension Educator, Agriculture, University Of Maryland Extension, Mt. Lake Park, MD, 21550
[2.] Extension Educator, Agriculture, University of Maryland Extension, Cumberland, MD, 21502
[3.] Extension Educator, Family and Consumer Science, University of Maryland Extension, Boonsboro, MD, 21713

With food related health issues such as diabetes being ranked highest in the state, income levels ranked near the bottom of the state and Allegany county ranking as the county with the highest percentage of people living in a food desert, the food system in western Maryland is in need of improvement. The Western Maryland Food Council (WMFC) began as an effort to connect producers, restaurants and government agencies to increase the local food economy. In early 2014, a group of agriculture leaders from western Maryland met to discuss the idea of applying for funding from Town Creek Foundation to establish a council. Town Creek funded the proposal in July of 2014. The group which included personnel from University of Maryland Extension, Frostburg State University and county economic development formed a steering committee. The steering committee held a listening session on the food system in each of the three western Maryland counties. At each of these meetings the concerns of the group were categorized and prioritized. These meetings led to the development of a mission statement and goals for the WMFC. The steering committee also developed an organizational structure which

includes four workgroups that will serve as the local operational groups in each county. The workgroups are Food Education, Food Access and Security, Food Economy and Environmental Impacts. With the help of John Hopkins Center for Livable Future individuals interested in being council members were trained on food council operations and assisted with refining the goals of the WMFC. The WMFC elected 14 members to the first council in 2017. The WMFC has workgroups established in each of the counties and is developing and carrying out projects. Over 50 people have been involved in the workgroups in the three counties. One project that has been completed is the development of a Food Resources Guide which provides people in need of food with a list of food pantries and other sources of free food. Another project involved planning a local food promotion on Groundhog Day, "Felix the Groundhog at Big Cork Winery". Over 20 vendors and 100 people attended the event.

NEW FARMER PROFIT TEAMS FOR ADVANCED BEGINNING FARMERS

*Welch, D. L.[1] ,McCarthy, K.M.[2]
[1] Extension Associate, Charles H. Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY, 14853
[2] Extension Support Specialist, Cornell Small Farms Program, Cornell University, Ithaca, NY, 14853

Farmers in the four to seven year stage of their careers need increased business planning skills to improve their decision-making ability and to receive support around topics such as identifying new markets, selecting new equipment, labor management, expanding customer bases, and improved financial management. These issues are all crucial to farm longevity; however, there is no centralized training or assistance available to address them for this group of beginning farmers.

We selected 40 advanced beginning New York state farmers in the three to eight year stage to host 'New Farm Profit Teams'. These teams are based upon the success of profit teams utilized by dairy farms in the Northeast. The principle of a Profit Team is that decision making within a complex farm business is best supported when multiple experts are engaged simultaneously in business and production analysis. Consultants, identified by the farmer and project staff, assisted the farmers with whole farm analysis of strengths, weaknesses, opportunities, and threats to the business. The consultants had different expertise areas including production efficiency, acquiring or raising capital, marketing, and business management. Cost of the consultants was shared between the farmers and grant funding.

PROVIDING EDUCATIONAL OPPORTUNITIES FOR TENNESSEE FARMERS MARKETS

*Pepper, H.[1]
[1]. Financial Analysis Specialist, University of Tennessee, Spring Hill, TN, 37174

The number of farmers markets in Tennessee increased 47 percent from 2012 to 2017 and the state was number one nationally in the growth of farmers markets from 2013 to 2014. Census data confirms more farms are producing value-added products and directly marketing farm products to consumers for human consumption. The value of sales from farm products marketed directly to consumers has also increased significantly.

UT Extension started the Farmers Market Boot Camp Workshop program in 2012 to address the educational needs of farmers market vendors across the state. The Farmers Market Boot Camp Workshop program has been conducted in 30 locations with 5 collaborating agencies and departments. Sixteen presenters have taught 38 topics to 1,348 market vendors, agents and others over seven years.

The Farmers Market Manager Training program was developed in 2015 to address the educational needs of market managers, agents and others with market responsibilities across the state. The Farmers Market Manager Training program has been conducted in 5 locations with 7 collaborating agencies and departments. Eight presenters have taught 8 topics to 141 market managers and leaders over three years.

The success of these programs is partly attributed to the close working relationship UT Extension has with Tennessee Department of Agriculture and the new Tennessee Association of Farmers Markets in the planning and providing of educational programming for farmers market vendors and managers.

AN ECONOMIC ASSESSMENT OF SOUTHERN COW-CALF PRODUCERS WINTERING THE COWHERD

*Prevatt, C.[1]
[1.] State Specialized Agent, University of Florida/IFAS, Ona, FL, 33865

Southern cow-calf producers are expected to experience multiple years of tight margins and cash flow constraints due to cattle market prices adjusting to price levels below the average cost of production. To combat this, a team of Extension specialists and agents from across the Southeast United States began working on areas to reduce cow-calf cost of production. One critical area the team chose to address was the cost of wintering the cowherd. Producers usually feed hay, stored feedstuffs, stockpiled forage, cool-season annual forage, and other supplements once warm-season perennial grasses become dormant. Feeding during this time period could last for 90 to 180 days based on management programs and weather conditions. Regardless, most cow-calf producers

will agree this is a very costly activity and greatly reduces the profitability of their operation. During the fall of 2016 and 2017, six Extension programs were held to discuss the current winter forage situation and evaluate the expected cost of alternative winter forage options and hay feeding systems. The objective of these programs was to help producers assess the potential to reduce the cost of their winter feeding systems. A 120 day winter feeding cost analysis was evaluated to compare the estimated costs of alternative winter forage and hay feeding systems. These cost projections provided a guide to help cow-calf producers develop a cost-effective plan when making decisions on winter feeding. A total of 89 cattle and forage producers from across the Southeast U.S. attended these programs. Participants included large, medium, and small sized operations. Participants completed an evaluation of the program: 90% found the information received to be excellent or good, 86% said it was useful or very useful, 92% said their knowledge had greatly improved, 88% will definitely make changes to management as a result, and 72% will use recommended decision-aid tools. The value of the program information was estimated at $5 to $65 per brood cow, and averaged $35 per brood cow. Based upon the distribution of herd sizes for participants, the total economic return of the programs was estimated at over $110,000.

AN ECONOMIC ANALYSIS OF GRAZING COOL-SEASON ANNUAL FORAGES IN THE SOUTHERN U.S.

*Prevatt, C.[1]
[1.] State Specialized Agent, University of Florida/IFAS, Ona, FL, 33865

Producers throughout the Southeastern United States usually feed hay and other stored feedstuffs during the autumn, winter, and early spring due to limited forage availability and lower forage quality. Feeding during this time period could last for 90 to 180 days based on management programs and weather conditions. Over-seeding cool-season annual forages into dormant warm-season pastures allows producers to utilize acres that would normally be non-productive during the winter. Although cool-season annual forages are costly to establish ($100-$300/acre), depending on planting method and fertilization, their nutritive values are high in total digestible nutrients (TDN) and crude protein (CP). The high nutritive value of cool-season annual forages can provide some cattle producers with a less costly substitute for supplementing their herd's nutritional needs. During 2016 six cattle producers planting and grazing cool-season annual forages were identified. They were evaluated based on level of forage production, utilization or consumption of forage, and cost of forage production. Enterprise budgets were developed for each individual producer to determine the estimated cost of forage production. Values for estimated level of forage production and utilization of forage were obtained from each producer. Estimated cost of forage production, level of forage production, and utilization of forage ranged from $135 to $315/acre, 1,200 to 8,100 lbs./acre, and 30% to 75%, respectively. These values allowed us to estimate the cost of forage consumed on a dollar per ton basis. The cost of the forage consumed for these producers ranged from $44 to $322/ton. The economic results of the study revealed that four out of six producers evaluated planted and grazed cool-season annual forages economically when compared to the cost of feedstuffs consumed with similar nutritional values. The economic results of this study are sensitive to the levels of forage production, cost of forage production, and the utilization of the forage grazed. Changes in these parameters will significantly affect the estimated cost of forage consumed. Our analysis suggests that grazing cool-season annual forages can be a viable economic option for producers who can control their costs while getting adequate production and utilization.

PROTECTING THE FUTURE OF AGRICULTURE THROUGH CONSERVATION EASEMENTS

*Sullivan, J.[1]; Boughton, R.[2]; Demers, C.[3]; Pienaar, E.F.[4]
[1]. Extension Agent - Agriculture, University of Florida IFAS Extension-Osceola Co., Kissimmee, FL, 34744
[2.] Assistant Professor, Assistant Professor, University of Florida IFAS Range Cattle Research and Education Center, Ona, FL, 33865
[3.] Forest Stewardship Coordinator, University of Florida IFAS School of Forest Resources and Conservation, Gainesville, FL, 32611
[4.] Assistant Professor, University of Florida IFAS Department of Wildlife Ecology and Conservation, Gainesville, FL, 32611

Florida agricultural lands are under intense pressure from urbanization. These lands benefit society by providing ecosystem services including food and timber production, flood protection, outdoor recreation, wildlife habitat, and biodiversity. Conservation easements provide landowners with financial incentives to remove the development rights from their agricultural working lands, thereby maintaining the viability of Florida agriculture, protecting ecosystem services and preserving cultural heritage. Extension Faculty designed a pilot program on conservation easements with the following objectives: 1) increase landowner knowledge of the benefits and logistics of enrolling in conservation easements; 2) inform landowners about resources for identifying the best easement programs for their needs; and 3) preserve Florida agricultural lands. An Agent and Specialists coordinated a five-hour Conservation Easement Workshop that was promoted statewide. Experts presented information on: how conservation easements protect the agricultural uses and conservation value of land; the logistics of enrolling in easements (tax implications, obtaining property appraisals, and easement monitoring); and different easement programs available to landowners. Government agencies and non-profit organizations that offer easement programs participated in a

panel discussion and answered participants' questions. Forty-five landowners, industry and agency representatives, and Extension Agents attended the pilot workshop. Participating landowners collectively own 350,000 acres of land. Post-event surveys (n=32) indicated that 90% of participants learned a "moderate" to "considerable" amount of new information, and 69% identified useful resources for pursuing an easement by attending the workshop. In promoting the workshop, coordinators found substantial misunderstanding among Extension Agents and landowners regarding conservation easements, and identified further training needs to educate people on this complex topic. Additional workshops and in-service trainings will be implemented around the state. Follow-up surveys will be sent to landowners after six and 12 months to determine whether they plan to, have applied for, or enrolled in easement programs. Conservation easement education offered by Extension provides unbiased information about easement programs and processes that landowners need to make informed decisions.

AG LEGACY – HELPING AGRICULTURE NURTURE ITS LEGACY

*Carter, C. M.[1]; Hewlett, J.[2]
[1]. Extension Educator, University Of Wyoming Extension, Torrington, WY, 82240
[2]. Ranch/Farm Management Specialist, University of Wyoming Department of Agricultural & Applied Economics, Laramie, WY, 82071

If asked, most farm or ranch families plan to pass on their operation to the next generation. But only one-third of all family businesses successfully transition management to the next generation, and 70 percent do not survive to the second, while 90 percent do not survive to the third. Numerous resources are available to help farm and ranch families develop their estate plan, yet very little emphasis has been placed on the transfer of the management skills for the operation. The Ag Legacy program was created to help these families transfer the management skills by beginning the thought process and opening the lines of communication between generations. Ag Legacy consists of a series of newsletters and accompanying recorded webinars addressing topics aimed to help families begin to build better relationships between generations and begin a more formalized process for passing on the management skills to the next generation. Outputs over the last two years include 8 newsletters, which have been accessed over 1,000 times, recorded webinars accessed 259 times and 9 in-person presentations throughout the state, reaching 103 people. This effort is also accompanied by an intensive social media effort including Facebook, Twitter, Instagram, LinkedIn, Google +, and Pinterest. In the most recent series of presentations on "Why build relationships with the next generation", 87 percent of attendees stated the information was useful and 87 percent learned something from the presentation. While 71 percent said they had or would access materials at AgLegacy.org. Ag Legacy is well on its way in helping Ag families nurture their legacy.

Ag Issues & Public Relations

OHIO FRESH FOOD CORRIDOR- LOCAL FARMS, LOCAL FOOD, LOCAL FUN

*Estadt, M.[1]
[1]. Extension Educator, Agriculture and Natural Resources, The Ohio State University Extension, Circleville, OH, 43113

Pickaway County, population 57,565, located on the southern doorstep of Columbus, Ohio finds itself challenged to maintain its rural identity amidst a challenging and changing agricultural environment. 803 farms cultivate 293,384 acres of the total 320,348 acres. Average farm size is 366 ac. Major crops include corn, soybeans accounting for the majority of crop income, $135,761,000, with hogs leading the total livestock income of $36,570,000. Horticultural crops and turf and nursery account for $1,680,000.

Public relations Objective

The Ohio Fresh Foods Corridor brand was created by Pickaway County growers who want to help people experience the connection with their food. Under the leadership of the Pickaway County Extension educator, the goal is to help people experience the connection with their food by promoting homegrown entrepreneurship, new investment and the value of Pickaway County's existing strengths in food and agriculture.

Program Execution

OSU Extension lead in the creation of social media presences. Pickaway County Community Foundation financially supports webhosting. An annual Farm 2 Plate event is a collaborative effort of volunteers, the local Farm Bureau, and Pickaway County Community Foundation. OSU Extension educator chairs the committee as well as serves as Master of Ceremony.

Results and Evaluation Program highlights in 2017 include the following:

• 10,000 travel rack cards were printed and distributed, and website updates and social media materials were produced promoting Pickaway County specialty crop producers to consumers in the Central Ohio region.

• Ohio Fresh Foods Corridor was a lead sponsor

of the WBNS-TV Health and Wellness Expo held at the Columbus Convention Center. A display and trade show booth promoted the Ohio Fresh Food Corridor. Over 600 direct contacts with consumers were made.

• The last event of the summer was a "Farm 2 Plate" fundraiser at a local farm. Local food products were highlighted in an array of entrees. Over 450 people attended the event, with proceeds benefiting the Ag Endowment Fund of the Pickaway County Community Foundation and four local FFA chapters. Last year over $14,000 was raised. Over four years this even has raised over $40,000 to benefit FFA's and Mid-Ohio Food Banks.

EVALUATING IMPACT OF REQUIRED FERTILIZER APPLICATOR CERTIFICATION TRAINING (FACT) PROGRAMS IN OHIO

*Griffith, M.[1]; Lentz, E.[2]; Rose, M.[3]; Schoenhals, J.[4]; Douridas, A.[5]
[1.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140
[2.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Findlay, OH, 45840
[3.] Program Director, Ohio State University Extension, Columbus, OH, 43210
[4.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Bryan, OH, 43506
[5.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Urbana, OH, 43078

As a result of large algal blooms in Lake Erie in 2011 and 2014, access to drinking water as well as economic activities related to tourism, recreation, and commercial water use were impaired due to high levels of microcystin, a toxin produced by cyanobacteria in Harmful Algal Blooms (HABs). Following an extremely toxic HAB that cut off the drinking water supply in Toledo in 2014, improving water quality through nutrient management has been a priority to farmers, legislators, and the general public throughout Ohio. In response, Ohio passed legislation requiring applicators of agricultural fertilizer to obtain certification by attending a three hour training program developed and delivered by Ohio State University Extension (OSUE). The law specified that the deadline for applicators to be certified was September 30, 2017. Between September, 2014 and March 2017, OSUE certified over 17,000 applicators. As part of the certification, attendees were asked to fill out a voluntary survey to collect baseline information on perceptions related to water quality, current agronomic practices and willingness to change after attending the training. This presentation summarizes key findings about producer perceptions and practices related to water quality and nutrient management after attending the required training.

CODE RED A CONTINGENCY PLANNING TOOL FOR FARMS AND FAMILIES

*Overstreet, B.[1]; Kelly Heckaman[2]
[1.] Extension Educator, Purdue Extension, Jasper County, Rensselaer, IN, 47978
[2.] Extension Educator, Purdue University - Kosciusko County, Warsaw , IN, 46580

The Purdue Women in Agriculture Team developed the Code Red tool to meet the need for farm families to have one central location to collect critical business information required for day-to-day business operations. The need to know where to find information about the people in the business and their contacts is critical to farm operations and businesses alike. So, Code Red was developed as a spreadsheet based document to become the collection point of all critical information. In the event of a crisis, the business would now be able to continue with minimal disruptions because they could easily locate this information.

It has two main sections, Personal and Farm Business with 16 related sub categories. The Code Red document is designed to be easily modified and to be flexible to fit any business or operation's needs. Since the release of Code Red in February 2015 over 400 farm families have gone through Code Red Training with over 1400 flash drives distributed and 90 down loads from our website across the state and Midwest . A recent survey of Code Red users showed 60% are using the tool for contingency planning and 40% as a form of communication. A Code Red user shares "I think it's something everyone should be using. There is so much going on with this business that when you lose key people it'll be a good resource to their information."

BUILDING HEALTHY SOILS IN DUNN COUNTY THROUGH THE RED CEDAR DEMONSTRATION FARM

*Wantoch, K. L.[1]
[1.] Agriculture Agent, Specializing In Economic Development, University of Wisconsin-Extension, Dunn County, Menomonie, WI, 54751

Farmers and community members have expressed concerns regarding soil erosion, improving conservation practices and better water management in Dunn County, WI and the Red Cedar Watershed. After discussions with agency staff, the Dunn County Soil and Water Health Partnership was formed in 2014 to better promote soil health and water quality through education and on-farm demonstrations. As a county educator, I took the lead role in pursuing the rental of 150 acres of county and city-owned farmland that was previously rented to local farmers. The local technical college farm business program was approved for a five-year lease agreement on this property and members of the Partnership assist with management of the Red Cedar Demonstration Farm. The technical college students are able to use the farm for an outdoor

learning environment while agency staff from NRCS, county land and water conservation division, and UW-Extension utilize small plots for on-farm demonstration and research.

Conservation practices help growers retain the soils' productivity while making the best use of resources (land, labor and capital). Several of these practices are being implemented on the Red Cedar Demonstration Farm, including crop rotation, conservation tillage, and cover crops. This project allows partnership members to demonstrate to clientele the potential for increased crop yields utilizing fewer inputs, including commercial fertilizer application, fuel for implements, etc. In addition, the project looks to demonstrate increased water efficiency and improve water quality within the Red Cedar Watershed.

Several educational events have provided outreach to area farmers, crop consultants, conservation staff, educators, students, elected government officials and area community members. Short-term impacts of this project have been noted in Dunn County and the Red Cedar Watershed. Partnership members are also seeing a notable change in no-till practices, increased planting of a variety of cover crop species, and increased adaption of precision agriculture equipment and technology.

Strategies for effective partnership collaboration, community engagement, future targeted relationships that may be developed, and additional funding opportunities that assisted with equipment and outreach efforts at the Red Cedar Demonstration Farm will be shared.

COLLABORATION AND SUCCESS FOR RESPIRATOR FIT TEST AND TRAINING

*Claypoole, E.[1]
[1.] Executive Director, Cornell Cooperative Extension, Newark, NY, 14513

Cornell Cooperative Extension collaborated with Wayne County Farm Bureau and the Finger Lakes Occupational Health Service to organize a series of respirator fit tests in Wayne County NY. Planning was done via conference call and took about 1 month. Wayne County is the largest apple producing county in NYS and one of the top in the nation and has numerous farms that need this training. With the new worker protection standards, every farmer is required to provide for their employees training in how to use a respirator. Part of this training also include calibration and actual testing, and a questionnaire for physical ability to use a respirator safely. Slots were scheduled so that 200 employees were able to be trained and reviewed over a 4 day time period. All advertising for the program was done over a 1 week time period and only included email and word of mouth. Price of the program was reduced due to number of participants and saved growers over $3000 from the previous year. Evaluation of the cost savings and ease of scheduling will be reviewed, as well as the speed of communication for this highly anticipated grower training. This model of planning and communication can be used for other programs and will be explored further.

BEEF QUALITY ASSURANCE AND ISSUES MANAGMENT FIELD DAY

*Butler, L.[1]
[1.] County Extension Director/ Livestock Agent, UF/IFAS Extension Okeechobee, Okeechobee, FL, 34972

Beef cattle ranchers are responsible for providing consumers a safe, wholesome and quality protein source. In an effort to preserve cattle welfare and meat quality, this program was offered to educate beef cattle ranchers, dairy operators, and cattle handlers/workers to safely implement herd health best management practices. The program was divided into two sections: Classroom presentations and a hands-on lab/ demonstration; both instructed by University of Florida faculty and industry professionals. Topics taught in the classroom included: cattle handling and welfare, injection sites, proper use of vaccines and syringes, judicious use of antibiotics, avoiding residues, cull cow management, and effective utilization of social media. The second section was a hands-on chute side demonstration/lab to prepare participants for implementing new skills learned. A total of 120 beef, dairy operators, and cattle handlers/workers attended the training representing over 100,000 of beef and dairy cows in South Florida. Participants indicated an average of twenty two percent (22%) increase in knowledge based on the information presented. Based on survey results, forty percent (40%) of participants indicated they would implement behavior changes based on the information presented. Behavior changes included better vaccination scheduling, improving record keeping, executing sanitary conditions near handling areas, improving herd management, and more effective training and communication with cattle handlers/workers. By improving practices such as honoring withdrawal times, reducing residues or handling cattle in a low stress environment, cattlemen are improving production and producing a quality product; thereby, improving consumer confidence, increasing the sale of beef and increasing their profits.

