

# **National Association of County Agricultural Agents**



## **Proceedings**

**102nd Annual Meeting and  
Professional Improvement Conference**

**July 9-13, 2017**

**Salt Lake City, Utah**

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# 2016/2017 NACAA



## *Report to the Membership*

### **President**

**R. Mark Nelson**

**Utah**



Serving as your president this past year has been a humbling, challenging and yet gratifying experience. It certainly has been the highlight of my Extension career. Thank you for giving me this opportunity to serve as your NACAA President.

I can report that your association is as strong today, as it has ever been. This past year, I'm honored to have worked with the NACAA Board of Directors, as we did our best to keep our organization viable for future years to come. We are all very appreciative of our Executive Director, Scott Hawbaker. His years of experience have once again proven to be highly valuable as we planned this years Annual Meeting and Professional Improvement Conference.

One the most enjoyable parts of being NACAA President, is representing our association at a variety of functions throughout the year. In October, I was able to attend the Western Region NACAA Annual Meeting and Professional Improvement Conference in Hawaii. The Hawaii agents did an outstanding job hosting the conference. There were a wide variety of member presentations held during the conference as well as an opportunity to tour the big island of Hawaii. On this tour, we were able to examine unique research projects being coordinated by Hawaii Extension.

NACAA Southern Region Director Bill Burdine, and myself, were able to visit Puerto Rico during their association meeting, celebrating Puerto Rico's 50th anniversary of being a land grant University. Agents from Puerto Rico joined NACAA for the first time last year so I was excited to attend their meeting and welcome them to NACAA. The Puerto Rico agents did a wonderful job of showing us a wide variety of Puerto Rico

agriculture from plantain to pineapples to dairies.

I was also able to attend the JCEP Leadership Conference in Orlando, and the PILD Conference in Washington DC this past spring. Many NACAA members gave presentations at both of these conferences. I was able to garner a wide variety of good ideas to take back to my home state of Utah.

I was also able to represent NACAA at the "Falcon 2016" conference which was held in Albuquerque, New Mexico. This conference was geared for 1994 land grant universities.

I am really looking forward to seeing our association members at the 2017 NACAA AM/PIC. The agents from Utah have worked very hard to make sure you have a great time enjoying our state. This years meeting promises to offer you a wide variety of educational activities along with the opportunity to experience first-hand the knowledge, hospitality and enthusiasm of my fellow Utah colleagues.

All in all, it promises to be a great meeting and I hope you have already made your plans to join us for a great week of learning, sharing, and western hospitality.

### **President**

**Elect**

**Alan B. Galloway**

**Tennessee**



NACAA is highly indebted to the many sponsors and donors who see value in what we do for our members and what NACAA members do for their clientele. The support from sponsors and donors of our programs provide the ability to recognize the amazing programs of NACAA members each year. Without their generosity, NACAA simply would be unable to showcase and recognize the excellence educational efforts accomplished by NACAA members. We have had

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long-term relationships with many of our sponsors and some have partnered with us more recently. This year NACAA will receive around \$130,000 in sponsorship and grants.

Maintaining a relationship with each sponsor becomes increasingly difficult in today's business environment. Many agricultural businesses and industries continue to consolidate or merge. These changes means there are fewer companies out there who understand the impacts and connections NACAA members have with farmers, ranchers, local businesses and their communities across the country. When these agricultural business merge often the current sponsorship is reduced and sometimes eliminated as the new management of the company determines their direction and where they will choose to place their emphasis and sponsorship dollars.

Another major factor in keeping sponsors is being able to show the impact of the dollars they provide. Much like our universities ask us to show the impact of our educational programs. Sponsors like to see large numbers of members participating in the programs they sponsor. Over the years we have lost sponsors simply because few members chose to showcase the work they were doing by applying for recognition. Each of us conduct workshops, write articles and publications and meet with and teach something to our clientele each and every day. NACAA members must participate by applying to the many recognition programs or presentation opportunities to help show our sponsors we are using their funds efficiently and to provide needed information to younger members. Many great educational programs began from an idea or concept obtained from another member at an NACAA annual meeting and professional improvement conference (AM/PIC).

Many of our sponsors fund the awards and recognition programs because they believe in what we do. We must continue to provide feedback and thank our sponsors each year to ensure they know how much we appreciate their support.

NACAA continues to provide an incentive to members who identify and assist in securing a new sponsor. Many NACAA members know personally, went to school with and/or regularly contact agricultural leaders of many businesses who could be NACAA sponsors. Please pass along these potential sponsors and inquire about the incentive.

The NACAA board will continue to work with our current sponsors and to locate and solicit new sponsorship. This year plans are being made to enhance our process for soliciting sponsorship. With the help of NACAA members across the country we hope to continue our current recognition programs and expand them by creating new needed ways to highlight the great work conducted by NACAA members.

It has been an honor to serve as NACAA president elect and assist in a small way in the many functions of our association. I appreciate the support of the members and administrators

from Tennessee and the confidence they have shown by nominating me to serve in this capacity. I look forward to many more years of service to NACAA and helping all current members and potential members see the value of participation in their professional association. I hope to see many of you in Salt Lake City for what will be a fantastic 2017 NACAA AM/PIC.

**Vice**

**President**

**Richard Fechter**

**Kansas**



This has been a year of personal growth and awesome opportunities to interact with and learn from many dedicated leaders within NACAA. As the NACAA Vice President this past year, my role has been to provide leadership for the operation 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. Much of the committee work load begins and ends with the duties of the three council chairs. This year's council chairs are: Kurt Jones of Colorado, Extension Development Council; Sherri Sanders of Arkansas; Professional Improvement Council and Keith Mickler of Georgia, Program Recognition Council. It has been an honor working with these three individuals. They devote many hours coordinating and communicating with their committees for the benefit of our association. A big thank you to them! Kurt Jones is completing is term as Extension Development Council Chair and we will welcome Brian Haller from Arkansas as the new Council Chair after the 2017 AM/PIC.

The 18 National Committee Chairs and 62 Regional Vice Chairs log many hours carrying out the many NACAA awards and professional improvement programs, and deserve special thanks for their hard work as well.

NACAA committees are the lifeblood of our organization and account for the bulk of the work the national association does on behalf of the membership. The bulk of committee work revolves around achieving the three clear aspects of NACAA's mission: First, to provide professional development opportunities tailored specifically for agricultural Extension agents. Second is to recognize and reward professional excellence among our peers and third is to provide leadership development opportunities. NACAA committees provide these types of professional opportunities not only at the AM/PIC, but also through various webinars that are held during the year.

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I would like to express my appreciation to everyone involved with recruiting committee leadership for the ensuing year; especially the council chairs and regional directors for their tireless efforts to guarantee all our vital committee positions are filled. Committee positions offer excellent leadership opportunities for our members. I encourage all members to seriously consider the various leadership opportunities offered each year within the organization. This includes national leadership positions on the Board of Directors, which are open to ALL members. Your professional association works for you because of the volunteer leadership of so many dedicated members. Many of your colleagues who have served in these leadership positions have said that their personal growth and leadership skills had benefitted tremendously because of serving their professional association in one of these leadership positions.

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 Nelson, Past President Gregg, and I had the opportunity to meet with several USDA and NIFA agency leaders.

This year at the AM/PIC we will have 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/Contact and will be attending the 2017 AM/PIC, mark your calendar for the committee meetings on Monday afternoon. Your input is valuable and will insure we continue with high quality presentations, posters, and awards in future years.

I appreciate the opportunity to serve as your Vice President 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 Vice President.

## Secretary

**Matt Herring**

**Missouri**



Completing my third and final year as NACAA secretary, I have taken a moment to reflect on the role and some of the changes in the past year.

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 minutes to the NACAA website. The board holds meetings before and after the Annual Meeting and Professional Improvement Conference. We hold winter and spring board meetings and monthly teleconferences. During the meetings I take minutes, but 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 two weeks after board members receive 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. Stephen Brown completed his third and final year as editor of the Journal of NACAA at the 2016 AM/PIC. The board greatly appreciates Stephen's efforts as editor. In 2015, the NACAA board selected Lee Stivers to succeed Stephen as editor and asked her to work with him for a year to learn more about the role. Lee took over as editor at the 2016 AM/PIC and has done a great job. She has worked to keep the list of journal article reviewers current. She also is planning to update article submission instructions and instructions for reviewers. The NACAA Journal provides members an avenue to publish in a peer-reviewed journal, and is an opportunity to share program and research results with our membership.