FSMA'S PRODUCE SAFETY RULE: HELPING SMALL AND MEDIUM SCALE PRODUCE FARMS UNDERSTAND THIS RULE IN WESTERN NC

*Rogers, E. T.[1]; Snyder, Eli[2]; Rogers, Lenny[3]; Boylan, Richard[4]; Ayers, Elizabeth[5]
[1.] Area Specialized Agent, Food Safety-Fresh Produce, North Carolina State University, Lenoir, NC, 28645
[2.] Extension Agent, Agriculture - Commercial and Consumer Horticulture, NCSU Caldwell County, Lenoir, NC, 28645
[3.] County Director, NCSU Alexander County, Taylorsville, NC, 28681
[4.] Area Specialized Agent, Agriculture, NC A&T University, Boone, NC, 28607
[5.] Extension Agent, Agriculture, NCSU Madison County, Marshall, NC, 28753

The Food Safety Modernization Acts Produce Safety Rule became effective on January 26, 2016. The Produce Safety Rule (PSR) sets standards for growing, harvesting, packing and holding of produce for farms. These standards seek to prevent microbial contamination and reduce the risk of foodborne illness associated with contaminated produce. Farms under the PSR can fall under one of three categories: not covered, eligible for a qualified exemption and modified requirements or covered farms. These categories are based on either the produce or food sales, the marketing channels the farm uses to sell produce or food and the type of produce grown at the farm. While this regulation directly targets covered farms (farms selling more than $500,000 in food sales over the past three years or those farms whose most food sales are not to qualified end users), there are a number of misconceptions about its impact and the requirements for small and medium scale farms. To address this issue, an educational program was designed to help small and medium scale farms understand where they fall in the Rule, requirements, discussion of practices in the PSR and discussion of how the PSR differs from Good Agricultural Practices certifications. This class was designed to be interactive and to last no longer than three hours. A pilot workshop was provided in four counties in Western NC. Approximately 60 farmers attended these workshops. As a result, growers were able to understand the PSR, how it may affect them and were provided templates and resources to help them comply with this regulation. The workshops allowed growers to discuss food safety practices at their level and has generated requests from farmer market managers to offer this program to their market vendors. This program has also resulted in growers deciding to attend a Produce Safety Alliance training to gain a deeper understanding of the PSR. Overall, this program helps growers understand that food safety practices are relevant in all farms, provides them with the resources to comply with the PSR requirements and addresses misconceptions that farmers had before attending the class.

THREE CREEKS GRAZING CONSOLADATION PROJECT RICH COUNTY UTAH

Smith*, D. R.[1]; Payne, T.[2]
[1] Utah State University Extension, Box 8, Randolph, UT 84064, dallen.smith@usu.edu
[2] Utah Grazing Improvement Program, 195 N Main St Randolph, UT 84064, taylorpayne@utah.gov

The three Creeks Project is a watershed scale approach to rangeland and grazing management covering 143,000 acres in Rich County Utah. It involves 36 members of a newly formed grazing company, Bureau of Land Management (BLM), United States Forest Service (USFS), Utah School Institution Trust Lands Administration (SITLA), and private lands. The project is planned to promote sustainable grazing and improve habitat conditions for sensitive wildlife. This project application is to help accomplish sustainable grazing with installing water pipeline and troughs as well as fence lines to incorporate more pastures to allow rest on the rangelands. There will be approximately 3,200 cow calf pairs split into two groups of 1,600 pairs. There are five bands of sheep of 200 to 1200 head per band. The plan is to rotate between 33 pastures. Pastures will only be grazed differently every year.

The 3 Creeks project has been a collaborative effort from numerous groups to address problems across an entire watershed. Problems to address are impaired riparian areas and water quality conditions on two streams (Big Creek and Sage Creek). Sensitive species like Sage Grouse and Bonneville Cutthroat Trout are present and have some measurable risks like winter habitat and stream quality that need to be addressed simply through improved grazing management practices.

Partners contributing financial and technical assistance in this effort both past and present are: 1. The Utah Grazing Improvement Program (GIP). 2. The Natural Resources Conservation Service (NRCS). 3. The U.S. Fish and Wildlife Service Partners Program. 4. The Utah Division of Wildlife Resources (DWR). 5. The Watershed Restoration Initiative (WRI). 6. The Utah Division of Water Quality (DWQ). 7. The Bureau of Land Management. 8. The U.S. Forest Service. 9. The permittees and members of the Three Creeks Grazing LLC. 10. The Utah State University Extension (USUE)

MONITORING E. COLI LEVELS ON THE FREMONT RIVER IN WAYNE COUNTY, UTAH

*Wilde, T.[1]
[1] Extension Associate Professor, Utah State University Extension, Junction, UT, 84740

Preliminary samples from the Fremont River tested positive for E. coli prompting the drafting of a sampling plan to provide data for a TMDL. Due to staffing restrictions, the Utah Division of Water Quality (UDWQ) recruited a volunteer to collect and analyze samples. Political history between the volunteer and the Wayne County Commission resulted in low levels of trust in the process. Extension was identified as an unbiased source of scientifically based information and was recruited to implement the sampling plan. Extension began collecting water samples in the spring of 2017. Duplicate 100 ml water samples were collected at ten sites along the Fremont River on a monthly basis. The IDEXX Colilert-18 method was utilized to incubate the samples. After incubation, samples were analyzed and a MPN/100 ml was calculated. The sample analysis identified several areas of concern for high levels of E. coli both in agricultural areas and near human waste water storage systems in Capitol Reef National Park. The MPN calculations were incorporated into the UDWQ statewide database to create the TMDL and were also provided to the Fremont River Conservation District and the Fremont River Watershed Planning Committee for prioritization of water quality improvement projects.

Agronomy & Pest Management

INTERSEEDING COVER CROPS INTO GROWING CORN AND SOYBEANS TO AVOID SLUG DAMAGE AND IMPROVE ESTABLISHMENT

*Clevenger, W. B.[1]
[1]. Associate Professor and Extension Educator, Ohio State University Extension, Defiance, OH, 43512

Corn and soybean producers in northwest Ohio have interest in planting cover crops to improve soil quality and retain plant nutrients. During 2011 to 2015, watershed incentive programs provided 75 to 90 percent cost share for farmers to establish cover crops. Cover crops need a reasonable period of time to allow shoot and root development. Post-harvest weather and field conditions are often short, cold and wet and farms have labor shortages during harvest. Farmers attempt to drill cover crops post-harvest or hire aerial seeding over top pre-harvest corn and soybeans, but report 25 to 30 percent success rates of establishment. No-till farmers with a history of slug populations also experience direct feeding by slugs on surface and aerial sowed cover crop seed. With the disappearance of incentive programs, the poor success rate, and slug damage to surface applied seed, farmers have discontinued planting cover crops or are in search of improved methods of establishment. An innovative farmer and an OSU Extension Educator collaborated in 2017 to interseed cover crop seed with a disk row opener toolbar into growing corn and soybeans. The interseeder was built to provide seed to soil contact, reduce slug damage by seed placement, timely planting to allow cover crop growth, and operate during the growing season when labor demands are lower. In randomized complete block designs, two cover crop species were established in growing corn at one interseeding date, while three cover crop species were established at three different planting dates into twin-row growing soybeans.

RESOURCES FOR TEACHING AGRICULTURE TECHNOLOGY

*Clingerman, V.[1]; Jean, M.[2]; Anderson, E.[3]; Schoenhals, J.[4]; Long, C.[5]
[1]. Extension Educator, Purdue University, Vincennes, IN, 47591
[2]. Field Crops Educator, Michigan State University, Escanaba, MI, 49829
[3]. Field Crops Educator, Michigan State University, Centreville, MI, 49032
[4]. Extension Educator, The Ohio State University, Bryan, OH, 43506
[5]. Extension Agent, Kansas State University, Ness City , KS, 67560

In agriculture there has been a rise of technology used on farms. Many clientele are adopting this technology which has led to a rise in questions and programming requests of educators/agents. In response, the North Central Agriculture and Natural Resource Academy-Agriculture Technology team conducted a needs assessment with educators in the North Central region to determine what resources were needed by educators and stakeholders. This assessment made it clear that various teaching resources were needed to help educators/agents learn and teach agriculture technology topics.

The North Central Agriculture and Natural Resource Academy-Agriculture Technology team created curriculum including handouts, PowerPoints, and recorded presentations on the following topics: Introduction to Agriculture Technologies and Data Ownership, Mapping and Analysis: Making the Most of Data, There's and Ag App for That!, Unmanned Aerial Vehicle (UAV)Technology-Can it Add Value to Your Farm, and Resources for taking the FAA Part 107 exam.

These resources are available for educators to use in programming or for professional development in the area of agriculture technology.

PALMER AMARANTH WEED WATCH: FROM BUS TOUR TO TEACHING MATERIAL – A DIFFERENT APPROACH TO A TRAIN-THE-TRAINER PROGRAM

*Harstad, A.E.[1]; Peters, T.J.[2]; Hodous, B.[3]
[1]. Stutsman County Extension Agent, NDSU Extension Service, Jamestown, ND, 58401
[2]. Assistant Professor/Sugarbeet Agronomist, NDSU Extension Service, Fargo, ND, 58108
[3]. Ramsey County Extension Agent, NDSU Extension Service, Devils Lake, ND, 58301

Palmer amaranth is a summer annual that has invaded all Midwestern states except North Dakota. Palmer amaranth aggressively competes with row crops, with reported yield losses as great as 91 percent in corn (Massinga et al. 2012) and 78 percent in soybeans (Bensch et al. 2003) in Kansas. Some Palmer amaranth biotypes have resistance to six herbicide sites of action, and some biotypes are tolerant to multiple sites of action. Early identification of Palmer amaranth is vital to reduce economic losses in North Dakota.

NDSU Extension specialists and agents developed an educational program to increase Palmer amaranth awareness and identification for early detection. The program team traveled to Nebraska to learn Palmer amaranth identification and management in grower fields from University of Nebraska – Lincoln Extension staff, local agronomists and farmers. Surveyed participants indicated a 42 percent increase in both their ability to identify Palmer amaranth and their knowledge about Palmer amaranth management.

The program team developed teaching materials, including PowerPoint presentations, problem-based learning scenarios and other activities and resources, based on their experiences gained on the Nebraska tour. A train-the-trainer workshop for NDSU Extension staff was held in January 2018 to review

and introduce the materials. Teaching materials are available for all NDSU Extension staff to use during future educational events. The program goal is to teach farmers, agronomists and other stakeholders across North Dakota to identify and manage Palmer amaranth. Evaluation data are being collected statewide to determine the program's impact.

ECONOMIC SUSTAINABILITY TOLLS FOR AGRONOMIC CROPS

*Hartschuh, J.[1]; Baker, N.[2]; Vittetoe, R.[3]; Beck, R.[4]
[1.] Educator, The Ohio State University Extension, Bucyrus, OH, 44820
[2.] Agriculture Agent - Soil and Crop Science Emphasis, UW Extension - Rock County, Janesville, WI, 53545
[3.] Field Agronomist, Iowa State University Extension, Washington, IA, 52353
[4.] Agronomy Field Specialist, South Dakota State University Extension, Pierre, SD, 57501

This project was created as part of the 2017 North Central ANR Cropping Systems Academy. Our group focused on developing simple but effective tools to help farmers better know their cost of production and make decisions based on this information to improve their farm profitability. As margins continue to tighten for crop farmers, it is even more important for farmers to manage costs. A needs assessment was conducted in 2016 with 160 farmers in Iowa, Ohio, South Dakota, and Wisconsin. Results showed 25% were confident they knew their costs of production while 69% like to use cost of production when making marketing decisions. Too many variables, accounting for indirect expenses, and need for good record keeping were comments shared on challenges of knowing cost of production. This needs assessment showed farmers are looking for tools to help them understand their cost of production not just on a whole farm basis but also on a field-by-field basis. Many existing Excel or other crop budgeting tools currently available are extensive and confusing. We developed a much simpler tool farmers can utilize to show landlords the cost of production on their farm, compare areas of a farm, understand how changing one input can affect the bottom line, or just develop a better marketing plan by knowing their cost of production. A unique aspect with this tool is that inputs can be entered on a per acre, per field, or per farm basis to make it easier to determine cost of production. This tool is designed to be more than a budgeting tool, but a spreadsheet that can be updated throughout the year as the growing season influences producers' management decisions on inputs. The tool also includes links to science and research-based resources that can be used to help make input decisions. In addition to the cost of production tool, we've developed a slide set, six case studies, and participant survey that Extension professionals can utilize for their own extension programming.

This presentation will provide a brief overview and explanation of the cost of production tool and other resources our team created.

SOIL HEALTH AND WATER QUALITY

*Kohlhagen, B.[1]
[1.] Extension Educator, Purdue Extension, Adams County, Decatur, IN, 46733

Soil Health is a rapidly evolving movement that is frequently in the headlines. Water Quality is important everywhere, but specific issues vary widely based on geography, land use, and population. Attend this presentation to learn about resources that you can use to answer questions, present information, and connect individuals to research projects that are working on solutions to these rapidly evolving topics.

This presentation will offer resources to help you answer questions and present information to your clients in HTML, PowerPoint, recorded webinar, and video format. Links to web pages and Extension resources across the North Central region will help you stay up to date with the latest information, such as the Soil Health Nexus web page and the Transforming Drainage web page, ensuring you have the latest information to provide to your clients. There will be scripted PowerPoint slides that address current soil health testing and the new Soil Health Institute indicators. The newest resources on cover crops and SARE grants will be presented along with practical resources that can help your clients connect best practices to their operation.

Use these resources to help individuals you work with transition to soil health and water management practices that benefit their operations while benefiting the public. Measurable impacts for individuals who adopt research proven practices may include increased yield stability over years, soil loss (erosion) reduction, soil organic matter improvement, reduced irrigation water use, and reduced concentrations of nutrients in agricultural drainage systems.

This presentation is part of the "North Central Agricultural and Natural Resources Academy". Authors include: Max Glover, University of Missouri-Columbia; Katelyn Hain, North Dakota State University; Brad Kohlhagen, Purdue University.

SOIL HEALTH FIELD SAMPLING AND HANDLING PROCEDURES FOR IMPROVED PLFA DATA COLLECTION

*Todd Lorenz[1]
[1.] Regional Agronomy/hort Specialist; County Program Director, University of Missouri Extension, Boonville, MO, 65233

Phospholipid fatty acid (PLFA) analysis is an increasingly popular method for assessing microbial community structure in soils for quantifying soil health. However, the effects of prescribed burns on prairie soil microbial ecology, the impact of proper sample handling on PLFA biomarkers, and the animal impact is not fully understood. Soil samples were collected from the top 2-inches at three landscape positions from Golden Prairie (Barton Co.) and Stark Prairie (Hickory

Co.) in Missouri, USA. Samples were collected immediately prior to a prescribed burn and immediately following the burn and analyzed for a suite of soil health indicators, including PLFA. Additionally, the effects of sample processing and handling were evaluated by comparing the PLFA profiles from soil samples freeze-dried within 24 hours of collection, oven-dried at 221 °F, air-dried for 7 and 14 days at 68 °F, and stored field-moist at room-temperature for 7 and 14 days at 68 °F. Significant differences ($p<0.05$) found between the PLFA profiles from the two prairies, were likely due to differences in soil type, vegetation, and restoration. No significant differences in PLFA profiles were detected between the pre- and post-burn samples for any of the PLFA microbial groups. Air-dry storage and field-moist storage at room temperature resulted in an 11 – 14% reduction in total PLFA. Fungi were impacted the greatest by storage, showing a 13-53% decline due to air-dry or field-moist storage, resulting in a significant shift in the bacteria/fungi ratio. Oven-drying had the most dramatic effects on PLFA biomarkers, resulting in a 38% reduction in total PLFA and an 86% reduction in fungal biomarkers. This study highlights the influence of site characteristics on microbial community structure and emphasizes the importance of proper handling of soil samples for PLFA analysis. In the cow patty study, the center location (i.e., under the cow patty) showed major differences on soil health chemical indicators when compared to samples collected away from center by direction. In particular, phosphorus content was dramatically elevated at the center location with increases ranging from 129-230%. The sample depth study revealed all microbial components were affected by depth of sample and management system.

ALFALFA WEEVILS AND INSECTICIDE RESISTANCE - RECENT DEVELOPMENTS AND FUTURE IMPLICATIONS

*Rethwisch, Michael D.[1]; Ramirez Bonilla, Jasmin[2]; Goding, Kevin M.[3]

[1.] Farm Advisor - Crop Production And Entomology, University Of California Cooperative Extension, Blythe, CA, 92225

[2.] Junior Specialist, Dept. of Entomology/Nematology, University of California, Davis, CA, 95616

[3.] Staff Research Associate, Dept. of Entomology/Nematology, University of California, Davis, CA, 95616

Reports of insecticide resistance in alfalfa weevils, Hypera postica Gyllenhal, have been noted from several locations across the western United States and Canada the past several years. These locations always had 'western' strain alfalfa weevils, characterized by cytoplasmic infestation of the bacteria Wolbachia. Local low desert pest control advisors noted a lack of control from chemistries containing the pyrethroid active ingredient beta-cypermethrin (Baythroid XL) in local 'Egyptian strain' alfalfa weevils (no Wolbachia) while other pyrethroid chemistries were still effective. During 2018, field failures in controlling 'Egyptian' strain alfalfa weevil were reported from both Arizona and California to a second pyrethroid chemistry (lambda-cyhalothrin). Resistance to these same chemistries was noted in the other locations, thus indicating that insecticide resistance is not conferred by Wolbachia infection. Laboratory bioassays indicated less than 30% control by this active ingredient from fields with insecticide failures. Subsequent bioassays noted cross resistance to all pyrethroid active ingredients tested. Loss of effective pyrethroid chemistries is placing increased insecticide resistance selection pressure on the two currently effective insecticide classes/insecticides, the organophosphate insecticide Lorsban (active ingredient = chlorpyrifos) and Steward (active ingredient = indoxacarb), an oxadiazine sodium channel blocker. Lorsban is under annual scrutiny and may be restricted from alfalfa. Losing this chemistry class would result in a single effective insecticide class and product remaining for alfalfa weevil control. This is leading to heightened concerns for insecticide resistance development, potentially resulting in no effective insecticide controls for this pest.

SOYBEAN INVESTIGATIONS: RESEARCH ON YOUR FARM

*Strunk, C. L.[1]

[1.] Plant Pathology Field Specialist, SDSU Extension, Sioux Falls, SD, 57103

Soybean Investigations: Research On Your Farm allows South Dakota soybean growers to double as citizen scientists by testing various products and farming practices in their own soybean fields with the intent to increase yields, ward off pests and diseases, and improve overall profits.

Soybean Investigations: Research On Your Farm Program is a producer-led, on-farm strip trial research program which provides ideas and answers to the essential agronomic issues facing South Dakota soybean growers. The objective of the Soybean Investigations: Research on Your Farm program is to empower South Dakota soybean growers by expanding their knowledge of how to conduct and evaluate on-farm research and improve on-farm profits.

South Dakota soybean producers can easily share on-farm research data and view local test results on the South Dakota Soybean On-Farm Research Program's website (https://onfarmresearch.sdsoybean.org/). This website is a collaborative effort between SDSU Extension, the South Dakota Soybean Research and Promotion Council (SDSRPC), and the South Dakota Agricultural Experiment Station at SDSU.

The unique thing about this program is the easy access to results and the producer-driven nature of the research. Producers get to choose what treatment or practice they want to study and evaluate on their farm while receiving personalized one-on-one help from SDSU Extension in setting up testing protocol/s, data collection, analyzation, and website result summarization. Program participants also receive a customized report and

recommendations for implementation within their operation.

Soybean producers are dealing with an overwhelming assortment of crop production input product choices. Information is needed on cost-effective practices to control diseases, insects, weeds, as well as managing soil fertility, tillage, row spacing, and other agronomic decisions. Since producers are inundated with product choices; the best way to know if any of these products will work on their farm is to test it there on their farm. Or, visit the South Dakota Soybean On-Farm Research Program's website to see if a research trial has already been conducted in a field near them and review the results by searching for research trial or location.

EVALUATION OF RESIDUAL HERBICIDE PROGRAMS FOR CONTROL OF HERBICIDE RESISTANT WEEDS IN MARYLAND

*Beale, B.[1]
[1.] Extension Educator, University of Maryland Extension, Leonardtown, MD, 20650

Herbicide resistance continues to be a major concern for Maryland soybean growers, particularly with ALS and Glyphosate herbicide resistant palmer amaranth (Amaranthus palmeri), common ragweed (Ambrosia artemisiifolia) and marestail (Conyza canadensis). On-farm replicated research trials conducted at two locations during the 2015, 2016, and 2017 seasons evaluated the efficacy of fifteen pre-emergent herbicide treatments for control of palmer amaranth. A complete block randomized design with four replications was utilized on a field location with a heavy infestation of glyphosate and ALS resistant palmer amaranth the preceding crop year. The number of emerged palmer plants was recorded from individual plots starting 10 days after treatment and every 7 days thereafter. Height data from the 5 largest palmer plants in each plot was also recorded. Data was analyzed using an ANOVA and t-test for significant differences at the 0.05 confidence level. Results indicate significantly better control of palmer amaranth with the use of any residual product when compared to a non-treated control. Residual products varied in the length of control provided from 2 weeks. Products with the active ingredient flumioxazin including premixes of Fierce or Fierce XLT or products with the active ingredient sulfentrazone including premixes such as Broadaxe or Authority XL provided the most consistent control. Residual herbicides also resulted in significant differences in weed height over the length of the season. This is especially advantageous in that it provides a longer time-frame for the timely and thus effective application of post-emergent herbicides. Field demonstration days were conducted each year at the trial locations to demonstrate trial results, weed identification and management techniques.

LOCAL HANDS-ON WORKSHOPS BECOME A MAINSTAY IN TECHNOLOGY TRANSFER AND CROP IMPROVEMENT IN GEORGIA BLUEBERRY PRODUCTION

*Allen, R.[1]
[1.] Area Blueberry Agent, University Of Georgia, Alma, GA, 31510

Cultivated blueberry acreage in Georgia has increased tremendously over the years, and blueberries in Georgia now have a farm gate value of over $330 million, making it the number one fruit crop in Georgia. Given the increasing influence of competing imports, it is now more critical than ever to have excellent fruit production and top quality fruit. To keep growers current with the latest research and technological tools, the Blueberry Research and Demonstration Farm in Alma, Georgia has become a location for growers to gather for hands-on workshops to learn from extension specialists, county agricultural agents, and industry representatives. Workshops include everything from sprayer calibration and novel soil moisture sensor demonstrations to aerial imagery training to hands-on diagnosis lessons for different insect pests and diseases. These workshops even create the opportunity to conduct research and show preliminary results in real-time. These workshops attract large groups of growers, often over 175 people, and the utilization of stations with small groups and, even videoconferencing in out-of-state experts, have facilitated a dynamic learning environment that fosters discussions that help quickly transfer new technological tools to growers and enable them to stay ahead of the curve in improving crop production.