As I reported last year, the board made a decision to purchase fireproof filing cabinets to store association records after we learned that storing records at the National Agriculture Library would no longer be an option. Alan Galloway located five cabinets at a very reasonable cost and arranged to transport

them to Scott Hawbaker's office. The Publication Committee met in November to review the Association's records. Scott Hawbaker is working to categorize and alphabetize records to be stored in the cabinets. This effort should make the association records both safe and accessible to the membership.

It has been an honor to serve the membership of NACAA and I look forward to seeing you in Salt Lake City in July!

## Treasurer

**Wes Smith**

**Georgia**



It has been a good year serving as your Treasurer. I appreciate the support of GACAA, University of Georgia administrators and my county. As most of you realize, I have decided to retire by the end of 2017, so therefore will only serve two years as NACAA Treasurer. Although serving a third year would have been possible, I felt with all the "moving parts" of the position responsibilities, it was in the best interest of NACAA to have someone who was currently employed. I think we have two very capable candidates running for Treasurer.

The Association is in good financial order. There were certain procedural changes made this in dealing with meal expenses at the AM/PIC with hope that it will be a lesser financial burden on the hosting state association. As we move forward, the intention of the board will be to make even more changes to assist hosting states.

As I finish my career as an agent, it has been a challenging yet rewarding career. I have enjoyed working with my local producers. Being a member of GACAA and NACAA has been very good for me both personally and professionally. Both organizations allowed me opportunities to learn from colleagues and make lasting friendships.

## Past

## President

**Cynthia L. Gregg**

**Virginia**



The past four years have flown by and I want to say Thank you to all of you. It has been an honor to serve on your NACAA Board representing all of you. Once you are Past President, you still have many assignments to accomplish in addition to being an advisor to the NACAA Board.

As Past President, one of my responsibilities is to update the AM/PIC Handbook. This handbook is utilized by states who are considering, or who have received approval from the NACAA Voting Delegates to host an upcoming meeting. It's been several years since this document has been modified. Extensive updates have been made to this document and it will go before the NACAA Board for approval at the 2017 Pre-Board Meeting. I hope this proves helpful to states and regions thinking about hosting an Annual Meeting.

NACAA President Nelson, requested that I serve as the NACAA Board representative on the NACAA Educational Foundation this past year. It has been an honor to serve in this capacity and work alongside our associations' past leadership. I've enjoyed seeing our members support the NACAA Educational Foundation and reap the benefits as well. The goal is to have \$1Million by 2025, to insure scholarship for many years to come. We are getting closer to completing this goal early; however, we need to continue our plan to grow the Foundation, as this will enable additional scholarship for years to come. If you are interested in applying for a scholarship, you can vest yourself either monetarily or by donating an item to the Scholarship Auction and the amount the items brings is credited to you. Contact the Scholarship Committee Members for more details.

This year I am serving as President of the Joint Council of Extension Professionals Board. Over the past year, I have had the opportunity to represent NACAA and JCEP at the ANREP/NACDEP Conference in Vermont and the ESP Conference in New Jersey. The conferences were very educational and worthwhile experiences. Each Association is different, but one commonality we have is professional development for all our members. I have had the opportunity to attend the Extension Council on Organization and Policy (ECOP) while serving as JCEP President. This Year's JCEP Leadership conference was well attended and our first Virtual Town Hall was a success. This year we received over eighty presentation submissions

for twenty-eight presentations spots available. We have some amazing work going on and we are fortunate to have co-workers from across the country willing to share with all of us. The Public Issues Leadership Development Conference held in Washington, DC is an opportunity for Extension Volunteers and Educators to come together to advocate and educate National Elected Officials on Cooperative Extension. The attendees get a chance to fine-tune their message at the Conference. This year there was a One Ask for Cooperative Extension across the country. One highlight this year, in addition to visiting elected official on the Hill, was the chance to hear from two Communication Directors. We all learned a lot from them. I had the opportunity during PILD, to visit USDA NIFA, with President Mark Nelson and Vice-President Richard Fechter. It was a great visit and a special Thank you to USDA NIFA Chief of Staff Bill Hoffman for all of his help in making this visit possible. This year an additional highlight was getting to meet two members of the Beachhead Team, the two young men were part of the Presidential Transition Team and working at the USDA. I will never forget that experience.