EVALUATION OF THE EFFECTIVENESS OF IN-FURROW PRODUCT COMBINATIONS IN THE PRODUCTION OF SOYBEANS

*Dame, C. L.[1]; Shadrick, V.M.[2]
[1.] Anr Agent, University Of Kentucky, Madisonville, KY, 42431
[2.] ANR Agent, University of Kentucky, Dixon, KY, 42409

Widespread use of in-furrow products has been touted as a solution to issues with both fertility and overall plant health. Agriculture extension agents in Hopkins and Webster Counties have sought to address these mounting in-furrow utilization questions with emphasis on product evaluation and comparisons to determine if differences in yield and return on investment were measurable.

Product placement and trial replication were key to the overall evaluation of products. Products were requested locally from those that were readily available to local producers and that could easily be used by producers with current equipment and other management methods.

Agents hypothesized that there would be little to no response from the addition of in-furrow products and that the difference

would be less than required to reach a break-even economic return.

Site selection for the in-furrow evaluation encompassed both traditional crop rotation management practices and soybeans behind canola as well. A group 4.8 full season soybean variety was chosen for this test. Plots were entered into the FarmLogs online platform to efficiently management production data and information regarding plant development.

Planting populations were set at a constant rate of one hundred eighty-five thousand plants per acre in an attempt to avoid replant issues with the unseasonably high rainfall events experienced during the planning stages. Much to the surprise of the planning committee, there were significant differences recorded among the various products tested. Further studies will conducted to evaluate in-furrow products in regard to soybean production.

LIME SOURCE AND RATE EFFECT ON SOIL PH

*Fryer, M.[1], Gadberry, S. [2]
[1.] County Extension Agent - Agriculture, U of A Division of Agriculture Research & Extension, Van Buren, AR, 72956
[2] County Extension Agent – Agriculture, University of Arkansas, Little Rock, AR 72203

In Arkansas, over 51% of the acres soil sampled for hay and pasture use in 2015 showed pH values below the critical level for grass production (5.8), and over 74% of the acres were below the critical pH level for legume production (6.3). With such a large percentage of acres in need of lime to neutralize soil pH, questions often arise on how different sources and rates of lime compare. A replicated small plot study was established in January 2017 to evaluate lime source and rate effect on the pH of a sandy loam soil. Three replications with ten treatments were included in the study area with an initial pH of 4.4. Soil samples were taken at 1, 3, 6, 9, and 12 months after treatment. Treatments with different effective calcium carbonate equivalents (ECCE) included: pelletized lime (86% ECCE) at 500, 1000, and 2000 lb/acre; agricultural lime (65% ECCE) at 2000, 3850, 4000, 6000, and 8000 lb/acre; hydrated lime (120% ECCE) at 100 lb/acre; and a no lime control. Initial pH did not differ among treatments ($P=0.55$). Maximum pH was reached between 5 and 11 months, but the time did not differ ($P=0.57$) among treatments; however, the maximum pH change did vary among treatments ($P<0.01$) and ranged from 0.3 to 1.5. Neither the hydrated lime ($P=0.29$), the 2000 lb/acre agricultural lime ($P=0.43$), nor the 500 lb/acre pelletized lime ($P=1.0$) treatment increased soil pH above the control. The 8000 lb/acre agricultural lime treatment resulted in the greatest pH increase (1.5, $P<0.05$) and was the only treatment that increased soil pH to within the critical level for grass production. This study will be carried out to 3 years after treatment with additional measurements to include forage dry matter production and nutrient analysis.

COMMERCIAL AND REGISTERED TECHNICIAN PROGRAMS EDUCATE LOCAL GOVERNMENT MAINTENANCE STAFF

*Gregg, C. L.[1]
[1.] Animal Science, Virginia Cooperative Extension - Brunswick County, Lawrenceville, VA, 23868

Applying Pesticides in the Commonwealth of Virginia as part of employment requires a License. This license can be a Commercial or Registered Technician (RT) level. The RT applicator can only apply Restricted Use Pesticide when supervised by a Commercially Certified Applicator. The RT can qualify for Commercial Certification after one year of holding a RT Certificate. The program developed with the Virginia Department of Agriculture Office of Pesticide Services; initially geared towards Local County, School, Cities, and Towns to get the maintenance personnel into compliance with Virginia Pesticide laws. It is essential that persons who apply pesticides as part of their employment hold correct certifications. In addition to proper certification, this can save hundreds to thousands of dollars in fines from Virginia Pesticide Inspectors for no or improper certification. We have developed and executed a three-day RT education program that encompasses classroom and hands-on learning, along with an opportunity to test. The test gives participant a two-year certification, they must re-certify every two years to remain in compliance and able to apply pesticide at their job. This can be the beginning to Commercial Certification to improve job skills and potential job promotions. This program provided education and test preparation for an average of twenty participants during certification. There is an average of one hundred attendees during recertification. These programs provide education of safe, effective, legal pesticide use in our area of Virginia. We have received evaluations that have stated these programs were some of the best training's participants attended.

UNDERSTANDING THRIPS RISK IN COTTON TO MAKE BETTER MANAGEMENT DECISIONS

*Griffeth, L. A.[1]; Anderson, H.[2]; Barentine, R.[3]; Barnes, T. L.[4]; Cantrell, B.[5]; Carlson, S.[6]; Cresswell, B.[7]; Earls, C.[8]; Edwards, R. P.[9]; Ensley, R.[10]; Frye, M.[11]; Gay, W.[12]; Hand, J.[13]; Hayes, B. W.[14]; Hicks, R.[15]; Jefferies, B.[16]; Kichler, J. M.[17]; Kicklighter, J.[18]; Mallard, J.[19]; Miller, J.[20]; Murdoch, M.[21]; Pugliese, P.[22]; Ray, L.[23]; Sapp, J. P.[24]; Sapp, P.[25]; Sawyer, A.[26]; Shirley, A.[27]; Slusher, J.[28]; Tyson, W. G.[29]; Churchwell, R. D.[30]; Ward, B.[31]; Freeman, M.[32]; Roberts, P. M.[33]; Toews, M. D.[34]

1. County Extension Coordinator, University Of Georgia, Preston, GA, 31824
2. County Extension Agent, University of Georgia, Fitzgerald, GA, 31750
3. County Extension Coordinator, University of Georgia, Vienna, GA, 31092
4. County Extension Coordinator, University of Georgia, Pearson, GA, 31642
5. County Extension Agent, University of Georgia, Springfield, GA, 31329
6. County Extension Coordinator, University of Georgia, Tifton, GA, 31794
7. County Extension Coordinator, University of Georgia, Blakely, GA, 39823
8. County Extension Agent, University of Georgia, Soperton, GA, 30457
9. County Extension Coordinator, University of Georgia, Ocilla, GA, 31774
10. County Extension Coordinator, University of Georgia, Cedartown, GA, 30125
11. County Extension Coordinator, University of Georgia, Jesup, GA, 31545
12. County Extension Agent, University of Georgia, Ashburn, GA, 31714
13. County Extension Agent, University of Georgia, Tifton, GA, 31794
14. County Extension Coordinator, University of Georgia, Camilla, GA, 31730
15. County Extension Coordinator, University of Georgia, Sylvania, GA, 30467
16. County Extension Coordinator, University of Georgia, Alamo, GA, 30411
17. County Extension Coordinator, University of Georgia, Moultrie, GA, 31788
18. County Extension Agent, University of Georgia, Moultrie, GA, 31788
19. County Extension Coordinator, University of Georgia, Millen, GA, 30442
20. County Extension Agent, University of Georgia, Hazlehurst, GA, 31539
21. County Extension Coordinator, University of Georgia, Buena Vista, GA, 31803
22. County Extension Coordinator, University of Georgia, Cartersville, GA, 30120
23. County Extension Coordinator, University of Georgia, Madison, GA, 30650
24. County Extension Coordinator, University of Georgia, Waynesboro, GA, 30830
25. County Extension Coordinator, University of Georgia, Louisville, GA, 30434
26. County Extension Coordinator, University of Georgia, Rochelle, GA, 31079
27. County Extension Agent, University of Georgia, Reidsville, GA, 30453
28. County Extension Coordinator, University of Georgia, Waycross, GA, 31503
29. County Extension Coordinator, University of Georgia, Statesboro, GA, 30458
30. Former County Extension Agent, University of Georgia, Cochran, GA, 31014
31. Former County Extension Coordinator, University of Georgia, Colquitt, GA, 39837
32. East Georgia Extension Agronomist, University of Georgia, Statesboro, GA, 30458
33. Professor and Extension Entomologist, University of Georgia, Tifton, GA, 31793
34. Professor, University of Georgia, Tifton, GA, 31793

Thrips are the most consistent and predictable insect pest of cotton in Georgia and the Southeast. While preventive insecticides at planting reduce the risk of thrips and injury, a supplemental foliar insecticide may be needed, optimally at the 1-leaf stage. Cooperating County Extension agents from 31 counties randomly sampled 10 plants in 306 commercial cotton fields in 2016 and 2017, submerging and swirling the plants in a 3 ounce container filled with ethyl alcohol. Immature and adult thrips were later counted. A simple thrips risk index can be assigned to any cotton planting based on planting date and tillage, which are known to influence thrips infestations. High risk cotton is planted prior to May 10 in a conventional tillage system, while low risk cotton is planted on or after May 10 and/or in a reduced tillage system. Thrips infestations were 3 – 4 times higher during 2016 compared with 2017, as predicted by the Thrips Infestation Predictor for Cotton. Thrips infestations were 2.5 times higher during 2016 and 1.9 times higher during 2017 in high risk fields compared with low risk fields. The number of fields exceeding the University of Georgia threshold of 2 – 3 thrips per plant with immatures present was 2.7 times higher in 2016 and 2.8 times higher in 2017 in high risk fields compared with low risk fields. Although there was lower thrips infestations in 2017 compared to 2016, thrips infestations on 1-leaf cotton tended to be higher on earlier planted cotton and slightly higher in conventional tillage fields. The Thrips Infestations Predictor for Cotton accurately forecasted the differing thrips infestations both years and within the year by planting date which allows the model to more precisely estimate thrips risk compared with calendar based methods. This allows the producer to target

more aggressive thrips management on those commercial fields that are at greatest risk for thrips injury. This information was disseminated to producers through county production meetings, newsletters, and blogs.

FORAGE WEED CONTROL WITH HERBICIDE IMPREGNATED FERTILIZER

*Griffin, B.[1]
[1.] Cea-StaffChair, University of Arkansas - Cooperative Extension Service, Clarksville, AR, 72830

In 2017 GrazonNext HL (2,4-D + aminopyralid) received a label for fertilizer impregnation for foarge weed control. Herbicide impregnated fertilizer has been used successfully in turf weed control for over 30 years. The recommended rate of herbicide is 1.5-2.1 pints per acre and fertilizer rate of at least 200 pound per acre. The impregnation process is done by the fertilizer/agricultural dealers, and applied to the field with bulk fertilizer buggies.

Demonstrations were initiated at 18 sites in 14 counties to compare the effectiveness of GrazonNext HL impregnated fertilizer with traditional foliar applied forage herbicides. The comparison treatments are typical of herbicides used in forage weed control throughout Arkansas and recommended in Pasture Weed Control in Arkansas MP 522. Treatments applied, were GrazonNext HL 1 quart per acre impregnated fertilizer, GrazonNext HL 1 quart per acre, Grazon P+D 1 quart per acre and Weedmaster 1 quart per acre. All foliar treatments were applied with a CO2 backpack sprayer at 15 gallons per acre.

In all of the demonstrations, the foliar applied herbicides were always as good as or better than the GrazonNext HL on fertilizer treatments. GrazonNext HL is effective for broadleaf control, but weed control decreased as weed size increased. If annual weeds are greater than 12" in height, foliar applied herbicides are recommended over GrazonNext HL impregnated fertilizer

CONTROLLING COOL SEASON FORAGE WEEDS IN THE FALL

*Hicks, C.[1]
[1.] County Director, University of Tennessee Extension, Carthage, TN, 37030

Cool season forage weeds such as hairy buttercup, fleabane, and musk thistle have traditionally been sprayed with an herbicide in the spring when they are actively growing. In recent years, research from multiple universities has indicated that cool season weeds can be effectively controlled with a late fall application. Spraying in the fall offers several advantages over spraying in the spring including fewer susceptible crops being grown in the fall, more producers typically having time available for spraying in the fall, and the ability to add clovers during the winter following a fall herbicide application. In order to help local producers understand the benefits of spraying for weeds in the fall, a county demonstration plot was sprayed with various herbicides in November and the plot was observed throughout the following growing season. While there were subtle differences between the effects of each herbicide, including price and effects on clover, all the plots that were sprayed in November provided significant control when compared to the untreated checks. Local producers had the opportunity to visit the plots and results have since been disseminated at various field days and production meetings.

HIGH TUNNEL PEST EXCLUSION (HTPE) SYSTEM USING SHADE CLOTH FOR REDUCING LEAFFOOTED BUGS AND CATERPILLARS FROM HIGH VALUE VEGETABLE CROPS

*Majumdar, A.[1]
[1.] Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

Organic vegetable production is increasing in the South with many beginning farmers growing crops in the high tunnels. Although high tunnels are useful for season extension, they also extend the life cycle of insect pests that complete generations rapidly inside the structures. Organic vegetable production is challenged by many insect pests that can cause 30-50% direct crop loss or contamination. Therefore, in organic farming, pest prevention is certainly better than cure. This paper describes a pest exclusion system suitable for high tunnel producers. The authors evaluated 0 (check), 30, 40, and 50 percent knitted shade cloth in the laboratory for their potential to stop large insect pests of tomatoes using high tunnel pest exclusion models. We focused on leaffooted bugs (Leptoglossus spp.) and moth pests since they are universal problems for producers. A 40 or 50 percent knitted shade cloth with moderate openings significantly reduced leaffooted bug numbers and protected vegetables placed inside the model. Large moths were not able to penetrate the shade cloth. Field evaluation of HTPE system is on going at eight locations across Alabama; each location has shown over 60% or more reduction of small to medium-sized insect pests and nearly complete elimination of large moths like the tomato hornworm. Implications of HTPE on biological control methods and bioinsecticides usage will be discussed at the conference. Participants will receive free copies of IPM publications including factsheets, handbooks, and IPM slide charts for reference.

3 YEAR SUMMARY - EVALUATING PEANUT WHITE MOLD FUNGICIDE PROGRAMS IN COOK COUNTY, GEORGIA

*Price, T.[1]
[1.] County Extension Coordinator, University Of Georgia, Adel, GA, 31602

White Mold(Sclerotium rolfsii) is considered one of the most destructive diseases in peanut production in Georgia. University of Georgia's, "2015 Georgia Plant Disease Loss Estimates"

estimated $59.7 million dollars in damages to Georgia's peanut crop valued at $684.6 million according the Georgia Farm Gate Value report. University of Georgia Extension Agent in Cook County, University of Georgia Extension Peanut Specialist and a Cook County peanut producer collaborate each year to install replicated field trials to evaluate common peanut fungicide programs for controlling white mold. Data showed that Fontelis based programs have been effective for managing white mold in peanuts however 2017 data showed this product may be losing efficacy against the disease. A two block Elatus program has provided acceptable control of white mold in 2015 and 2017 however this program showed less control of the disease compared to all other white mold treatments in 2016. 4 block Convoy programs in all three years were among those programs that consistently showed the greatest control of white mold compared to the checks. Provost has shown to consistently control white mold compared to the untreated checks in all three years however it must be noted that each year this product was paired with other products with white mold efficacy (Propulse, Convoy, and early emergence Proline.) Data generated from these trials are disseminated to local producers and agriculture industry via fact sheets, blogs, email, and one-on-one consultations. The data from these trials is commonly referred to during white mold fungicide recommendations.

DEMONSTRATING ENVIRONMENTALLY SMART NITROGEN PERFORMANCE IN CORN PRODUCTION IN CLAY COUNTY ARKANSAS

*Runsick, S.[1]
[1.] County Extension Agent - Staff Chair, University Of Arkansas Cooperative Extension Service, Corning, AR, 72422

Urea is a widely used Nitrogen source in Arkansas due to its ease of application and availability. Getting the correct amount of nitrogen applied timely is difficult some years when wet weather delays sidedress applications. Urea also has a high risk of nitrogen loss to the environment due to high rainfall, irrigation, or adverse environmental conditions. A possible solution to reduce risks of using urea would be to use Environmentally Smart Nitrogen (ESN®). ESN is being marketed and sold in Clay County, but producers are not aware of the best way to use it and the effects on yield. ESN is a urea granule comprised of 44% nitrogen, contained within a flexible polymer coating. This coating protects the nitrogen from loss mechanisms and releases nitrogen in response to soil temperature. While small plot research with ESN has been conducted, Clay County producers requested data from field scale testing in order to figure out how best to use the product. An on farm large-plot demonstration was established in a corn field in Clay County in 2016 and 2017 to compare a preplant application of ESN to the producer's standards of urea and 32% UAN for nitrogen sources. Treatments included; 1) 180 units of nitrogen as ESN applied preplant incorporated, 2) 150 units of 32% UAN applied at sidedress, 3) 66 units of ESN preplant incorporated followed by 114 units nitrogen as 32% UAN sidedress, and 4) 136 units of ESN preplant incorporated followed by 46 units of nitrogen applied as urea pre tassel. All of the treatments had 40 units of available N applied preplant with additional nitrogen applied by air following emergence. Treatments were replicated three times. Each plot was harvested and measured with a weigh wagon to evaluate differences in yield. The 100% ESN treatment yield was 14 bu/acre less than the other two treatments resulting in $50.00 per acre less income. The demonstrations and results were shared with growers at field days and production meetings. The results were also distributed through newsletters and posted online at www.uaex.edu/clay.

YIELD EFFECTS OF GROUND AND CONVEYOR SPEEDS FOR VIRGINIA AND RUNNER TYPE PEANUT

*Warner, A.[1]; Kirk, K.[2]; Thomas, J.[3]; Fogle, B.[4]; Massey, H.[5]; Anco, D.[6]
[1.] County Agent, University Of Georgia, Donalsonville, GA, 39845
[2.] Precision Agriculture Engineer, Clemson University, Blackville, SC, 29817
[3.] Core Peanut Technician, Clemson University, Blackville, SC, 29817
[4.] Precision Ag Technician, Clemson University, Blackville, SC, 29817
[5.] Lecturer, Clemson University, Clemson, SC, 29632
[6.] Peanut Specialist, Clemson University, Blackville, SC, 29817

In 2016, a study was conducted by Clemson University that demonstrated significant peanut digging losses as functions of both ground speed and conveyor speed in Virginia type peanuts. In 2017, an additional study was performed to build on the 2016 study by incorporating peanut yield monitor data and conducting similar tests on both Virginia and runner type peanuts. The tests that were conducted used both an Amadas and KMC brand peanut diggers. Direct comparison of these two peanut diggers cannot be made from this study due to the different fields, varieties, and planting dates used with each peanut digger. Ground speed treatments were set at 1.5 mph, 2.5 mph, 3.5 mph, and 4.5 mph with the conveyor speed set at 100% of ground speed for all ground speed tests. Conveyor speed treatments were set at 70%, 85%, 100%, 115%, and 130% of ground speed which was set at 2.5 mph for all conveyor speed tests. In Virginia type peanuts, yield decreased significantly with an increase of ground speed for both diggers at rates of 130 lb/ac/mph (Amadas) and 95 lb/ac/mph (KMC). In runner type peanuts, with the KMC digger yields decreased significantly with an increase of ground speed at a rate of 58 lb/ac/mph, but no significant difference in yield was found at 1.5 mph and 2.5 mph ground speed. For both diggers in Virginia type peanuts, yields were significantly higher at conveyor speeds equal to 85% of the ground speed.

In runner type peanuts, maximum yields were observed at conveyor speeds equal to 70% and 115% of the ground speed for both the Amadas and KMC diggers, respectively. While digging losses and therefore yield recovery are largely dependent on pod maturity, plant health, and soil conditions the tests presented here may help to provide growers with knowledge on digger operation and efficiency to maximize profitability.

REGIONALIZED PESTICIDE TRAINING SERIES MODEL

*Waters, K.[1]; Carter, E.[2]; M. Mauldin[3]; M. Orwatt[4]; J. Biss[5]; S. Eubanks[6]; M. Tancig[7]; J. Dillard[8]
1. Agriculture and Natural Resources Agent, University of Florida/IFAS Extension Holmes Co, Bonifay, FL, 32425
2. Regional Row Crop IPM Agent, University of Florida/IFAS Extension Jackson Co, Marianna, FL, 32426
3. Agriculture and Natural Resources Agent, University of Florida/IFAS Extension Washington Co, Chipley, FL, 32428
4. Horticultural Agent, University of Florida/IFAS Extension Washington Co, Chipley, FL, 32426
5. Agriculture and Natural Resources Agent, University of Florida/IFAS Extension Calhoun Co, Blountstown, FL, 32424
6. Agriculture and Natural Resources Agent, University of Florida/IFAS Extension Gadsden Co, Quincy, FL, 32351
7. Horticulture, University of Florida/IFAS Extension Leon Co, Tallahasssee, FL, 32301
8. Agriculture and Natural Resources Agent, University of Florida/IFAS Extension Jefferson Co (retired 2017), Monticello, FL, 32344

Providing opportunities for pesticide applicator trainings requires a great deal of time and resources. In an effort to maximize the impact of these trainings, the University of Florida/IFAS Extension Northwest District (NWD) Agricultural Program Implementation Team developed a regionalized model for pesticide applicator trainings. Objectives: The objectives of the model were 1) to meet the needs of pesticide licenses holders to obtain new licensees and/or gain continuing education units (CEUs) and 2) to develop an educational model that would maximize the impact of agents' time and efforts in a team teaching environment. Methods: Two regionalized clusters of counties were formed. Each cluster houses either 3 or 4 counties. Annually, a four-day training is hosted with each day covering a different license category, and multiple agents teach over the 3 to 4 hour course. Exams and/or correlating CEUs are issued every day at the conclusion of the training. Host counties are rotated among the two clusters. Results: In 2016 and 2017, this training series was hosted in four locations covering 7 license categories. A total of 320 participants earned 498 CEUs and 169 exams were administered, with a pass rate of 73%. Conclusion: While individual counties continue to host trainings throughout the year, this series has developed into an effective and efficient programming model for pesticide training, that is well recognized by the clientele. Through this regionalized training model, the needs for multiple category pesticide applicator training have been met, while providing a structure that allows agents to efficiently meet the needs of a diverse client base. In addition, research from the Journal of Pesticides Safety Education (Young et. al, 2011) supports that this program has had a total economic impact of $1,488,276 and has generated $3,200 of program enhancement funding in host counties.

SMALL PLOT PEANUT FUNGICIDE EFFICACY TRIALS

*Wynn, K.[1]
1. Extension Agent II, University Of Florida, Jasper, FL, 32052

Peanut is an important commodity crop in the Suwannee River Valley. In 2017, 45,000 acres of peanuts were planted in counties surrounding the North Florida Research and Education Center (NFREC) – Suwannee Valley. A peanut disease research program led by Dr. Dufault was established to address management needs of this commodity. Objectives: To (1) assess the efficacy of commonly used peanut fungicide programs, and (2) provide local Extension agents with experiential learning opportunities related to disease management. Methods: UF/IFAS Plant Pathologist, Nicholas Dufault and UF/IFAS Hamilton County Extension agent, Keith Wynn collaborated with NFREC – Suwannee Valley staff in 2015 to incorporate replicated small plot fungicide trials at the center. This trial evolved into a yearly research program that evaluates the efficacy of various fungicide treatments. Dr. Dufault is responsible for determining the fungicides tested, retrieving chemicals, and interpreting data collected from the trials. Local Extension agents are responsible for applying fungicide applications and taking disease ratings. Results: Data collected from disease ratings and yields are used to generate fact sheets, publications, and presentations that are distributed in production meetings throughout the state. Extension agents receive hands-on training with fungicide application methods and disease identification which increases their confidence when interacting with producers. Conclusions: This research allowed Extension agents to provide producers with timely information about the efficacy of fungicide products and monitor diseases throughout the season. Because of these trials, producers have seen the benefit of incorporating fungicides into their management programs and have made changes to their disease management plans.

P.E.S.T.: HOW TO BE THE FIRST IN YOUR COUNTY TO IDENTIFY NEW INVASIVE INSECTS

*Mcmoran, D. W.[1]
[1.] Agriculture And Natural Resources Extension Faculty-Director, Washington State University, Burlington, WA, 98233

Invasive pests can have devastating ecological and economic impacts in areas where they become established. WSU Skagit County Extension encourages agents to use the P.E.S.T. methodology to ensure non-native insects are quickly detected once introduced into their county. It is imperative to involve the PUBLIC by establishing direct lines of communication, such as social media where county residents can submit photographs of suspicious specimens or alert agents to recent sighting locations. EDUCATION of county agents should focus on pest taxonomy, biology and behavior to ensure that they are able to identify invasive species and determine where and when a future outbreak may occur. Fact sheets or websites should be created to make this knowledge available to all interested parties. Funding is critical to SUPPORT the time extension agents must spend monitoring for invasive pests in the field and examining samples in the laboratory. Assistance may also be found through collaborations with other university or government entities which share a common goal of detecting and managing invasive insects. Most importantly, county agents should spend as much time as possible in the field TRAPPING for target pests. Detailed trap records should be maintained to accumulate a wide breadth of data that can be used to document invasive insect activity and develop more precise trapping protocols. WSU Skagit County Extension recently utilized the P.E.S.T. approach to capture the first specimens of the Brown Marmorated Stink Bug Halyomorpha halys (Stål) in Skagit County, Washington State.

VEGETATIVE REPRODUCTION IN RUSSIAN OLIVE – IMPLICATIONS FOR CONTROL

*Patterson, R. K.[1]; Worwood, D. R.[2]
[1.] Agriculture/4-HYouth Agent, Utah State University, Ogden, UT, 84404
[2.] Agriculture/4-H Youth Agent, Utah State University, Castle Dale, UT, 84513

The non-native, invasive Russian olive (Elaeagnus angustifolia) has become the fourth most common tree along Western US waterways. Russian olive has been declared a noxious weed in many western states and Canadian provinces. Russian olive has the ability to outcompete native vegetation and create monoculture stands. This dense growth and the thorny branches block access to many waterways, and wildlife diversity is less in monoculture Russian olive stands. Many control efforts have involved mechanical removal of trees by either pulling them out of the ground or cutting them down with a saw. However, the Russian olive's ability to produce crown sprouts and root suckers complicates control efforts because such regrowth is difficult to kill. Most crown sprouts originate from Epicormic buds, which are common on the lower trunk of Russian olive trees. In research trials, neither burying nor burning untreated Russian olive stumps prevented crown sprouting. Herbicide treatment (cut stump or basal bark) or complete removal of crown tissue can prevent crown sprout growth. In contrast, nearly all root suckers, and some crown sprouts, grow from adventitious buds originating from callus or meristematic tissue. The authors' research has revealed that Russian olive roots must be close to the surface to produce suckers. Sixteen trees were uprooted. Exposed roots of eight trees were left as-is, while exposed roots of remaining trees were immediately buried. Unburied roots produced 304 times more suckers than buried roots. In another study trenches were dug around trees and half of the trench was backfilled. The unfilled trenches produced 230 times more root suckers than the backfilled trenches. This information has been shared with weed control departments, government agencies and private landowners via newspaper articles, pesticide applicator training events, and land manager training events. Fact sheets and journal articles are being produced to disseminate these findings. This information helps improve Russian olive control efforts and may also be applicable to control efforts of the related autumn olive in the Eastern US.

Animal Science

EXTENSION'S ROLE IN ANIMAL DISEASE DISASTERS: AN AVIAN INFLUENZA SUCCESS STORY

*Eck, K. J.[1]
[1.] Extension Educator, Purdue Extension, Jasper, IN, 47546

On January 15, 2016 a confirmed case of High Pathogenic Avian Influenza (AI) was found in turkeys in Dubois County, IN, with additional farms testing positive for Low Pathogenic Avian Influenza. The disease had the potential to impact county poultry producers by causing the deaths of 1,416,749 turkeys and 1,029,222 layers, and impacting the Indiana poultry industry valued at $1.4 billion. Purdue Extension, working with federal, state, and local agencies, responded to address the disease by containing and eliminating AI in affected flocks. Using its connections to local agencies, farmers, media, and the public, Extension provided a vital link with federal and state agencies to 1.) establish command centers, 2.) distribute factual information, 3.) reassure the public that poultry was safe to eat, and 4.) form ad hoc committees to develop reaction protocols such as command center establishment, commercial and backyard flock identification, public and media updates, worker and public safety monitoring, and deceased animal composting. Through the combined efforts of 33 cooperating agencies, the outbreak was eliminated in 38 days, with 258,325 turkeys and 156,178 chickens being depopulated. (Containment/elimination time was only 1/3

of 2015 efforts.) Through Extension's efforts residents better understood disease procedures directly affecting their farms, 1,945 inspections for backyard flocks were conducted in an expedient manner, the general public understood the continued safety of poultry products, and the USDA adopted several protocols for future disease outbreaks, including emergency worker safety and health surveying, and mortality composting.

ADVANCING BOVINE REPRODUCTIVE SUCCESS

*Grussing, T.[1]; Salverson, R.[2]
[1.] Cow-Calf Field Specialist, SDSU Extension, Mitchell, SD, 57301
[2.] Cow-Calf Field Specialist, SDSU Extension, Lemmon, SD, 57638

In order to improve reproductive efficiency and increase profitability on cattle operations in the United States, beef producers need to incorporate reproductive technologies such as artificial insemination (AI) and estrous synchronization into their management plans. As generational transfers occur, there in an increasing need to provide new cattle producers (beef and dairy) training on AI. SDSU Extension AI Schools take place over 3-days, focusing on both classroom learning (12 hours) and hands on practice sessions (10 hours) to train participants on the proper technique of AI. Schools are instructed by SDSU Extension State and Field Specialists and are hosted at 3 – 4 locations across the state each year since 2012. Class size is limited to 20 participants in order to provide ample hands on practice and one-on-one interaction with instructors. In addition to teaching participants about AI equipment, how to properly handle semen and perform insemination, a strong focus is directed towards cowherd management topics including: anatomy and physiology, estrous synchronization, heat detection, genetics, nutrition, health, vaccinations and management effects on reproductive success. Classroom instruction has been enhanced with the use of You-Tube videos and factsheets produced by SDSU Extension. Currently our program is consistently offered and costs are more competitive than Industry hosted schools, as indicated by our growing waiting list. Expenses are paid by the cost recovery system which allows us to be sustainable and meet the need for this niche technology. Evaluations are conducted before and after each school, with overall short-term reproductive knowledge increasing from 4 to 9 (10 point scale) and 100% satisfaction rating. Due to growing interest from young clientele, a similar one-day youth AI camp has been implemented, covering introductory topics on bovine AI, along with hands on breakout sessions providing youth experience with semen thawing, reproductive hormone handling, as well as classroom practice on bovine reproductive tracts. In the future, these youth will have the baseline knowledge to fully engage in the 3-day AI Schools. The ability to best use our resources and expertise in multiple educational formats has proven to be very successful and rewarding for both current and future cattlemen.

NORTHEAST INDIANA GOAT A.I. WORKSHOP

*Rodgers, E.[1]
[1.] Extension Educator, Purdue Extension, Auburn, IN, 46706

From 2012 to 2016, there has been an 11% increase in goat ownership in Northeast Indiana according to the National Agriculture Statistics Survey. While there is an increase in small animal ownership, not many people are able to afford the live bucks that are needed to help greatly improve their overall herd genetics. Artificial Insemination helps bridge that financial gap for many small farms by providing better genetics in the form of semen for a fraction of the cost of a live buck. One of the issues goat producers are running in to is the ability of finding an individual who can perform the A.I. services. Purdue Extension in DeKalb County hosted a 1-day Goat A.I. Workshop in August 2017. B&D Genetics from Cherry Valley, AR taught the ins and outs of A.I. to 23 youth and adult participants between classroom and live handling participation. As a result of this workshop, the 23 participants walked away feeling much more confident in their ability to perform transvaginal artificial insemination on their own does, or others does (we had 2 vets in the audience). Eighty-five percent of the participants had never performed artificial insemination before this class. As a result of the class, 79% of the participants planned to perform A.I. within the next 3 months and an additional 10% within the next 6 months. Most participants said the workshop will greatly help them improve the genetic pool of their herd by increasing the potential for better bucks through semen instead of live cover. A follow-up survey will be completed by the end of April 2018 to gauge the success of A.I. for the participants in this first class.

SHEEP AND MEAT GOAT EDUCATION MEETS NEEDS OF A NEW ENTERPRISE

*Saner, R. D.[1]; Bruns, K. W.[2]
[1.] Extension Educator, University Of Nebraska-Lincoln Extension, North Platte, NE, 69101
[2.] Director, West Central Research & Extension Center, University of Nebraska - Lincoln Extension, North Platte, NE, 69101

Beef producers are seeking new enterprises to bring family members into their business. Sheep or goats can be added without changing cattle stocking rate. However, beef producers often need information on small ruminant management. Over 200 producers representing 55,359 cattle, sheep, and goats attended the 4S Goat Expo and the Lambing and Kidding School. After attending, producers indicated they would save an average of $20.14 per head for a total over $1.1 million.

Producers planned to make the following changes after attending:

- Change disease prevention techniques (67%)

- Purchase better genetics for herd improvement (45%)
- Use the famacha system for deworming (23%)
- Change newborn lamb and kid care management (61%)
- Change lamb and ewe nutrition (64%)
- Calculate unit cost of production (62%)

Producer knowledge increased in the following areas:

- Preventing disease in goat herds (84%)
- Purchasing better quality genetics (87%)
- Managing newborn lambs and kids (91%)
- Managing parasites with the famacha deworming system (91%)
- Marketing goats (54%)
- Feeding lambs and ewes (84%)
- Calculating unit cost of production (77%)

Producers learned about the meeting from

- Facebook (33%)
- Previous exposure (21%)
- Committee members (11%)
- Direct mail (10%)
- Other mentions included word of mouth, website, e-mail, radio, goat rancher, posters, other attendees, Extension office

In conclusion, attendees owned more cattle (50,405) than sheep/goats (4,805), indicating producers are interested in adding small ruminants to their beef operation. These programs clearly show the need for further education of producers in altering management and production practices for a profitable sheep/goat enterprise.

USING TECHNOLOGY TO ENHANCE HERD MANAGEMENT

*Schlesser, H.[1]
[1.] Agriculture Agent, Uw-Extension, Wausau, WI, 54403

Milk quality is a vital area of interest to farmers. Overall production loss due to milk quality issues for the average U.S. Dairy Farm is estimated at $110 per cow annually (Pinzon-Sanchez, Cabrera, and Ruegg; 2011). Bulk tank sampling tells you the farms' total somatic cell count and can give an indication if a problem exists, but it does not pinpoint the culprit animals. Some dairy producers have employed the use of Dairy Herd Improvement (DHI) companies to tell them somatic cell count (SCC), butterfat and protein percentages. Although DHI testing gives a reliable and accurate estimation of SCC, it does not identify which quarter or quarters are affected with mastitis. DHI testing takes a composite sample of all four quarters, giving you one score for each animal. Early detection of the presence of an infection can lead to timely management decisions which can reduce the economic impact of mastitis. In 2017, this agent and the Taylor County Agriculture Agent applied for and received a North Central Region Innovative Grant to conduct a milk quality study. This study was designed to collect milk samples from all four quarters of 200 animals. Samples were collected prior to the attachment of the milking machine after the cow was prepared for milking. The SCC in each sample was calculated using a cow-side meter and DHI. Samples were collected from 20 farms. Our presentation will discuss our findings from this study, and how it can be used on farm.

ENCOURAGING LIVESTOCK PRODUCERS TO MANAGE IMPORTED FIRE ANTS

*Burke, P. J.[1]
[1.] County Extension Coordinator, University Of Georgia, Carrollton, GA, 30117

In 2003, the USDA estimated production losses in excess of $38 million for livestock operations due to imported fire ants. At $16 per acre, the expense of treating heavily infested pastures is relatively cheap when considering livestock production losses associated with imported fire ants. Fire ant mounds also can result in costly damage to mowing and hay baling equipment. Producers needed reliable information on proper control measures to help combat imported fire ants in pastures and hayfields. To demonstrate the relative ease and effectiveness of using bait products to manage fire ant populations, a demonstration was set up at a Carroll County, Georgia farm. Using a Herd GT-77 seeder calibrated to spread 1.5 pounds of bait per acre, Amdro® Pro Fire Ant Bait was applied to a 10-acre pasture. A second untreated pasture was used for comparison. Three sampling plots were established within each of the treated and untreated areas. At the time of application, the treated and untreated areas had an average of 64 and 82 mounds per acre, respectively. Eight weeks after the application, an evaluation of the project revealed an overall 98 percent reduction of fire ant mounds in the treatment area while the untreated area had a decrease of 45 percent. Thirty-three farmers from seven counties participated in a field day to discuss the demonstration and learned the results of treating the pasture for fire ants. The Carroll County Extension office purchased a Herd GT-77 seeder for farmers to rent in order to encourage more farmers to treat their pastures for imported fire ants. After one year, a total of 141 acres have been treated using the Herd GT-77 spreader. One hundred and sixty one producers have attended four presentations to learn about managing fire ants in their pasture and hayfields. Fire ant bait products marketed for fire ant management can be used to safely and effectively control fire ant populations to reduce their negative impact on livestock operations.

RANCH HORSE SEMINAR

*Butler, L.[1]
1. County Extension Director/ Livestock Agent, UF/IFAS Extension Okeechobee, Okeechobee, FL, 34972

The purpose of this program was to increase the equity of horses of those who utilize horses daily in South Florida. I accomplished this task by consulting with ranch managers in identifying what skills employees held and identifying inadequacies their employees possessed in terms of general horse care and training in order to improve general effectiveness of one of the most pivotal tools. Regional allied industry members and world renowned trainers worked alongside University of Florida faculty to accomplish this. Consistent training methods, conformation, proper gear use and fit, dentistry, hoof and health care were among the topics discussed . The program was hosted at Buck Daniel Ranch, a prestigious horse breeding and training facility and cow/calf operation. This program was presented in winter to accommodate rancher's schedules and gave the most opportunity for participation. Eighty-six participants representing three countries, two states, eight counties and two law enforcement agencies attended. As a result of the program participants indicated a twenty-five percent (25%) increase in knowledge, and sixty percent (60%) of the participants said they would implement new strategies or change their current practices. Some of the behavior changes attendees said they would implement were hoof and teeth care, proper saddle fit, parasite management and updated nutrition programs. By attending this program ranch personnel can add equity to a tool they use daily and receive a return on investment outside their primary income. The attendees have now been exposed to beneficial groundwork in training and horse care tips in the beginning of their career that can be developed as their career progresses.

NUTRITION FOR BEEF FEMALES

*Crawford, S.[1]; Butler, L.[2]; Kirby, C.[3]; Larson, C.[4]; Moriel, P.[5]; Stice, B.[6]; Thompson, D.[7]; Vendramini, J.[8]; Wiggins, L.[9]
1. Extension Agent - 4H/Livestock, UF/IFAS/Hendry County, LaBelle, FL, 33975
2. Extension Agent - CED/Livestock, UF/IFAS/Okeechobee County, Okeechobee, FL, 33975
3. Extension Agent - Livestock, UF/IFAS/Manatee County, Palmetto, FL, 34221
4. Regional Specialized Agent - Dairy, UF/IFAS/Desoto, Hardee, Highlands & Okeechobee Counties, Okeechobee, FL, 34972
5. Assistant Professor - Animal Science, UF/IFAS/RCREC, Ona, FL, 33865
6. Extension Agent - Livestock, UF/IFAS/Polk County, Bartow, FL, 33831
7. Extension Agent - CED/Livestock, UF/IFAS/Desoto County, Arcadia, FL, 34266
8. Associate Professor - Agronomy, UF/IFAS/RCREC, Ona, FL, 33865
9. Multi County Extension Agent - Livestock, UF/IFAS/ Charlotte, Collier, Glades, Hendry & Lee Counties, LaBelle, FL, 33975

The First Annual Nutrition for Beef Females Workshop was presented in three of the 12 counties served by the South Florida Beef Forage Program. The South Florida Beef Forage Program represents over 770,000 head of cattle representing approximately 45% of Florida's total number of cattle. Studies have shown that body condition score (BCS) is positively correlated with reproductive performance and this correlation is consistent across several cattle breeds. The purpose of this educational program was developed from the increased demand by livestock producers to better evaluate cattle nutritional status before supplementing the herd along with optimizing cow performance by utilizing a better nutritional management program. Topics highlighted by state specialist were basic concepts of nutrition, multiple supplementation strategies for beef females, impact of BCS on reproduction of beef females, BCS training, impact of stocking rate on animal performance, stockpiling forage options and bailage and hay production. By securing grants and sponsors participants were able to attend these programs free of charge. Each location was able to provide a meal to attract producers to the program. The three locations across South Florida recorded 116 participants in attendance. The interactive pre/posttest surveys were conducted using Turning Technologies software and equipment. Results revealed a 26% knowledge gain when selecting the proper BCS of beef cows. As a result, 91% of the 63 participants surveyed will implement at least one of the supplementation strategies presented. This leads to an increase in reproductive performance of cows along with improving calf development during gestation. Increasing cow fertility and calf performance will in turn increase the profitability of cow-calf producers in South Florida

LONG TERM IMPACT OF COWHERD PERFORMANCE TESTING PROGRAM IN VAN BUREN COUNTY ARKANSAS

*Griffin, D. J.[1]
1. Cea-Staff Chair, University Of Arkansas Cooperative Extension Service, Clinton, AR, 72031

Livestock sales in Van Buren County represent 95% of all agriculture income. Cattle prices are the lowest they have been in the past twelve years. Whether in high markets or low markets, quality cattle will always bring more dollars per pound than inferior cattle. Raising quality cattle has been a focus of the County Agriculture Committee.

Bone Land and Cattle Company has been enrolled in the Cowherd Performance Testing program since 1999. Genetic change takes years even with the proper tools and technology. Bone Land and Cattle utilized information from Extension on

EPD's, artificial insemination, and the cowherd testing reports to improve the quality of the cattle produced. Over the past 17 years, Bone Land and Cattle has utilized the Cowherd Performance Testing program to produce more marketable cattle. The cattle produced today are classed medium frame, 1 muscle grade calves compared to the large frame, 2 muscle grade calves. These calves are worth on average an $8 more per hundred- weight. On a 500 lb. calf, this would be an increased value of $40 per calf. This increased value could net a producer $2000 on a 50 head calf crop. In today's low market, this increase in calf value could be the difference between profit or loss.

Cowherd Performance Testing was presented to 100 producers at a county cattleman's meeting. Producers have attended cattle work days to see how the program is conducted. One new producer started on the program the Fall of 2016.

INCREASING PROFITS THROUGH REPRODUCTIVE EFFICIENCY

*Kirby, C. L.[1]; Stice, B.[2]
[1.] Extension Agent Iii Livestock, UF/IFAS Extension, Palmetto, FL, 34221
[2.] Extension Agent III, Livestock, UF/IFAS Extension, Bartow, FL, 33830

Reproductive efficiency has long been recognized as the most important factor influencing the economic viability of commercial cattle operations in Florida. The income structure of the Florida beef cattle operation is based on pounds of weaned calves sold annually. Therefore, profits are directly correlated to the reproductive efficiency of the cow herd. Studies have indicated that by implementing recommended management practices in nutrition, forage management, reproduction, herd health, calf husbandry, and performance records a producer can increase their reproductive efficiency by 5% and up to 20%. Objectives: To increase knowledge of reproductive management principles and adoption of management practices. Methods: A total of 53 South Florida cattle ranchers, representing 12,780 head of cattle on approximately 83,687 acres in the southeastern U.S. attended a Reproductive Management School that lasted 3 days over the past three years. Students are introduced to topics in a classroom setting and topics are reinforced with a lab including topics such as reproductive physiology, obstetrics, and bull soundness exams, just to name a few. Each day the students also participate in an on-ranch pregnancy diagnosis lab utilizing live beef cattle. Results: Program evaluations have indicated a 59% overall increase in knowledge of the participants. Of those participants surveyed, 86% indicated that they have adopted one or more management practices following the school. Conclusions: As a result of participant's knowledge gain and subsequent adoption of management practices, reproductive efficiency in their herds have the opportunity to increase between 5% and 20%. This translates to approximately 192,339* more pounds of calves weaned annually with a 5% increase in reproductive efficiency. With current day cattle market prices, this could translate to an annual economic increase of $309,666**. With a 20% increase in reproductive efficiency this would translate to an increase of 769,356* pounds of weaned calves with an economic increase of $1,238,663 for the number of cattle represented in our program over the past three years. These figures are based on a 70% calf crop. As producers increase the use of profitable management practices, they will improve reproductive efficiency therefore improving the profitability of their beef cattle operation.

SOUTHERN WOMEN IN AG

*Knight, C.[1]
[1.] County Extension Agent, University Of Georgia, Statesboro, GA, 30458

Animal agriculture, specifically cattle production, is a male-dominated industry. According to statistics from a 2014 U.S. Bureau of Labor report, 76% of those that identified as farmers or ranchers were male. It is not from lack of skill that women are not more prevalent in the industry – but perhaps lack of confidence. To address this situation in Georgia, six female ag agents within UGA Extension collaborated to develop the Southern Women in Agriculture Workshop. It is designed to give women interested or involved in ag an opportunity to gain basic hands-on experience in agriculture, more specifically cattle production. Four one-day workshops have been held around the state (Athens, Calhoun, Irwinville, and Newnan). The coordinators also collaborated with 4 other land-grant universities and were awarded a Southern Extension Risk Management Education grant to coordinate a two-day more intensive program that was held in Athens. During the one-day workshops participants rotated to six sessions including fencing, tractors, farm implements, trucks and trailers, cattle handling, and animal health. Each of these sessions were planned and taught by female UGA Extension Agents from all over the state of Georgia. The two-day advanced program included sessions on Beef Quality Assurance, cattle handling, media training, calving, trucks and trailers, tractors and equipment, and fencing. There have been a total of 120 women who have completed the one-day workshops representing 4 states. Twenty women completed the two-day workshop. Registration was limited at each program in order to maintain a small group size and to allow the opportunity to be active and gain hands-on experience. Ag backgrounds within the participants were extremely varied. Cattle experience ranged from none to running a 500 head cow/calf operation. Comparing the pre- to post- assessments, on average participants increased their comfort level in all subject areas. Results of a six month follow-up evaluation with participants indicated that a majority of participants have utilized the knowledge gained on their farms and have increased their involvement in their personal ag operations thereby reducing the need to use hired labor.

ALABAMA FORAGE CONFERENCE HIGHLIGHTS PROGRESSIVE FORAGE MANAGEMENT STRATEGIES

*Stanford, M. K.[1]; Mullenix, M.K.[2]; Dillard, S.L.[3]
[1.] Extension Nutrient Management Specialist, Alabama Extension, Crossville, AL, 35962
[2.] Extension Beef Systems Specialist, Alabama Extension, Auburn University, AL, 36849
[3.] Extension Forage Specialist, Alabama Extension, Auburn University, AL, 36849

The Alabama Forage Conference is a biennial, statewide program focused on showcasing technologies related to improving Alabama grassland management. The conference consists of a field demonstration tour highlighting current research and demonstration efforts at Alabama Agricultural Experiment Station research farms in the area of forage management, followed by a one-day, classroom-based educational conference. The 2017 conference was held at the Wiregrass Research and Extension Center in Headland and the Lakepoint State Park in Eufaula, AL, respectively. The research station hosted an interactive field tour focused on irrigation techniques for hayfields, limit-grazing cool-season annuals, use of a sod-based rotation for integrating livestock into row crop systems, and the establishment and management of alfalfa-bermudagrass mixtures in the Southeast. Attendees expanded on their knowledge on extending the grazing season, use of temporary electric fencing, and soil health in the classroom portion of the program. Participants also had the opportunity to engage in hands-on demonstrations in the afternoon related to using temporary electric fencing to improve grazing system efficiency. A post-program survey was conducted with participants (n = 45 respondents; 72 registered attendees) to evaluate potential application and impact of the program information on Alabama farms. While the majority of participants had more than 20 years of experience in the forage/hay industry, the next largest group was new and beginning farmers (36%), which illustrates an emerging area of educational need. Attendees indicated that 88% planned to implement one or more of the forage management practices discussed at the meeting in their operation in the next 12 months. Participants ranked the three most useful topics as use of temporary fencing (28%), new technologies in grazing management (21%) and soil health (18%). The total economic impact of this program was $410,683, and participants estimated an average of $58 savings per head of cattle from the information provided. Management of 14,577 acres and 7,008 head of beef cattle will increase with the information provided. Results indicate that combining field days and in-classroom learning experiences help solidify and demonstrate new technologies in forage management to stakeholders, and is a sustainable program model for the future.

WINTER SUPPLEMENTATION SEMINAR

*Thompson, D.[1]
[1.] Agriculture Extension Agent, UF/IFAS, Arcadia, FL, 34266

The Winter Supplementation Seminar was presented by the UF/IFAS South Florida Beef Forage Program and was hosted by the Arcadia Stockyard. This program was designed to provide beef cattle operators with the knowledge and tools to economically and efficiently manage nutritional requirements of the cow herd. Using the stockyard as a venue for programming allows livestock agents to relay important information to producers in a setting that they are comfortable with and in a location that they will come to more readily than a local extension office. This seminar featured Extension Specialists from the University of Florida and industry experts speaking about supplementation for a beef cattle herd in preparation for the winter and animal traceability. Topics included: troubleshooting mineral supplementation, seasonal forage deficits and animal traceability. The stockyard sponsored a steak dinner at no charge to the participants attending the program. This seminar was attended by fifty producers from DeSoto and surrounding counties. Surveyed participants expressed a 91% increase in knowledge gain on the topic of mineral supplementation as a direct result of attending the seminar. There was also an increase in knowledge gain of 74% for seasonal forage deficits and of 66% for animal ID and traceability. As a result of the information presented during the program, 54% of surveyed participants stated that they plan to change an existing practice or begin a new one. All participants indicated that the seminar was beneficial and would attend similar sessions in the future. Producers that address nutritional needs of the cow herd will maintain body condition in the cow herd and improve productivity.

REACHING ARIZONA RANCHERS WITH INFORMATION FOR THEIR WORKING EQUINES

*Greene, B.[1]; Wright, A.D.[2]
[1.] Extension Equine Specialist, University of Arizona Cooperative Extension, Tucson, AZ, 85721
[2.] Livestock Area Agent, University of Arizona Cooperative Extension, Willcox, AZ, 85643

Arizona cow-calf operations (ranches) graze cattle on large tracts of public land, often in terrain that is inaccessible by truck or off-road vehicle. These operations rely on their working ranch horses to gather and work their cattle throughout the year. While ranchers are very familiar with vaccinating their cow herds and calves for disease, many are unaware of the potential economic losses they could suffer if their working ranch horses fall ill. Veterinary bills, lost work, or the cost of replacing a well-trained horse can significantly influence a rancher's bottom line. The basic cost of treating one horse with a transmissible disease can range from $200 for the first veterinary visit to thousands of dollars. If a disease passes

through the herd, this could cause enough financial strife to significantly impact the bottom line, even if there is no loss of equine life. Make that a zoonotic disease (e.g. Vesicular Stomatitis, Rabies) and a whole new layer of liability and costs are added, especially if those diseases are transmitted to his cow herd. A rancher's rabid horse in Santa Cruz County was transported to a veterinary clinic in Phoenix with "neurological symptoms". By the time they diagnosed rabies, approximately 20 people had been exposed, and each required prophylactic medical care. Had this horse been vaccinated for rabies, it would have incurred no additional costs for medical care and twenty individuals would have been spared expensive and painful medical intervention. These ranchers are very capable of administering their own vaccinations to their horses if given the proper information, but often do not attend events gear exclusively to horse owners. By incorporating equine information into rancher events, we have been reaching these individuals, who often own herds of 5 to 10 horses. Rancher behavior changes can improve the bottom line of the rancher, as well as the health and welfare of the working ranch horses. Following some equine events specifically targeting ranchers, many participants indicated they would begin vaccinating or alter their vaccination schedule for their working horses.

Early Career Development

TOP 10 GOALS FOR EDUCATORS WITHIN THEIR FIRST 5 YEARS

*Lindberg, H. M.[1]
[1]. Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

In order to be a successful early career agricultural Extension educator or agent, new educators must develop many technical, diagnostic, and technological skills. New educators must navigate many new stakeholder relationships and be able to identify how to best serve the needs of the community. New educators will need to develop needs assessments and evaluation techniques in order to form a baseline for the rest of their career. After accomplishing my 5th year as a Greenhouse and Nursery Extension Educator at Michigan State University Extension, I will share my experiences and discuss the top ten goals and skills that I have developed as a guide for early career educators.

YOU, TOO, CAN PUBLISH AN ARTICLE IN THE JOURNAL OF NACAA

*Stivers, L.[1]
[1]. Editor, Journal of NACAA, Penn State Extension, Washington, PA, 15301

One of the most valuable, gratifying and unassailable things that you can do to build your resume and establish yourself as a scholar in the field of Extension is to publish in a peer-reviewed journal. Even if you have never published a paper before, it may be closer to your reach than you realize. Practically any successful Extension professional is conducting research or programming that has the potential for publication in the Journal of NACAA. This facilitated discussion will cover identifying article ideas, planning for successful publication, where to find assistance, what reviewers are looking for, and navigating the online submission process.

UTILIZING TRADITIONAL NEWSLETTERS TO AID IN THE ESTABLISHMENT OF RELATIONSHIPS AND PROGRAM AWARENESS FOR YOUNG AGENTS

*Waters, K.[1]
[1]. Ced/agriculture Agent, University Of Florida, Bonifay, FL, 32425

Dynamic demographics in rural agricultural settings make communication with clientele a challenge. The increasing average age of producers in rural agriculture coupled with limited internet access limits the effectiveness of electronic communications. Yet, it is still critical for early career development to establish a functional channel of communication with clientele to build relationships and program awareness. Classically, this has been done through a printed newsletter, but with common budget restraints there is rarely funding for the production of a newsletter. Objectives: The objectives of this newsletter model are to 1) develop an effective channel of communication between the producers and the new/early career agent while building a relationship with producers, 2) increase programming awareness and participation, while providing a platform for educational materials to be distributed and 3) develop a model to be used in early career development that would allow for classic newsletter production to be a viable channel of communication. Methods: A bi-monthly printed newsletter is distributed via mail to clientele with a focus on agricultural production topics, programming awareness, and agent-to-client relationship establishment. To support the cost of the newsletter production, sponsorships were made available for each of the newsletter pages. Results: Since the newsletter's establishment in 2016, the agent has published 19 issues and distribution has totaled 5,224. From 2016 to 2018 the subscription base grew from 40 to 598 clientele. Sponsorships totaling $5,250 supported the increase in subscriptions over the two-year period. A sample (36) of the clientele, and as a result of the newsletter, 97% reported increased awareness of programming, 96% reported knowledge gained from content, 100% reported they felt it was the best means of communication in the county, and 74% reported that it resulted in them having a stronger relationship with their new agent. Conclusion: Over the first three years of the agent's career, the newsletter has been established as an effective, recognized channel of communication that has increased program awareness, while helping to establish relationships and credibility with clientele. The sponsorships have resulted

in financial program enhancement, enabling the production of a newsletter that would have been otherwise unaffordable.

Horticulture & Turfgrass

ESTABLISHING AND MAINTAINING A COUNTY BASED PLANT AND PEST CLINIC

*Barrett, E. E.[1]
[1.] Assistant Professor, Ohio State University Extension, Canfield, OH, 44406

A county based plant and pest clinic can be a valuable service, a teaching tool for volunteers and an effective marketing tool for extension. Diagnosing diseases, identifying plants and identifying insects can be a great method of teaching for the public as well as for volunteers. Through participation, volunteers learn valuable searching skills, diagnostic skills and communication skills. The public promotions for the clinic and one-on-one work with clientele can be a way of increasing participation in events and programs offered by extension. In addition to volunteers, buy in from local office staff and effective connections to county, regional and state experts are must-haves in operating a successful clinic. This presentation will share six years of data as well as lessons learned in growing a clinic from just 378 contacts to over 900 in just five years. Sample templates and other materials will be provided for download to use in implementing procedures anywhere in the country, as developed and perfected for use in current clinic operations. A list of clinic supplies preferred by volunteers will be part of the information shared. The perspective of volunteer participation will be explained by a volunteer that leads the current clinic in Mahoning County, Ohio. He will join the presentation virtually to share perceptions from the view of the volunteers leading the efforts to expand extension's presence in the community. The presentation will outline strategies for success, templates for training volunteers, recruiting volunteers, dealing with difficult samples, developing forms, implementing procedures and more.

GROWTH AND DEVELOPMENT OF OHIO'S HOPS INDUSTRY THROUGH INDUSTRY, RESEARCH AND EXTENSION COOPERATION

*Bergefurd, B.[1]
[1.] Extension Educator, Ohio State University Extension, Piketon, OH, 45661

The Ohio State University Extension (OSU) hop team began working to bring commercial hops production back to Ohio in 2013 to capture an estimated $30 million spent by Ohio›s 240 craft brewers to import hops. This high value crop, once commonly grown across Ohio, was pushed out by pest and disease pressure in the early 1900's. However, using improved Hop Integrated Pest Management (IPM) tools, OSU is conducting education and research to make hops an economically viable crop again. The authors installed three research and education hop yards at OSU research farms in northern and southern Ohio to conduct field research trials and to train new growers. Research and education programming being conducted is evaluating innovative production techniques, insect and disease control methods, harvesting, processing, and marketing techniques that can be adopted by Ohio growers. We identified key arthropod pests diseases and have developed management strategies and disseminated our findings to the public through Extension County based outreach techniques such as workshops, annual state Conference & Trade Show and field days. We published Extension fact sheets, print media, radio, social networking, websites, bulletins, and an email list. Results of this project include 120 acres of hops now planted in Ohio as of 2017, an Ohio Hops Growers Association with 100 members has been formed and Ohio craft brewers are now purchasing approximately $1 million of hops from Ohio growers.

EDUCATIONAL PROGRAMS AND APPLIED RESEARCH PROJECTS FOR WINE GRAPE GROWERS IN OHIO

*Gao, G. Y.[1]
[1.] Extension Specialist And Associate Professor, Ohio State University South Centers, Piketon, OH, 45661

Wine grape production in Ohio has been gaining popularity during the last 10 years. There are currently 290 wineries in Ohio and more applications for winery licenses are being submitted and reviewed each month. The strong demand for Ohio grapes caused by a dramatic increase in the number of wineries and limited acreage of grapes grown in Ohio has created a major shortage of Ohio grapes and a great opportunity for new and existing grape growers. Due to the devastating effects of two "Polar Vortexes" in 2014 and 2015, we planted quite a few super cold hardy grape cultivars from Minnesota and New York in search for commercially viable cultivars for wine grape growers, and installed a high tunnel over some of our grapes for winter protection, in our research and demonstration vineyards. The educational programs we offered were "Ohio Blueberry, Bramble, and Wine Grape Workshop," "Super Berry and Wine Grape Field Night," and "Southern Ohio Grape and Wine Analysis Workshop." I am a member of the conference planning committee for the annual "Ohio Grape and Wine Conference," which draws about 230 attendees each year. I also visit grape growers in southern Ohio and sometimes beyond to give them advice on fertilization, pruning, canopy management and pest control. I also write articles in the Ohio Grape Electronic Newsletter. Our wine grape research projects and extension programs are supported by a grant from the Ohio Grape Industries Program.

VARIETY SELECTION FOR PERSONAL SIZE WATERMELONS

*Barrett, J. J.[1]; Johnson, John David[2]
[1.] Ag & Natural Resources Extension Agent, Wvu Extension Service, Parkersburg, WV, 26101
[2.] Ag & Natural Resources Extension Agent, WVU Extension Service, Cottageville, WV, 25239

Personal size seedless watermelon have great profit potential with small farmers growing vegetables. They offer an attractive alternative for the consumer that has limited refrigerator space or for small families. In addition to the smaller size, they also have a thinner rind, which means more edible flesh. These personal size watermelon have great potential at roadside stands and farmers markets for profit. This research evaluated six varieties of personal size seedless watermelons for yield, fruit quality and taste grown. The sugar content was also studied measuring brix values. Trial was set up inside a high tunnel using a randomized block design with three replications and a pollinator variety. Seeds were started in a greenhouse and transplanted in July. Plants were grown on an eight foot trellising. Data was collected including marketable and unmarketable fruit, inside fruit color, weights, rind thickness, and brix value. A taste test was conducted for all varieties. Varieties were evaluated on yield (weight and number of melons), rind thickness, and sweetness with a refractometer. Varieties all has a good, sweet taste to connect with consumers. Four varieties had high yields including Extazy, which performed well and is becoming a standout variety for producers. Serval had the highest number of marketable fruit. Based on this research, some varieties such as Red Delicious do not merit planting. The personal size watermelon variety trial has provided valuable production data to assist vegetable producers to make more informed choices to improve profitability for their farm business.

EDUCATE BEFORE YOU REGULATE: COLLABORATION BETWEEN THE FDA, USDA, NASDA, EXTENSION AND STATE PARTNERS

*Melendez, M. V.[1]; Kline, W.L.[2]; Chapin, T.[3]; Danyluk, M.[4]; Gunter, C.[5]; Tocco, P.[6]
[1.] Agricultural Agent, Rutgers Cooperative Extension, Trenton, NJ, 08648
[2.] Agricultural Agent, Rutgers Cooperative Extension, Millville, NJ, 08332
[3.] Biological Scientist, University of Florida, Lake Alfred, FL, 33850
[4.] Associate Professor, University of Florida, Lake Alfred, FL, 33850
[5.] Associate Professor, North Carolina State University, Raleigh, NC, 27695
[6.] Extension Educator, Michigan State University, Jackson, MI, 49202

The FDA Food Safety Modernization Act Produce Rule (PSR) went into effect on January 26, 2018 for the largest fresh produce growing operations. The regulation will impact most fresh produce growers in the United States by 2020. The FDA has agreed to "Educate Before You Regulate" implementing the On-Farm Readiness Review program rather than jump right into regulatory inspections. The 2018 growing season will focus on voluntary educational visits to farms by State Partners, the FDA and trained Extension in the state. Regulatory inspections will begin in 2019.

To prepare for On-Farm Readiness Reviews to be conducted in each state training workshops are being conducted nationwide. These On-Farm Readiness Review trainings began in January of 2018 to train the FDA, the State regulators, and Extension personnel on how to conduct an On-Farm Readiness Review. The trainings are lead by the On-Farm Readiness Review Extension Development team. Data is being collected to evaluate the On-Farm Readiness Review training workshops and actual On-Farm Readiness Reviews.

The On-Farm Readiness Review toolkit contains several parts, including an exemption questionnaire to determine if any or all parts of the operation could be excluded from the PSR, a PSR decision tree to determine the sections of the tool that pertain to the operation, FSMA factsheets, and the On-Farm Readiness Review resource document. The On-Farm Readiness Review resource document consists of 12 sections that refer to each requirement of the PSR.

After conducting the On-Farm Readiness Review the On-Farm Readiness Review assessors will conduct a final meeting to highlight both positive aspects of the operation and high priority areas for improvement. No documentation of the On-Farm Readiness Review is kept by the assessors; any notes taken during the On-Farm Readiness Review will be left with the grower/harvester/packer.

After completing a PSA training, voluntarily participating in an On-Farm Readiness Reveiew, and following up with any additional technical assistance, each operation should be ready for a regulatory inspection which are anticipated to begin in Spring 2019.

PLACING VALUES ON PEST EDUCATION PROGRAMS

*Atkinson, M.[1]; Glenn, M.[2]
[1.] Environmental Horticulture Agent, University Of Florida/ ifas Manatee County Extension, Palmetto, FL, 34221
[2.] Commercial Horticulture, University of Florida/IFAS Manatee County Extension, Palmetto, FL, 34221

When reporting on educational programs many values can be calculated, such as, economic values, value of knowledge, and behavior change values.

Getting the latest research and information to pesticide applicators can be challenging. Many do not focus on continuing education units (CEU) until they receive a renewal notification

and some wait even longer. Waiting until this time typically restricts the type of CEU offerings available and many will take whatever they can get which is often an exam preparation class, which they may have already taken, several times.

Two agents have collaborated to offer a bi-monthly CEU program titled Hort Talks. Each four-hour event offers CEUs for at least seven different pesticide licenses. The agents work together to find researchers and other industry experts with current and relevant information. To report the impacts of this program the agents had to identify the valves associated with the education.

The clientele has become accustom to the consistent CEU offerings and many are opting to attend the Hort Talk events verses the exam preparation classes. Some applicators who previously took the same class year after year for their CEUs are now receiving information on new issues that they see in the landscape and nurseries and are finding value in the knowledge obtained in these events. This value of knowledge can be reported in the form of applicator's success stories discussing solving problems using the education they received.

We are all encouraged to report economic impacts and/or community resource development indicators. The economic value of certification is estimated to be $1,793/certification credit (Young, Doug, Ramsey, 2011). Hort Talk events are attended by 50 applicators on average who are there for four hours or $7,172 per person worth of certification credit, or $358,600 total value realized by applicators per event.

Behavior change values can be harder to tease out as it takes follow up data to obtain if behavior was changed. Often finding reductions to things like chemical applications, application of irrigation, and fertilizer applications and putting a value to the reduction can give an assessment of these changes.

CREATING AN EFFECTIVE MASTER GARDENER SPEAKERS BUREAU

*Cooper, C.[1]
[1.] Extension Agent Ii, Ut Extension, Memphis, TN, 38120

The Memphis Area Master Gardeners Speakers Bureau was begun as a means to fulfill the educational mission of the Extension Master Gardener program by providing the gardening public with a diverse group of speakers and horticultural programs at no cost. The speakers are provided with tools (projectors/screens), proper support, and education through PowerPoint instruction and mentoring to assist them with the design and implementation of their individual presentations. In 2015, 130 programs reached 2,934 people. In 2016, 123 programs reached 2,617 people. In 2017, 111 program were provided to 3,087 people. These accomplishments are due directly through the hard work and determination of 35 to 40 speakers and 4 committee members.

INTRODUCTION TO TREE IDENTIFICATION

*Dimond, J.[1]
[1.] Agent, Tennessee State University Cooperative Extension, Covington, TN, 38019

The purpose of this educational program was to increase the knowledge of trees and their identification to interested citizens in the West Tennessee area. I have been a member of the state Tennessee Urban Forestry Council and its West Tennessee Chapter for many years. I teach tree identification to the Chapter's Urban Forestry Advisor class using live trees in an outdoor classroom. As an Extension Agent, I was asked to provide a program on tree identification by my county and several other counties in West Tennessee. The power point presentation I developed covers how to identify a tree by its leaves using leaf shape, arrangement, anatomy, margins, vein patterns and texture. I then go over different identification characteristics of bark, buds and branching. The next section reviews fruit types and flowers. I then talk briefly about fall color. The class ends with the live samples I bring of various trees for students to have the benefit of both classroom and real life experience identifying trees. I bring many examples of plant identification books for participants to review to determine what best suits their style of tree identification.

CONTROL STRATEGIES FOR CRAPEMYRTLE BARK SCALE AND POSSIBLE IMPACTS ON BENEFICIAL INSECTS

*Miller, L. M.[1]
[1.] County Extension Agent-CommercialHorticulture, Texas A&m Agrilife Extension, Fort Worth, TX, 76101

Crapemyrtle bark scale(CMBS) came to the attention of Extension Entomologist Dr. Mike Merchant in 2004 when a landscape service provider in Richardson, Texas asked him to look at a difficult to manage scale insect on one of the most popular landscape plants in the Southern half of the United States, the crapemyrtle, Lagerstroemia spp. Initially thought to be Azalea bark scale, Eriococcus azalea, mysteriously feeding on crapemyrtle, it was eventually confirmed to be a new invasive pest in the United States, Crapemyrtle bark scale, Eriococcus lagerstroemia, that feed on crapemyrtles and pomegranates in its native China, Japan, and Korea. Over the past 14 years and over the course of many trials, we've learned both effective methods for chemical control and a great deal about the relationships between these scale pests and beneficial lady beetles as well as the more about the importance of crapemyrtles as pollen sources for a variety of beneficial insects including honeybees. Meanwhile, CMBS continues to spread where ever crapemyrtles are bought and sold and has infested our native American Beautyberry, Callicarpa americana. This presentation features what works and what doesn't in managing CMBS and what precautions are needed to protect pollinators and beneficial insects.

HOPS IN VIRGINIA: A CASE STUDY ON EXTENSION'S ROLE IN EMERGING ISSUES

*Siegle, L.[1]
[1.] Extension Agent, Virginia Cooperative Extension, Amelia, VA, 23002

Extension faculty are uniquely positioned to identify emerging issues in industries and to coordinate responses leading to long-term, meaningful impacts. In Virginia, Extension faculty experienced the opportunity to support the emerging Virginia hops industry nearly from its inception, ultimately shaping the way growers now make decisions and gather information. In Virginia, interest in hops grew in conjunction with the rapid expansion of the state's craft brewing industry. Hop production in Virginia at that time was already challenging due to tough environmental conditions and diseases, a dearth of region-specific resources, and the absence of commercial production and processing infrastructure. Around 2013, a team of agents and specialists took notice of a small but growing Virginia hops cooperative, and this team soon formally met with a core group of growers to build a list of needs for the emerging industry. Faculty initiated long-term partnership with this grower cooperative to provide support, ongoing needs assessment, and outreach; meanwhile, small-scale grower numbers increased considerably. Agents and specialists presented educational meetings, provided industry information to the media as the industry gained traction, fielded dozens of questions each year from beginning and prospective growers, and initiated an annual grower survey to better track industry progress and provide feedback to stakeholders. In response to direct requests from growers, Virginia Cooperative Extension also developed a hops soil testing code, a hops analysis service, a hops pest management guide, an Extension hops webpage aggregating regional resources, and numerous presentations and factsheets for growers. Campus specialists also established hop research programs and projects. These efforts culminated with the development of the annual South Atlantic Hops Conference, a collaboration between Virginia Cooperative Extension faculty, North Carolina Cooperative Extension faculty, and the regional industry. From 2016-2018, the conference has brought high-quality commercial production information into the state for crowds of 200-300 growers. While many industry challenges remain, most growers now readily utilize Extension in hops decision-making processes. Through Extension's reaction to the formation of a new industry, hop growers are now equipped with services and resources essential to their success in a small-scale production state where resources would be otherwise limited.

MASTER GARDENER MENTORS PROVIDE MULTI-LEVEL SUPPPORT FOR COUNTY AGENT

*Stebbins, T. C.[1]
[1.] Extension Agent III, University Of Tennessee, Chattanooga, TN, 37416

Master Gardener (MG) volunteers have various backgrounds with diverse skills. These talents, once identified, can be a huge advantage for the County Agent to empower volunteers to contribute to effective MG Programs. The purpose of this presentation is to provide numerous examples of successful methods used by MG mentors in Hamilton County, Tennessee in conducting MG intern classes. About fifteen mentors meet and organize prior to the new classes each year. They coordinate and plan closely with the County Agent. They assign each other tasks that help each class go smoothly. They are in charge of the class basics such roll call, handouts, snacks, door prizes. Other mentors introduce projects and volunteer opportunities to interns. They answer intern questions and guide them through the classes. Several MGs facilitate hands-on enhancement classes for the interns. This support enables the County Agent to conduct two classes (night and morning) each year. Interns are also encouraged early in the class to introduce speakers, talk about their volunteer efforts, write for newsletters and bring food. These involvements develop friendships and class camaraderie. Interns gave this system high praise in their evaluations. From 2015-2017, an average of 54 hours of volunteer service was given by active interns their first year.

THE GEORGIA MASTER COMPOSTER PROGRAM: INCREASING SMALL SCALE WASTE REDUCTION AND EDUCATION

*Tedrow, A.M.[1]
[1.] County Extension Coordinator, University Of Georgia, Athens, GA, 30606

Master Composter programs have been developed nationwide, with a model similar to the Master Gardener program. As part of this movement toward more efficient waste management, University of Georgia Extension developed and implemented a Master Composter program in 2011. This program enables Georgia residents to learn research-based composting techniques and spread this information through volunteer opportunities. The program includes lectures by professors and experts, hands-on learning and field trips. Hands-on activities during the program include building vermicomposting systems and backyard composting bins. During field trips, students tour backyard, community garden, small farm, and commercial composting facilities. To culminate the course, each student prepares an educational project, display, or activity to present to the class. These projects are utilized during volunteer opportunities

and are an ideal opportunity to gain teaching experience.

Upon course completion, Master Composters volunteer in their community and have widened the efforts of UGA Extension, fulfilling composting education requests and fostering relationships with community groups. Volunteers lead composting demonstrations for home gardeners, build compost bins at schools, and staff "Ask a Master Composter" booths at local farmers markets and community events. The Georgia Master Composter Program creates new visibility for Extension. Master Composters range from 20 to 70 years of age and include small farmers, college students, commercial composting staff, entrepreneurs, parents, and homeowners interested in vegetable gardening. Over 50% of Master Composters were unfamiliar with Extension prior to participating in the program. Master Composters continue to broaden the Extension network by generating new partnerships.

IMPROVING AVIATION SAFETY WITH GRASS RUNWAYS

*Brown, S. C.[1]
[1.] Ag/hort & Natural Resources Agent, University Of Alaska Fairbanks, Palmer, AK, 99645

Because of its remoteness and lack of road infrastructure, Alaskans travel by air more frequently than any other Americans. Much of this travel takes place from small non-paved gravel airstrips. Takeoffs and landing commonly kick up rocks that cause significant damage to propellers, engines, tires and airframes. This contributes to the fact that Alaska also leads the nation in the number of aviation accidents. To reduce this damage and increase aviation safety, the University of Alaska Fairbanks Cooperative Extension Service developed a demonstration turf runway near Talkeetna, Alaska. Properly selected and managed turf greatly reduces rock damage to airplanes by stabilizing the stones. The purpose of this demonstration site was to educate airport owners/managers on the proper ways to grow turf in the arctic and sub-arctic. Turf production for Alaskan runways faces different challenges than other forms of turf production. First, a typical runway will encompass an area of over 75,000 square feet. Topsoil needed for such a large area is quite expensive and relatively rare in Alaska, so grass cultivars that thrive in poor soil and/or gravelly conditions are necessary. Second, cultivars are needed that require little post-establishment fertilization and management. Red fescue (Festuca rubra) was the species of choice with the cultivars of Arctared and Boreal being most appropriate for Alaska. An additional benefit of grass is that it reduced dust produced when taxiing. The University of Alaska Fairbanks Cooperative Extension partnered with the Federal Aviation Administration (FAA) to create runway turf initiatives across the state. It is estimated the program saves airplane owners several million dollars annually.

COLORADO BEEKEEPER MENTORSHIP PROGRAM PILOT PROGRAM

*Jones, K. M.[1]
[1.] County Director, Colorado State University Extension, Salida, CO, 81201

The past decade has shown significant changes in beekeeping. In 2006, the beekeeping industry was alerted to Colony Collapse Disorder, a mysterious disorder in managed hives where 30-90 percent losses were reported. Through reporting of these large colony losses in the popular media, the public became even more aware of the importance of pollinators in our food supply and ecosystems. A new generation of hobby and part-time professional beekeepers was born. The number of new beekeeping clubs and individual memberships in state beekeeping associations continues to grow nationally, and in the Upper Arkansas Valley in central Colorado.

Chaffee County Extension Director Kurt Jones created an official volunteer program entitled the Colorado Beekeeper Mentorship Program with the aim to recruit and train a cadre of volunteers who could work with novice beekeepers and promote scientifically-based beekeeping and integrated hive management principles. Volunteers were selected based on an application and screening process which included reference checks, criminal and motor vehicle histories, interviews, and beekeeping experience.

Upon admittance into the program, volunteers participated in a seven-session course. Researchers, extension specialists, extension agents and experienced beekeepers taught classes aimed at mentoring novice beekeepers. Subjects included starting the apiary, equipment needs, safe handling and establishment of bee hives, disease recognition and abatement, bee nutritional needs, high altitude plants, seasonal management needs, and the art of mentorship. The Colorado Beekeeper Mentorship Program was sponsored by CSU Extension and Western SARE with assistance from the Central Colorado Beekeepers Association.

The 2016 program graduates reported outreach activities including coordination of local beekeeper association educational activities, and one-on-one hands-on mentoring of some local beekeepers. One of last year's graduates serves on the local NRCS Conservation Board, and is involved in a project to create additional beekeeper habitat in conjunction with the local Farm to Table farm, which provides fresh produce for area food banks and kitchens. Creation of pollinator habitat in the fringes will help with soil stabilization and hopefully will provide honey as a staple to compliment the produce outreach. Another 2017 graduate has recently been elected president of the local beekeeping club, and is offering high quality educational programs for the general public and for club members.

More than 115 people participated in beekeeping educational programs offered by CSU Extension in Chaffee County in 2016, and an additional 102 were trained in 2017. All of the participants have reported learning about sustainable hive

practices. Demand is high to repeat the Colorado Beekeeper Mentorship Program in 2018 locally. Three additional counties have also expressed interest in implementing the Colorado Beekeeper Mentorship Program (Boulder, Adams and Mesa County), and eight extension agents have expressed interest in attending an in-service program in 2018 should one be offered (planned for Salida and Fort Collins, CO). This presentation will cover the details of the Colorado Beekeeper Mentorship Program with emphasis on how agents can replicate this program in their home counties.

TESTING DROUGHT TOLERANT NATIVE GRAPE AS ROOTSTOCK FOR WINE PRODUCTION

*Robinson, M. L.[1]; O,Callaghan, Angela[2]; Tamara Wynne[3]
[1.] Horticulture Specialist, University Of Nevada Cooperative Extension, Las Vegas, NV, 89123
[2.] Horticulture Specialist, University Of Nevada Cooperative Extension, Las Vegas, NV, 89123
[3.] Research Associate II, University Of Nevada Cooperative Extension, Las Vegas, NV, 89123

When most people think about wine grapes and wine production, they think of agricultural areas such as the Napa Valley in California, not the Mojave Desert and Las Vegas. However, in cooperation with UC Davis and the main campus of UNR in Reno, the University of Nevada Research Center and Demonstration Orchard located in North Las Vegas, Nevada began a four-year program testing native drought tolerant root stock. The purpose of the research is to determine whether wine grape scions will grow on native root stocks, what kind of vigor they will demonstrate and if desirable grapes can be produced in the desert with less water consumption and fertilization. The Research Center, in cooperation with UC Davis, obtained over 100 grafted wine grape liners for this research project. Two varieties of wine grapes (Syrah and Columbard) were grafted onto five rootstocks each (their own roots, 140Ru, Ramsey, 1616, and the native Vitis riparia). The newly grafted liners were planted in June 2016 when temperatures rose to 110° F. The growth has been phenomenal with fruit production on some vines the first year. During fall 2017 stomatal conductance was measured and winter 2018 dry weight of pruned vines were tested with encouraging results.

FREE FARMERS' MARKETS AT SALT LAKE COUNTY SENIOR CENTERS

*Wagner, K. M.[1]
[1.] Horticultural Faculty, Utah State University, Salt Lake City, UT, 84114

Nearly 15% of U.S. seniors face the risk of hunger and undernourishment but seniors often receive less hunger assistance than other age groups (The State of Senior Hunger in American in 2015). Approximately 15 percent of Utah seniors face the threat of hunger, and over 50,000 seniors reported that they are currently struggling with hunger (U.S. Census). Seniors comprise approximately 10 percent of Salt Lake County's total population. In 2016, Salt Lake County Master Gardeners began disseminating locally grown produce at Salt Lake County senior centers. After visiting 18 centers in 2016, the nine 'neediest' centers were identified with guidance from Adult and Aging Services which manages senior centers in Salt Lake County. 'Need' was established from socio-economic status of clientele and average number of seniors per center that participated in the program. Participating seniors could 'shop' for seasonal fruits, vegetables and herbs to take home free of charge.

In 2017 volunteers grew and harvested over 3,800 pounds of fresh produce to disseminate to Salt Lake County seniors at 35 free farmers markets. The approximate value of the produce was nearly $10,000, and 1,520 seniors were provided with fresh produce. Feedback surveys from participants found the free produce helped them save money at the grocery store (97% agreed), increased their consumption of fruits and vegetables (94% agreed) and contributed toward a healthier diet (99% agreed). The program will be continue and expand in 2018 to increase and diversify produce disseminated at the markets; for example, ethnic crops will be grown to supply 'New American' seniors at centers that service ethnic communities.

Leadership & Administrative Skills

ENGAGING LEGISLATORS AND THEIR STAFF THROUGH COUNTY TOURS

*Bruynis PhD, C. L.[1]; Bruynis, Kathy[2]
[1.] Associate Professor, Extension Educator & County Extension Director, Ohio State University Extension, Chillicothe, OH, 45601
[2.] Extension Educator & County Extension Director, Ohio State University Extension, Hillsboro, OH, 45133

As part of a statewide U.S. Congressional Aide event organized by Extension Administration, two County Extension Directors jointly developed a daylong tour for their congressman's agricultural aides. The Educators' goal was to showcase as many facets of Extension programming happening in the congressional district. The Educators started by asking the congressional aides both in Washington DC and in the local field offices to see what they were interested in learning while visiting the congressional district. Having a voice in the tour provided buy in from the aides as well as added value to them.

Local extension clientele were contacted to make arrangements for the tour stops. They were instructed that the tour would be a low key, informal event that provides an opportunity for them to discuss issues affecting agriculture and Extension while showcasing their activities and accomplishments. The clientele were also instructed on the Smith Lever Act and Hatch Act and encouraged

to mention the importance of funding these at the federal level. Clientele stated they benefited through the discussion of critical issues while showcasing their home or business.

Since extension funding comes from county, state and federal levels in our state, we also took advantage to use these tours as a chance to connect local political leaders and our congressional aides during an invitation only luncheon. This networking lunch allowed a meaningful dialogue to occur among the congressional aides, local political leaders, farmers and 4-H members.

Feedback from the congressional aides indicated the tour was very beneficial in helping them understand the scope of agriculture as well as the reach of Extension in the local community. Local clientele and political leaders were grateful to build a relationship with congressional aides and have continued to communicate with them following the tour. This successful program has occurred in for the past three years and plans are being made for 2018.

CHARTING THE NEW ERA OF EXTENSION IN PENNSYLVANIA

*Madden, M.[1]; Mckee, S.A.[2]
[1.] Extension Client Relationships Manager, Penn State Extension, Towanda, PA, 18848
[2.] Extension Business Operations Manager, Penn State Extension, Huntington, PA, 16652

As Extension professionals, we believe all people should have access to science-based information and education. That is both the legacy and intended future of Extension across this country. As an outreach arm of a land-grant institution, we are challenged and expected to remain relevant and available to our stakeholders. Several years ago, Penn State Extension aggregated the recommendations of private-sector advisors to address the ways we can enhance our value and build our audiences in a contemporary world. Based on the model devised, we embarked on a bold mission to refashion our future and are taking significant steps to dramatically improve the relevancy, usability, and reach of our programs and services. At the beginning of the reorganization we changed our structure to create teams of Extension educators aligned with the expertise in the College of Agricultural Sciences to focus on the needs of our customers. As the reformation progressed, we also consolidated our operational functions from the county level to multi-county areas to increase administrative efficiency and reduce associated costs. Moreover, the common district director model was critically examined and ultimately redefined. Given the nature of the position and the key demands upon it, we divided the position among a pair of professionals. One of those, the Client Relationships Manager, is to focus solely on our customers and stakeholders at the area level. In parallel, a Business Operations Manager is assigned to the area to manage the operations of the county offices working to standardize our systems and procedures including financial and risk management, human resources, program registration, and information technology. Systematically, a new digital education platform was operationalized to make good on our promise that all have access to evidence-based programming. The revamped website and the expansion of online courses (35) and short, concise "Learn-now" videos underpin the digital delivery to Extension's increasingly mobile customer. Salesforce® was implemented and integrated with a team of graphic designers, web specialists and event planners to direct and optimize our promotional campaigns and to manage our clientele interactions.

CREATING POSITIVE EMPLOYEE MORALE

*Beaty-Sullivan, S.[1]
[1.] Cea-Agri/staffChair, no affiliation given, Ashdown, AR, 71822

Administrators can affect the way people feel about their jobs and do their jobs. Bad administrators can lead to lower employee morale, higher turnover rates, lower production, distrust of administrators, and negative feelings toward the organization (Bidwell, 1957; Evans, 1967; Amend, 1970; Johnson & Bledsoe, 1974; Giegold & Skelton, 1976; Loke, 2001; McKnight, et. al, 2001; Ngambi, 2011). Ngambi's (2011) research found that there is a relationship between leadership and employee morale. In his study he found that the leadership characteristics that affected morale most were: communication, trust, and team building.

In one form or another it has been said, "People do not leave bad companies, they leave bad bosses." There are key characteristics that define a good leader with positive employee morale. Characteristics identified with good administrators and positive employee morale include vision, courage, integrity, humility, foresight, focus, cooperation, effective communication, trust, teamwork, motivating, earned recognition, constructive criticism, clear expectations, and shared organizational values and goals (Clegg, 1967; Gill, 2008; Hernandez, 2011; Rothfelder, Ottenbacher, & Harrington, 2013). Flaws or characteristics that are associated with bad administrators include arrogance, distraction, disconnection, poor supervision, and poor communication (Pater, 2013; High Plains Journal, 2015).

In the Cooperative Extension Service, administrators must be good leaders to maintain positive employee morale. Extension employees must be able to respect, trust, and have open communication with their administrative leader. Extension employees do not need to feel unvalued, micromanaged, or oppressed in their job. Their morale can affect the way they feel about their job and their job performance. If Extension employees have low morale that affects the way they serve their clientele and clientele satisfaction.

KENTUCKY WOMEN IN AGRICULTURE - RE-ENGERGIZED

*Huffman, L.[1]
[1.] Anr Agent, University Of Kentucky, Falmouth, KY, 41040

Kentucky Women in Agriculture is a non-profit organization whose mission is to empower, educate, and engage women across the Commonwealth. Each year the state leadership of KWIA recognizes the strong women who serve their family, farm, and community, by hosting an annual conference to celebrate the accomplishments of the female agrarians of Kentucky. Lindie Huffman, Pendleton County Extension Agent for Agriculture and Natural Resources joined the board and served as conference planning chair for 2017.

The conference over the last four years has seen a decline in participation and had lost strong connection/ affiliation with Cooperative Extension. Looking to re-kindle the strong ties of Extension with KWIA, Lindie became involved and was appointed to conference planning chair at her first board meeting. After surveying the membership at large and strategic planning, Lindie lead the board in revamping the conference by adding focus, purpose, and a place to recognize strong Kentucky female leadership.

Though women have always been an integral thread in the agricultural weave, they have been underrepresented in quantitative research, loan applicants, etc. It is important to unite to share the voice of women who have been the "backbone" of so many farm operations and farm families. The conference agenda, speakers, and program were developed by Lindie and utilized to excite women across the Bluegrass and entice them to share their stories and to celebrate their own strengths and successes as a "growHer", while boosting membership and finding purpose for KWIA's members. Kentucky is a "growHer" State was the common thread and theme used to bring women from across the state together to work through their personal growth, production, and professional development. The conference had focus, purpose, and power.

46 speakers were aligned to present timely topics to the women in KY agriculture, all of which who spoke for free. A full diversified, focused program of speakers lead to an increase in conference registrations from the 2016 to 2017 year. In 2016, only 56 women participated in central Kentucky. 2017 brought in 138 registrations, resulting in an inspiring meaningful conference, empowered women, and re-energized leadership. The conference was a spark to ignite the passion and fire within women to share their agricultural stories and reach out to mentor the next generation of agricultural leaders. As a direct result of conference women leadership positions have been taken with passion and drive to meet quorum for state board and a strong district networking system has been established and added regional events to the program of activities to carry on the mission of KWIA throughout the year.

THE NEXT GENERATION: EXAMINING EMERGING YOUNG LEADERS IN EXTENSION

*Simmons, N.[1]
[1.] County Extension Director And Commercial Livestock Agent Ii, UF/IFAS Extension Escambia County, Cantonment, FL, 32533

Extension is built upon quality leaders and leadership development for agents & specialists. Normally, beginning agents spend the first 1-2 years of their career establishing themselves in the community & developing programs. In the case of new, young County Extension Directors (CED's) this is neutralized for the need to provide immediate leadership and guidance to their local Extension office. Their leadership role requires that they understand the multiple components of county & state government and how the budget process works, establish agent performance evaluations, and be the face of their Extension office. A survey was administered to early career agents throughout UF/IFAS Extension who have assumed leadership roles in their counties. The objective of survey was to: 1. Evaluate the path to leadership for early career CED's in UF/IFAS Extension, 2. Observe challenges that agents have faced in their leadership roles, 3. Discuss new methods of leadership they have implemented to adapt to a changing Extension culture. Results of the survey provide a snapshot of variable career paths, leadership experiences, and challenges for early career CED's including political constraints, budget shortfalls, and personality variances in faculty & staff. Participants in this this seminar session will to be provided the tools needed to be more effective in their leadership roles by understanding how early career County Extension Directors are leading the way in the future of Extension leadership. Attendees will be asked to participate in dialogue that relates to what is being presented and how new, early career Extension leaders can implement ideas and practices from other states.

LEADERS LISTEN. IMPROVE YOUR LISTENING SKILLS TO ENHANCE YOUR LEADERSHIP ABILITIES

*Wilber, W.[1]
[1.] State Specialized Agent Master Gardener Coordinator, University of Florida IFAS, Gainesville, FL, 32611

"The single biggest problem in communication is the illusion that it has taken place." As leaders in Extension and our communities we are required to have excellent communication skills. Extension leaders are engaged in their communities but do they bring the skills for impactful communication? . The purpose of communication is not to broadcast; but to engage. This engagement requires listening. Though listening is a skill that we all think we have, perhaps we don't possess a full scope of the skill. Conscious listening as defined by David Wolf in his book Relationships that Work provide the basis for this

presentation. Empathy, respect, immediacy, warmth are some of the core conditions needed for effective interpersonal communication and are often lacking in professional settings. Civic dialog can also benefit from the trust that comes from conscious communication. In 2018 listening/communication goes beyond connecting with your clients, colleagues, peers, and community leaders face to face, it also extends to our online presence. There are common pitfalls and roadblocks that hinder communication, these barriers will be defined and effective strategies will be demonstrated and practiced in this interactive presentation. Effective communication is not a one way street, this point is made well by Stephen Covey in his book The 7 Habits of Highly Effective People in habit 5; Seek first to understand, then to be understood. This habit takes a good deal of practice to truly own; trainings such as Leaders Listen are effective in honing this skill.

REVITALIZING A LEADERSHIP PROGRAM

*Fredricks, G.[1]
[1.] Associate Professor, Washington State University Extension, Longivew, WA, 98632

One of the important roles of an Extension agent is to improved community leadership, increased civic engagement, respect and understanding of community diversity, and improved community dialogue. In 1991, the Lower Columbia Leadership Academy was formed by a group of citizens to provide training that would help people engage and inspire others. The program offered 6 hour classes once a month for eight months focused on information from sectors such as: Government, Law & Justice, Business, Economic Development, Health & Human Services, Media, Agriculture, Education and the Arts. The participants meet key players in each of these fields and learn first-hand about the issues, the challenges they face and the successes they have enjoyed.

In 2010, after successful enrollment that averaged seventeen students per class annually, attendance dropped to zero for the next three years. The Lower Columbia Leadership Academy board, looking to disband, agreed to transfer the program to Washington State University Extension in Cowlitz County. Looking to revive the program, The Extension agent held discussions with local leaders and former graduates of the program that prompted changes to be made to boost interest and broaden participation. Changes included:

- Reduced registration fee.
- Two hour classes held in evening rather than day long.
- Class presentations changed from primarily lecture to more interactive learning and student participation.
- Classes held every 2 weeks for five months rather than day long for eight months.
- Topics focused more on leadership traits that included influencing public policy, public speaking, media relations, fundraising, meeting facilitation, conflict management, and team building. .
- Solicit organizations and businesses to offer scholarships to employees.

In 2014, the first WSU Leadership Academy class was offered with an enrollment of 11 students. Classes have been held successfully every year since the start with a current class of 16 students. Annual surveys revealed graduates gained new leadership skills and the confidence that helped them move into new leadership positions at work and on community boards.

Natural Resources & Aquaculture

WOOD YOU? COULD YOU? NEW JERSEY'S WOODLAND STEWARDS PROGRAM

*Polanin, N.[1]
[1.] Associate Professor, Rutgers Njaes Cooperative Extension, Bridgewater, NJ, 08807

While NJ is mostly known as the most densely populated state in the nation, approximately 2.0 million acres of NJ is under forest cover. The NJ State Forestry Services monitors and maintains 775,000 acres of state-owned open space - an area about the size of Rhode Island. To keep these forests productive, State Forestry Services monitors biodiversity, creates wildlife habitats, suppresses pest outbreaks, and restores ecologically significant areas. But what of the remaining 1.3 million acres privately owned by nearly 112,700 non-industrial private forest owners? Recent estimates indicate that less than 10% of these privately-held forest lands are purposefully managed, despite the availability of educational programs, technical services, and the incentive of a farmland tax assessment program. With an average woodlot size of 12 acres, most own for non-timber reasons and 43% have never been commercially harvested (www.ntfpinfo.us). Initiated in 2009 and launched in 2010, the NJ Woodland Stewards Program is a collaborative effort of the NJ State Forestry Services, Rutgers Cooperative Extension, and the NJ Forestry Association. Held annually, these immersion style «in-the-woods» training programs seek to provide outreach, education, and develop leadership for the proper care and use of NJ›s privately held forests. While the focused marketing for attendees has been mainly to forest owners, a vast majority over the years have been comprised of mainly Extension Master Gardeners, Environmental Stewards, teachers, forestry association members, and those who have a love of the woods in their community. As such this program had to retool itself from the model presented in other states to one that creates a statewide network of trained volunteers who are ardent about forest stewardship and willing to reach out to NJ forest landowners, stakeholders, and the general public about the care and use of NJ forested lands for social, economic, and ecological benefits. Successful completion of the training now

culminates in assisted or self-directed volunteerism rather than an increase in management of our forest resource. Trained volunteers have assisted at state and private forestry programs across the state, collaborated at the NJ Envirothon competition for FFA students, and created newsletters and social media events to increase the public's perception and appreciation of New Jersey's forests. Challenges remain for increased volunteer participation and recruitment on an annual basis.

JUST EAT IT: AN INITIATIVE TO REDUCE FOOD WASTE IN SCHOOLS

*Rowe, A. A.[1]; Elnakib, S.[2]
[1.] County Agent, Rutgers Cooperative Extension, Roseland, NJ, 07068
[2.] Family and Community Health Sciences Educator, Rutgers Cooperative Extension, Wayne, NJ, 07470

The USDA estimates that 30-40% of the food produced in the United States is wasted, resulting in a loss of $161 billion worth of food each year. It is also estimated that 25% of US freshwater use goes to wasted food. The additional resources of land, labor, and transport should also be considered to determine the true cost of food waste. This study sought to address many of the gaps in the current research on food waste intervention programs in schools by measuring a large sample size, measuring each meal component, and randomizing the selection of schools participating. 15 Paterson, NJ, schools that cook their own meals were randomly chosen to participate in the study, with the intervention based on USDA's offer vs. serve model. Lunch food waste data collection occurred prior to the intervention, then the food service workers and lunchroom monitors were trained. Finally, the post-intervention food waste was measured. A total of 9,140 trays were measured for food waste, with 4,637 for the pre-intervention and 4,503 trays for the post-intervention. Of the food and beverages served during 60 visits to schools, 2,473 pounds were wasted before the intervention and 2,123 were wasted after the intervention. 350 pounds of food were saved, which was a 14% reduction in food waste due to this intervention. Overall, the intervention showed the impact of a food service training program on reducing food waste.

Next steps include training for the teachers and the school students, focusing on the entire food cycle. This effort will include all of the extension personnel with 4-H staff and Master Gardeners assisting in teaching kids how to grow their own food in schools with gardens, then students will learn about food waste and ways to reduce it from Family and Community Health Sciences staff, and, finally, composting will be taught by the Environmental Agent so that wasted food can give nutrients back to the garden for food production again. It is expected that implementing this food cycle training for both teachers and students will result in an even greater food waste reduction compared with only training food service workers.

USING GREEN INFRASTRUCTURE FOR NITROGEN MANAGEMENT IN THE BARNEGAT BAY WATERSHED

*Yergeau, S.[1]
[1.] Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755

This project involves the effectiveness of green infrastructure (GI) practices modified to reduce nitrogen (N) from stormwater runoff. Barnegat Bay, like many coastal areas, is experiencing problems that impair both its use and ecology. The primary issue affecting the Bay is over-enrichment by N with estimates that half of the N reaching Barnegat Bay comes from runoff. While many GI practices exist for managing and mitigating stormwater runoff, nearly all traditional GI is inadequate for removing excessive total N (TN) loads. Many of the GI practices promoted in New Jersey are estimated to remove 20% - 35% of TN. GI options targeted for N removal are needed to support efforts to improve water quality in areas like Barnegat Bay. Rutgers Cooperative Extension (RCE) of Ocean County, the RCE Water Resources Program, and Georgian Court University partnered to study N removal from GI practices to understand the implications of design variation on N removal. The presentation will focus on two projects: the testing of a rain garden designed specifically to remove N and the use of subsurface gravel wetlands and advanced bioretention systems as options for retrofitting detention basins. The designs of these GI practices include the typical dense vegetation, in which nutrients are removed by the plants' growth and root system, and the inclusion of a thick layer of gravel and an impervious liner belowground. This water retention creates an anaerobic environment to promote microbial growth, and in particular the growth of the denitrifying microbes which convert nitrate, nitrite, and ammonium to N gas, resulting in reduced N in water exiting the systems.

GRAZING MANAGEMENT SCHOOL

*Butler, L.[1]
[1.] County Extension Director/ Livestock Agent, UF/IFAS Extension Okeechobee, Okeechobee, FL, 34972

The purpose of this educational program was to deliver research based information to agriculturalists that enhances the quality of lives and encourages profitability and sustainability. Maintaining Best Management Practices allows beef cattle operators to preserve water quality while complying with government regulation. The practice of grazing has been identified as positively impacting native ranges by reducing invasive vegetation and therefore, increasing wildlife habitats. This in turn produces a symbiotic relationship between wildlife and livestock. In order to achieve these goals participants observed sound practices at two livestock operations who rely heavily on grazing to support their herds while also supporting a harmonious diverse wildlife population. The

tours highlighted good management practices, including fertilization and harvesting techniques, new grass varieties and practical applications. The classroom portion of the program included presentations from faculty on soil health, planting, harvesting, appropriate forage varieties and management, weed control, nutrition, wildlife integration and ranching economics. Of the 31 agriculturalists who attended, eighty five percent (85%) have implemented new practices or exhibited a behavior change based on the thirty nine percent (39%) increase in knowledge. Some behavior changes specified were better weed management, rotational grazing, land management improvements, buying hay in advance, stockpiling floralta, conducting an economic analysis, and use of daily supplements. The implemented behavior changes from this program can improve the efficiency of a grazing operation while maintaining Best Management Practices which will allow for compliance with regulation agencies, saving them money on water control structures and creating a sustainable environment for both cattle and wildlife.

INVASIVE WEED EDUCATION PROGRAM FOR COGONGRASS

*Holmes, D. B.[1],Bailey, M.[2]
[1.] Sustainable Agriculture/Food Systems Agent, University of Florida, Ocala, FL 34470
[2.] County Extension Director, University of Florida, Ocala, FL 34470

The purpose of this educational program was to increase understanding of management of cogongrass, an invasive weed species, while compiling a list of commercial firms that had participated in training to learn cogongrass control. Several educational methods were incorporated to help land managers understand the need for cogongrass control, demonstrate strategies for effective control and raise awareness of the general public regarding cogongrass, as it is a problem along roadsides and in vacant lots in residential areas. Several methods were used to communicate information to landowners, commercial spray contractors and suburban and small farm residents. We partnered with the Florida Division of Forestry to plan a workshop that included classroom instruction and a visible demonstration of the use of herbicides, disking and fire to effect control for land managers and commercial applicators. Educational columns were prepared for two newspapers. A brochure was developed to provide education to the general public. As a result of these efforts 22 commercial land managers attended the workshop, 11 manage over 1,000 acres. From this attendance a list of commercial contractors for referral to landowners was developed. Articles appeared in newspapers with a total circulation of 80,000. An additional workshop is planned for summer, 2018. Reduction of cogongrass requires public awareness as well as contractor training to understand and implement the long-term management

#BEECOMINGBEEKEEPERS

*Huffman, L.[1]
[1.] Anr Agent, University Of Kentucky, Falmouth, KY, 41040

The world's food supply comes mainly from 100 crops, 73 of which rely on honeybees for pollination, as stated by the United Nations Environment Program. Bee Keepers are tasked with managing the hives to ensure the success of crops, but face many challenges of successfully sustaining healthy colonies.

In 2012, The Pendleton County Agriculture & Natural Resource Extension Agent, received her first phone call of a new bee keeper looking to utilize a honey extractor. Through outreach and connecting the beekeeper to local resources, the client has expanded from 1 to 7 hives. Also, taking active leadership roles within the County Agriculture Program Council; Northern Kentucky Beekeepers Association, where she served as president; and teaching youth at various extension programming about the importance of bees.

Over the course of four years community outreach on pollinator education from Extension and the beekeeper, a strong community interest in beekeeping educational classes developed. Local beekeepers were struggling with hive management, colony collapse, swarming, etc. In response, the Pendleton County ANR Agent, developed a ten month series of educational programming to walk beekeepers through a year in the hive. The first meeting brought in 56 local beekeepers/hopeful beekeepers, of which 25% were first time extension users.

Through the process of informative classes, demonstrations, panels, and mentorship a network of local beekeepers has been established. Topics including: So You Think You Wanna be a Beekeeper; Hive Installation; Feeding the Hive; Constructing the Hive; Honeybee Citizenry; Disease Management; Honey Harvesting; etc. were presented. As a result of diverse program methods, participants forged relationships, exchanged knowledge, honed hive management skills. The network of beekeepers has additionally initiated an ad-hock shared-use equipment program, saving beekeepers an average of $650 per annum. 22% of beekeepers reported an increased rate of hive survival and 6% reported an increase in honey production.

UF/IFAS WALTON COUNTY EXTENSION HOBBY FARM: A SMALL SCALE, SUSTAINABLE DEMONSTRATION FARM UTILIZING INNOVATIVE TECHNIQUES FOR RESIDENTIAL APPLICATIONS

*Leonard, D. J.[1]; Anderson, E.[2]
[1.] Horticulture Agent, University Of Florida IFAS Extension, Defuniak Springs, FL, 32433
[2.] Agriculture Agent, University of Florida/IFAS Walton County Extension, DeFuniak Springs , FL, 32433

There is great interest among residential extension clientele in sustainable and innovative hobby-scale farming techniques. UF/IFAS Walton County Extension Agents established a hobby

farm featuring a variety of low-input food production options to provide a solution to this need. The farm is a cooperative venture featuring the expertise of Horticulture, Aquaculture/ Marine Science, 4H, and Agriculture Agents with plans to expand and include Family and Consumer Sciences. The farm initially comprised a tenth acre behind the county extension office with a terraced, in-ground traditional vegetable garden, a beehive, and a greenhouse that was occasionally utilized. Agents and volunteers installed aquaponics and hydroponics systems, honeybee boxes, a chicken coop as part of the 4H Chick Chain Program, herb garden, a raised bed system, sustainable citrus grove, muscadine trellis, shiitake mushroom structure, and berry orchard. The new facilities enabled Agents to design and conduct ongoing experiential learning workshops in 2017 featuring individual aspects of the farm (aquaponics, shiitake mushroom production, raised bed gardening, backyard beekeeping, backyard chickens, etc). Over 100 people attended the workshops, including 4 families with 9 youth participated in the 4H Chick Chain program, and over 300 walk-in clientele and participants of other programs toured the operations on the farm. Due to the success of the workshop series, Agents have taken on an intern to assist in daily farm operations and plan to expand the program by offering monthly open house events at the Walton County Hobby Farm in summer 2018. These workshops and open house events will be designed to provide education, experiential learning demonstrations, life skill acquisition, and promote the local Extension office.

THE HARDWOOD PLANTATION MANAGEMENT WORKSHOP: STRATEGY AND LESSONS LEARNED

*Self, B.[1]
[1.] Assistant Extension Professor, Mississippi State University Extension, Grenada, MS, 38901

Outreach efforts for hardwood management in Mississippi have historically focused on the maintenance of existing stands and the natural regeneration methodology necessary to promote future stands. This paradigm has shifted with the advent of hardwood plantation establishment in the Delta and other regions of Mississippi. Currently, hardwood plantations have been established on over 500,000 acres across the state. Our Hardwood Plantation Management workshop is designed to offer participating landowners site-specific recommendations for management of these stands. The workshop is held on a volunteer landowner's property and a prescription of silvicultural methods deemed appropriate to that specific property is provided. Course enrollment is limited to 15 and attendee participation encouraged. Participants pose management questions specific to their individual properties. Silvicultural issues are discussed at multiple stops designed to illustrate a variety of opportunities where landowners could potentially employ current management recommendations. To date, this course has been offered 11 times at unique locations and has had an attendance of 144. Future workshops are planned, some with the potential for establishment of demonstration areas to offer participants visual examples of a variety of practices available in the management of this stand type.

DEVELOPING RESOURCES TO IMPROVE RANCHER DROUGHT ADAPTABILITY IN THE SOUTHWEST

*Hall, A. L.[1]
[1.] Area Assistant Agent, Agriculture And Natural Resources, University Of Arizona Cooperative Extension, Globe, AZ, 85501

University of Arizona (UA) Gila County Cooperative Extension began the Reading the Range program in 2000 at the request of stakeholders to collect rangeland monitoring data in cooperation with grazing permittees and Tonto National Forest (NF) personnel. In Gila County, grazing occurs on approximately one million acres of rangelands on the Tonto NF. Reading the Range provides a critical need by providing information quantifying rangeland health and the sustainability of livestock grazing. With drought becoming an increasing concern for ranchers in Gila County UA faculty, Tonto NF personnel and grazing permittees came together to form the Rangeland Precipitation Monitoring Working Group. Feedback from this group indicated the need for tools to monitor drought and precipitation on a ranch-scale basis, which led to the creation of MyRAINgeLog and Standard Precipitation Index Explorer Tool. By integrating precipitation and drought monitoring as a new component to Reading the Range it will improve interpretation of vegetation changes. Over time, ranchers and land managers can make site specific connections between precipitation observations and vegetation data to potentially get an idea of what the conditions might look like based on a particular years precipitation. These connections will be key in understanding drought triggers and how precipitation events will influence future forage conditions, allowing ranchers to be flexible with management decisions in order to prepare for future drought conditions.

Sustainable Agriculture

UNDERSTAND YOUR ANIMAL'S PERSPECTIVE THROUGH ITS ORIGIN

*Kepler, M.[1]
[1.] Extension Educator, Purdue Extension, Fulton County, Rochester, IN, 46975

The number of people raising goats has increase dramatically since the introduction of meat goat breeds in the United States in the early 1990's. Most producers have less than 10 years of experience working with goats. Knowing the goat perspective to what it hereditary desires

will improve the experience for both the owner and goat.

Knowing where and the type of terrain in which the goat species originated will explain the needs of the goat and improve the welfare of the animal. For example goats were domesticated in the Fertile Crescent area of the world under dry conditions. Their domestication did not evolve on lush grass pastures like cattle, consequently there are goat health issues in the United States such as intestinal worms related to our increased rainfall.

Taking an origin perspective on livestock and plants can greatly enhance a growers production abilities by explaining the wants and desires of the species. Included in this discussion is the domestication route for the animal and the issues various different parts of the world present to the animals well-being. This origin type of presentation has also been used by the author in Master Gardener training and titled as "Plant Psychology."

This approach has been utilized both for producer meetings and as a training for Extension and NRCS professionals. Comments from one agency participate about the program was "Neat, neat, neat! I really enjoyed the goats! Learned a lot. Glad I came! Great Day."

There were 37 participants in the program. At least 95% of the respondents answered yes the following: As a result of this workshop, I know more about the behavior of goats and have a better understanding of how to accommodate goat needs.

TOURS PROVIDE EDUCATION IN SUSTAINABLE AGRICULTURE TO EDUCATORS, FARMERS AND CONSUMERS

*Lesoing, G. W.[1]; Ulmer, Kristen[2]; Pekarek, Katie[3]
[1.] Extension Educator, University Of Nebraska-Lincoln Extension, Auburn, NE, 68305
[2.] Extension Educator, University of Nebraska-Lincoln, Ithaca, NE, 68033
[3.] Extension Educator, University of Nebraska-Lincoln, Lincoln, NE, 68583

Three tours were conducted in the summer of 2017. The first tour focused on organic farming and local food production. Fifty people attended the tour in southeast Nebraska. This tour visited five farms, both organic and sustainable; that produced agronomic crops, vegetables and livestock. Participants saw first hand, management required for these diversified operations as farmers explained their farms. A survey following the tour indicated, n=32, 100% of tour participants gained knowledge on the tour and 66% will make changes based on what they learned on the tour.

A second tour was conducted for Extension Educators to learn about the local food system and farms that are producing food sustainably. A tour was organized specifically for Nebraska Extension. We visited farms that produce local food in southeast Nebraska, with 19 individuals participating. We visited a small diversified farm that raises pastured poultry chicken and eggs, vegetables and baked goods. The second stop on the tour was a large dairy that has produced milk locally and is recycling wastes to produce compost. A final stop was an organic vegetable farm that grows food for its own restaurant and sources other food locally. A follow-up survey question indicated 64% (n=11) are using the information they learned on the tour professionally.

The final tour visited three farms that are planting and grazing cover crops on their farms, with research being conducted to monitor their management practices impact on soil health and sustainability. Thirty farmers, ag professionals and Extension staff attended this tour.

USING SCENARIO PLANNING TO INTERACT WITH PRODUCERS ABOUT CLIMATE

*Williams, T.[1]
[1.] Extension Educator, University Of Nebraska-Lincoln, Lincoln, NE, 68528

Scenario planning is a method that dates back many years as a way to be prepared for potential events. Nebraska Extension, in partnership with South Dakota State and the Northern Plains Climate Hub, utilized this method to work with crop and beef industry stakeholders in Nebraska and South Dakota to be better prepared for the most plausible and impactful future climate scenarios in their region. We held a number of workshops across multiple locations in these states in order to bring University experts into the same discussion with producers, veterinarians, agronomists, and ag business professionals to discuss the topic of climate. The structure of these discussions allowed for large group story telling, educational presentations, and small group conversations in order to build common ground on a controversial topic. The results from these discussions provide a guide for Extension faculty to focus education and research efforts in the areas most important to the end user. At the same time, the producers were able to learn from the experts, understand their potential climate risks and begin to develop management strategies to minimize their future risk. This presentation will provide the methods used, pros and cons, as well as some of the graphics and results developed from this project.

BUILDING EXTENSION'S CAPACITY TO SERVE URBAN FARMERS

*Little, N. G.[1]
[1.] Extension Educator, University Of Maryland Extension, Baltimore, MD, 21215

Interest is high in urban agriculture, with many individuals, municipalities, non-profits and businesses launching urban agriculture ventures. These individuals and organizations engage in urban agriculture to achieve a range of lofty private and public goals: to improve their own health and economic situation, to improve food access in their communities, to create income and jobs, to beautify their communities, to educate about gardening and farming, to create a feeling of community, and to provide ecosystem services for their communities (Santos et al. 2016).

Historically, Extension has been a vital source of education and technical assistance for rural farmers. For the success of urban farmers, and for the continued relevance of Extension, we need to adapt our existing strong programs and develop new programs to serve the growing community of urban farmers.

In 2016, University of Maryland Extension appointed an Agricultural Extension Agent, based in Baltimore, MD, to focus on commercial urban agriculture. This presentation will report on the progress made so far. It will include a review of the literature on urban agriculture, preliminary results of a needs assessment of urban farmers, a report on Extension programs delivered to the urban farmer audience, and program evaluation results from those urban farmer programs.

TRAINING AGENTS IN FOOD SYSTEMS

*Strickland, J.S.[1]; Maddox, M. B.[2]
[1.] County Extension Director Osceola, UF/IFAS Extension, Kissimmee, FL, 34744
[2.] County Extension Agent IV, FCS Alachua, UF/IFAS Extension, Center Hill, FL, 33514

Situation: Often when helping farmers and ranchers a team approach will produce the best results. For far too long, agriculture agents have been focused on the production aspects with little attention to retail aspects of the products. Family and Consumer Sciences Agents are focused on the food preparation and nutrition. The critical step between production and preparation is one in which Family and Consumer Sciences Agents and Agriculture Agents can work together to better help the producer. Objective: The objective of this in-service training was to demonstrate a 100% knowledge gain in methods by which farmers and ranchers are marketing and selling their product. The target audience of FCS Agents and Agriculture Agents were taught cuts of meat, food safety, consumer preference, increasing revenue by utilizing SNAP at Farmer's Markets, and the Cottage Food Law. Outcome: Agents reported a 150% knowledge gain (n=11). The classroom instruction was reinforced by four field trips to Farmer's Markets and local farms/ranches.

MANAGING HEALTH FOR SUSTAINABILITY IN THE BEEF CATTLE HERD

*Stice, B.[1]; Butler, L.[2]; Kirby, C.[3]; Thompson, D.[4]; Wiggins, L.[5]
1. Extension Agent - Livestock Iii, UF/IFAS Extension Polk County, Bartow, FL, 33831
2. CED/Extension Agent - Livestock, UF/IFAS Extension Okeechobee, Okeechobee, FL, 34972
3. Extension Agent - Livestock, UF/IFAS Extension Manatee, Palmetto, FL, 34221
4. Extension Agent - Ag, UF/IFAS Extension DeSoto, Arcadia, FL, 34266
5. Extension Agent - Livestock, UF/IFAS Extension Hendry, LaBelle, FL, 33975

Antibiotic stewardship involves prudent use of antimicrobials, with the ultimate goal of preserving their effectiveness for serious and life-threatening illnesses in animals and humans. Responsible and sustainable beef herd management includes disease prevention and judicious use of antibiotics. Cattle operators that prevent disease outbreak through a strategic vaccination program and, when necessary, utilize antimicrobials with the consultation of their veterinarian will save unnecessary treatment dollars, reduce pain and suffering as well as minimize losses due to disease. Each year, the UF/IFAS South Florida Beef Forage Program's Herd Health Seminar addresses herd health management strategies. Nationally recognized University Specialists and Industry Professionals assist in the delivery of these programs. In 2017, the purpose of the program was to increase participant knowledge and awareness of health management practices to prevent disease and judicious treatment practices in the event of disease; and to increase adoption of management practices that will prevent disease and reduce antibiotic use. The seminar focused on addressing the topics of vaccination programs and antibiotic stewardship on the ranch. The seminar had thirty-nine participants from Central and South Florida that represented nearly 34,000 head of cattle on nearly 120,000 acres. Program evaluation through post-program surveys indicated that participants experienced a 70% increase in knowledge of vaccination program planning and a 72% increase in knowledge of antibiotic stewardship. As a result of the information presented, 62% indicated that they would adopt new management practices and/or change existing practices. Examples of adopted practices include decreasing stress in herds, evaluating and improving vaccine protocols, developing a VCPR and utilizing antimicrobials only when necessary. Cattle that are managed under a well-designed vaccination program and treated appropriately in the event of a disease will be more productive and remain in the herd longer. More importantly, preventative measures for disease and judicious use of antibiotics will preserve the availability and effectiveness of antibiotics for future generations.

WINTER FEEDING HONEY BEES

*Despain, D. W.[1]
[1.] Assistant Extension Professor/County Director, Utah State University, Delta, UT, 84624

There is a known fact that bees work for free and make honey; well, that fact may not be entirely true when it comes to bees providing a source of sweet flavor. Honey bee research is an integral part of federal research to further eliminate possibilities further reduction in the number of honey bee colonies creating shortages of bees available to pollinate crops grown in Utah and the United States (Torchio, 1998). The purpose of this research project is to answer five questions based upon the cost, consumption, prediction of consumption rates, and environmental factors during winter feeding of honey bees based on these questions: (1) When sugar is fed,

how much weight is added to each hive? (2) How quickly is the sugar consumed by each hive? (3) Is the sugar consumption rate different than the honey consumption rate? (4) Can consumption rates be predicted based on hive or frame count population? (5) Will any parameters change when feeding corn syrup vs. feeding sugar? The methodology used in this study is quantitative, data driven; the data being collected is through a wireless satellite hub acting as the central communications unit allowing the monitoring data to report wirelessly to an online account. Utah State University Extension is the driving force behind this research and local apiculturist and producer Brian Stevenson has provided the hives, crates, bee populations, and transportation needed for this project. There has been found anecdotal evidence presented in forums, but little scholarly information on nutritional needs of bees during the winter months has been available.

Teaching & Educational Technologies

UAV TECHNOLOGY - CAN IT ADD VALUE TO YOUR FARM?

*Anderson, E.[1]
[1.] Extension Educator, Michigan State University Extension, Centreville, MI, 49032

Unmanned aerial vehicles (UAV›s, a.k.a. drones), are becoming an increasingly popular tool on farms to do everything from herd management to crop scouting to irrigation troubleshooting. Is the technology affordable, easy to use, and most important, will it improve efficiency and profitability on farms? Results from a 2017 needs assessment survey conducted in the Midwest by the ANR Cropping Systems Academy indicated that 47% of agricultural Extension educators/agents had developed programs involving UAV›s. However, the respondents indicated that their knowledge level on the topic on average was 4.2 (1-10 scale, 1 = know nothing, 10 = able to teach on it) and estimated the knowledge level of their clientele at 3.1. This presentation was developed to help farmers and agribusiness professionals understand the basics of UAV›s and aerial imagery technology, to explain how to get started using the technology, and to introduce them to a few software and equipment options that exist to conduct basic image capture, processing and analysis.

ENGAGING CLIENTELE: EXPLORING VIDEOS AS A TEACHING PLATFORM

*Griffith, M.[1]; Smith, J.[2]; Hamilton, C.[3]; Leeds, R.[4]
[1.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140
[2.] Extension Educator, Agriculture & Natural Resources and 4-H, Ohio State University Extension, Delaware, OH, 43015
[3.] Extension Educator, Community Developement, Ohio State University Extension, Delaware, OH, 43015
[4.] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Delaware, OH, 43015

Ohio State University Extension's Agronomic Crops Team has developed an extensive on-farm research effort, with 574 peer-reviewed on-farm research reports written by 51 different lead authors published since 1997. The team has investigated a wide variety of research questions in partnership with collaborating farmers in all corners of the state. On-farm research allows Extension to provide credible, research-based information that is based on practical considerations that producers encounter. On-farm research can also strengthen relationships between county extension educators, state specialists, and farmers as they work side by side to identify key research questions, design and implement plots, collect data, and interpret and share results. Traditionally, the on-farm research team has provided a peer review process to publish results in journal article format. While this format is preferred in academic circles, it may not be the most effective or relevant tool to communicate with clientele. On-farm research offers the potential for Extension to address localized issues by helping farmers make informed decisions about best management practices. However, in order to have practical impact, research findings must be available in formats that appeal to clientele. In 2017, team members converted two on-farm research projects into video format as pilot projects and presented videos at fertilizer applicator trainings. The videos were similar in content to the traditional journal articles, identifying the problem, testing procedure and results. The collaborating farmers and Extension professionals were both featured presenters in videos. After watching videos, participants were surveyed on their learning preferences. This presentation summarizes key findings regarding learning preferences.

USING E-MAIL MANAGEMENT SOFTWARE TO SIMPLIFY YOUR LIFE

*Lindberg, H. M.[1]
[1.] Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

Many extension educators or agents develop newsletters for their stakeholder audiences in order to maintain regular communications alerting them to potential challenges and market upcoming events. Email management software, such as MailChimp or Constant Contact, provide a platform for a more

professional newsletter and the ability to evaluate the impacts (i.e., through click-rates, open-rates etc.) of their newsletters. E-mail management software can also help simplify marketing events, scheduling routinely-held conference calls, and evaluating short- and long-term impacts of programming. I will discuss how I use e-mail management software to simplify my life with Michigan State University Extension.

AN ONLINE STORMWATER CORE CURRICULUM (SWCC): WHY & HOW

*Pekarek, K.[1]
[1.] Extension Educator-Water Quality, University Of Nebraska-Lincoln, Lincoln, NE, 68583

Early-career stormwater professionals and practitioners often need a readily available curriculum for stormwater management training which can be utilized at any time, any place, any path, and any pace. The Online Stormwater Core Curriculum (SWCC) fills this education need by providing a five-module, online course which aids stormwater professionals and educators in improving and optimizing their local stormwater operations. The course, initially started in the 12 state North Central Region, can help many of the current 7500+ Municipal Separate Storm Sewer System (MS4) permittees to meet required educational and training needs. A significant Enhanced Curriculum Development project directed development of the SWCC online resources, created storytelling messaging, developed course resources and the interactive activities, and provided learner engagement activities to reinforce concepts of the course.

Course participants gain knowledge, skills, confidence, and grow professional capacity for engaging in stormwater management. Participants also have the opportunity to improve and shape the SWCC through a built-in feedback loop. Students graduating from the SWCC are prepared to transition from early-career professionals into leaders in the stormwater field as they are empowered to learn stormwater basics and teach others, ultimately improving and optimizing their local stormwater operations.

This presentation discusses the SWCC target and beneficiary audiences, the approaches and methods used in course development and delivery, the evaluation approach, and how target audiences are finding this course relevant to their jobs. Outcomes and course impacts from current and past participants will be presented.

ENGAGING DIGITAL CROWDS IN REAL LIFE LEARNING

*Porter, J.[1]
[1.] Extension Educator/Assistant Professor, Nebraska Extension, Omaha, NE, 68124

Today›s learners split their engagement between the content being presented and their digital devices. Many educators and presenters become frustrated at learners who seem to not pay attention. This attention to devices can become a positive for educational programming, however. There are tech tools that can drive participant engagement, social media sharing, allow learners to connect more comfortably with presenters, and even evaluate program impacts. This talk will share possibilities and experiences with digital engagement tools such as live polling, tweet walls, and more. Bring your favorite device to interact during the session and prepare to share your favorite digital engagement tools.

At the Local Foods for Local Tables Symposium, hosted by Nebraska Extension, one such tool was used to gather polled feed-back from the audience and lead a SWOT analysis of the local food system. The audience was highly engaged and specific feedback was left sharing how participants enjoyed using the system and felt at ease giving anonymous feedback on controversial issues.

DO CROP FARMERS IN SOUTH CENTRAL PENNSYLVANIA USE SOCIAL MEDIA?

*Bosak, E.[1]
[1.] Field & Forage Crops Educator, Penn State Extension, Dauphin, PA, 17018

The digital technology boom along with exponential growth of social media outlets, smartphones, and a «there's an app for that» mentality begs the question of whether farmers use social media and how they use it. Access to computers and fast internet speeds lag in rural compared to urban and suburban areas. According to the latest USDA-NASS report, Pennsylvania farmers have the least amount of computer and internet access in the Northeast region and are at least 9% lower than the national average. In 2017 and 2018, paper questionnaires were distributed at three agronomic crops programs. Farmers were asked how they learned about the event and if they used email, text messages, or social media to communicate. The average survey return rate was 63% (n = 140). The percentage of participants that learned about the event via email was 8%, newspaper (4%), direct mail (65%), and word of mouth (15%). For communication methods, 52% of farmers reported that they used text messages, 44% used email, and 15% used social media. This presentation will address these results in the context of national social media statistics and include suggestions for successful Facebook posts based on two years of a programmatic Facebook page and two county Facebook pages.

TEACHING TWITTER TIPS FOR EXTENSION EXCELLENCE

*de Koff, J.[1]
[1.] Specialist, Tennessee State University, Old Hickory, TN, 37138

Social media is an increasingly important communication tool with millions of users. Farmers are also using this media platform for personal, business and to advocate for agriculture. About half of farmers using Twitter use it for business purposes. As this usage increases, it is important for Extension professionals to understand how Twitter can be used effectively for their programming. This presentation will focus briefly on an introduction to Twitter but will largely cover how to use Twitter in Extension programming to enhance communication with stakeholders, market Extension programs and increase impacts. Participants will learn how to create tweets that get noticed, use analytics for impacts and tweeting and engage in and create Twitter discussion groups.

CREATING HYBRID EXTENSION CURRICULUM TO REACH A BROADER AUDIENCE

*Arispe, S.[1]
[1.] Livestock & Rangeland Field Faculty, Oregon State University, Ontario, OR, 97914

The traditional Extension Service model consisting of face-to-face extension endeavors has historically reached inquisitive citizens nationwide. Today, the Extension Service has the opportunity to demonstrate that its personnel are able to reach a broader and more diverse audience by creating professional hybrid extension curriculum using innovative technologies. The hybrid learning approach, an alternative Extension Service model, uses a combination of face-to-face training sessions with an online curriculum delivered asynchronous and/or synchronously. The purpose of this presentation is to convey the need for and highlight the components of a quality new hybrid learning model within the Extension Service. I will provide an example for a Google Earth Pro-Geographical Information System (GEP-GIS) Hybrid Extension Course that is now offered to rangeland managers via the Learning Management System-Canvas. Designed by an interdisciplinary team with the Oregon State University and University of Idaho Extension Services, the hybrid extension course has seven learning modules-- four face-to-face and three online. Modules are strategically developed to efficiently provide ranchers with a comprehensive education with flexible hours as well as to provide extra support for overcoming barriers to online learning. Furthermore, I will offer an overview of innovative technologies used to assess learning objectives and create more than 60 instructional videos to support the hybrid extension curriculum. Finally, I will highlight important components and potential barriers when developing hybrid extension curriculum.

THE KSL GREENHOUSE SHOW: A LONG TERM SUCCESS BETWEEN EXTENSION AND THE MEDIA

*Beddes, T.[1]; Caron, M.[2]; Gunnell, J.[3]
[1.] Horticulture Agent, Utah State University, Provo, UT, 84606
[2.] Extension Assistant Professor, Utah State University, Provo, UT, 84606
[3.] Extension Associate Professor, Utah State University, Logan, UT, 84621

Utah State University Extension has encouraged faculty to cultivate, build and maintain relationships with local media outlets to reach a broader audience. One of the most successful built with local media is a Saturday morning radio program called the KSL Greenhouse Show. The show is the most listened to Saturday morning program in the Salt Lake City market, with an estimated 50,000 listeners. It has been broadcast for at least 40 years with various Extension cohosts. Over this time, the primary way it remains successful and current is through careful tracking of horticulture questions received through USU Extension offices. Many Extension faculty regularly contribute content and interviews on topics including turf care, fruit production, ornamental plants, using local food in season, food safety, sustainability, and plant problem management. To reach younger listeners, USU Extension recently initiated the creation of social media pages, hosted by the station, on Facebook and Instagram. The program has gained over 4,300 followers. With this, social media has been found to be a useful tool in gauging listener interest in show topics and more information about those who listen, because Facebook shares the demographics of those who interact with posts. We have found that the average listener is 40-65, with 60-70% of these being female. Free podcasts are also available and are currently being more heavily promoted. A continued goal is to increase listenership and exposure to a younger demographic through increased and more effective use of social media.

USU EXTENSION ONLINE GARDENING SERIES

*Gunnell, J.[1]; Caron, M.[2]; Goodspeed, J.L.[3]
[1.] Extension Horticulture Associate Professor, Utah State University, Logan, UT, 84322
[2.] Extension Horticulture Assistant Professor, Utah State University, Lehi, UT, 84043
[3.] Extension Horticulture Associate Professor, Utah State University Botanical Center, Kaysville, UT, 84037

Utah State University (USU) Extension recognizes the need to stay current in the digital age. Because the internet has become an increasingly popular manner to access information, a team of USU Extension faculty worked closely with the extension marketing team in developing an Online Gardening curriculum. This online training consists of eight (8) individual modules. Each module contains a series of short, webinar-

style presentations, embedded "how to" YouTube videos, and supplemental readings consisting of university fact sheets and bulletins. Knowledge checks were created at the end of each module to ensure a minimum level of understanding of a specific topic. As authors, we developed, scripted and recorded over 54 different presentations. These online modules have been utilized by over 300 individuals including the general public and USU Extension field faculty who don't have formal horticultural training, but have a desire to learn more about general gardening. The online gardening modules can be found at: https://extension.learn.usu.edu/browse/gardening

2018 AM/PIC SPEAKER PROFILES

Dr. James "Pete" McConnell, *Professor Emeritus*
Clemson University

Dr. James C. (Pete) McConnell was born in Comfort, TN, near South Pittsburg, where he grew up on a 100 acre farm surrounded by laying chickens, pigs, corn and soybeans. He grew up participating in the local 4-H club. One of the highlights was a trip to Chicago where his team placed 11th in the nation in the Poultry Judging. He graduated from South Pittsburg High School in 1961 and headed to the University of Tennessee at the age of 17. After graduating the top student of the College of Agriculture in June, 1965, Pete continued at UT on an NDEA scholarship, receiving his PhD in June 1970.

As an undergraduate he served as a member of the Livestock Judging team, Meats Judging team, President of Block and Bridle and member of Farm House Fraternity. His graduate work was in Animal Science with an emphasis on Swine Nutrition. After receiving his PhD, he began his career at Clemson University conducting research with swine and teaching undergraduate and graduate classes. Pete served as President of Gamma Sigma Delta and was named on the Honor Roll of Professors three times – a designation chosen solely by the students. After 34 years of teaching more than 8,000 students, he retired to his 35 acre farm near Pendleton, South Carolina.

Pete is active in his community serving as President of the Pendleton Farmers Society, one of the oldest in the country, with meetings in the oldest farmer's society building in America, built in 1822. He has served as a volunteer fireman since 1983 and is currently the Chairman of the Board of Directors of the Pendleton Fire Department. Pete's carpentry skills has made him a leader at Salkehatchie, a United Methodist mission, where youth are guided to repair homes of the indigent and less fortunate. He raises Bantam chickens for competition, sings in the church choir and teaches Sunday school. In his spare time, he falls asleep in the recliner. He and his wife, Jo, have three productive children and seven amazing grandchildren.

Jarman and Nancy Sullivan,
2017 National OYF Finalists

From the time he was five years old, Jarman Sullivan was determined to be a farmer. After graduating with a degree in Agronomy from NC State University, he began growing corn, soybeans, wheat, tobacco, and timber on the family farm near Faison. A 3,050 head pig nursery and a 2,460 head hog finishing facility are also part of the diversified operation. Following Jarman's return, the farm expanded its tobacco production and established wildlife habitats on its 350 acres of forest land. Center pivot irrigation was also added, including soil moisture sensors and low pressure drip nozzles. The farm also utilizes terraces to reduce erosion, and soil sampling and yield maps help manage fertilizer application as well as plant population and hybrid selection. Working with seed companies, cooperative extension, and North Carolina State University, the farm has evaluated new products and farming methods to help manage risk factors, primarily due to climate and weather events. Planting newer hybrids and varieties of crops that can withstand heat and drought is a top priority. Growing varieties of tobacco and corn that have varying maturity dates allows harvesting at an optimum time to avoid damage from hurricanes. In 2015, the farm lost 40 bushels per acre in some corn fields due to stink bug damage. Working with NC State on scouting methods and thresholds to determine the growth stage and number of insects to justify treatment, damage was nearly eliminated last year. Other studies on the farm have included the nutrient availability of lagoon sludge, effects of fungicide and insecticide application of soybean yield, nitrogen rates in winter wheat, and maximum yield plots. Jarman's wife, Nancy, teaches second grade at Hobbton Elementary and handles the technology on the farm, including yield mapping software, pesticide records, and bookkeeping tasks. The couple hopes to improve the farm's productivity to allow their sons, Will and Thomas, an opportunity to farm in the future if they choose an agricultural career path. Jarman and Nancy are active members of Smith Chapel United Methodist Church in Mount Olive, and Jarman is fire chief of Piney Grove Volunteer Fire Department. Jarman also serves as a member of the Sampson County Cooperative Extension advisory committee and Southern States Cooperative advisory board.

ANNUAL MEETING AND PROFESSIONAL IMPROVEMENT FUTURE CONFERENCE DATES

2019

Fort Wayne, Indiana....Sept. 8-12

2020

Virginia Beach, Virginia....July 19-24

2021

Philadelphia, Pennsylvania.....July 4-8

2022

West Palm Beach, Florida.....July 17-22

NATIONAL ASSOCIATION • COUNTY AGRICULTURAL AGENTS •

RESEARCH • EXTENSION • LAND GRANT COLLEGE •

NACAA