This year I had the esteemed privilege to represent NACAA at the National Outstanding Young Farmers (OYF) Awards Conference administered through Outstanding Farmers of America. NACAA Members nominated a majority of the top ten finalists. In representing you, I judged, gave a speech, attended the sessions, enjoyed the tour, and participated in the awards program. This program is very impressive, and I strongly encourage you to nominate one of your Outstanding Young Farmers for future award consideration. Please contact Ray Hicks, NACAA Liaison, for more information on the nomination process.

Dan and I will be forever grateful to all of you. Your support throughout these past four years has been amazing and humbling. I have heard others say this is a once in a lifetime experience that you will always be in awe of, grateful for, and amazed by; those words are so very true.

I am truly thankful for the trust you placed in me four years ago. Please know I always strived to have your best interests and needs in the forefront every day. To my Virginia Colleagues, thank you for everything you have done for me. I am honored to work with each of you.

I'm looking forward to the outstanding meeting the Utah Extension agents have planned for us and will see everyone in Salt Lake City! Safe travels!

## Policy Chair

**Rick Gibson**

**Arizona**



The position of Association Policy Chair has many assignments and all are important to the NACAA organization. Probably the most essential of those assignments is the opportunity to serve as the link between the Policy Committee members, the NACAA Board of Directors, and the NACAA membership. I have enjoyed working with the Board members these past two years as they have dedicated themselves and their time to the improvement of our professional improvement association.

The Policy Committee also has the responsibility of safeguarding the intent of the NACAA by-laws, assisting in the preservation of NACAA professional standards, reviewing reports and proposed actions before they are presented to the Board of Directors, and when invited, offering an opinion on new measures under consideration by the Voting Delegates, Board of Directors, NACAA committees, and the membership at large. In this assignment, the committee chair ensures that association activities do not go beyond the boundaries set by the Association Bylaws and policy statements.

In addition to these assignments, the Policy Committee offers a historical perspective, clarifies and/or interprets policy, and proposes measures to meet the challenges of changing internal and external conditions. They also review and, where necessary, revise the pages of the NACAA Policy Manual. This past year our assignment was to review Chapter V, Elections. We are pleased to report that the assignment is complete.

Policy chairs serve for two years and are past national presidents. The chair has no official vote on the Board of Directors but must ever be vigilant to help the Board best represent the interests of the NACAA membership. Three years ago, the NACAA by-laws were changed by voting delegates to allow membership of the Policy Committee to include all past presidents from the previous ten years plus all active member past presidents no matter how long ago they served.

For the past year, members of the Policy Committee have included: Chuck Otte, Fred Miller, Rick Gibson, Phil Pratt, Stan Moore, Paul Wigley, Paul Craig, Henry Dorough, Mike Hogan, and Cynthia Gregg. Even though Glenn Rogers is no longer technically a member of the Committee, I have chosen to request his insights on key issues. We are pleased to formally welcome Mark Nelson to the committee beginning

with the 2017-18 year. I wish to publicly thank each of these wonderful colleagues for their past and continuing service to NACAA. I appreciate their support and assistance throughout my tenure as Committee chair.

The incoming chair for the coming two years will be a Michigan friend and colleague, Stan Moore. Stan has been kept up-to-date with current issues and questions during this past year so I fully expect a seamless transition between the two Committee chairs at the conclusion of the AM/PIC. I know that Stan will be an excellent chair. The Board and the entire Association can have confidence in his preparation, understanding, and commitment to the best interests of the organization.

NACAA is a vibrant and energetic professional improvement association. In its organization, it is firm in its commitment to the vision of its founders but, at the same time, it is sufficiently resilient, because of its Bylaws and policies, to easily adapt to changing demographics and constraints. In my service as policy chair these past two years, I have come to find over and over again that these fundamental concepts are true. NACAA in its one hundred plus years of existence has a proud heritage. At the same time, it will continue to be relevant to the needs of its members as it moves ever forward into the future. I am proud to be a member of the National Association of County Agricultural Agents.

**North Central**  
**Region Director**  
**Chris Bruynis**  
**Ohio**



Serving the NACAA membership as the North Central Regional Director has been a great experience for me personally and professionally. I have met many colleagues, made great friends, and learned an amazing amount from all of you. I just need time to incorporate all the great programming ideas into my programming efforts back in Ohio!

My hope is that I have served you well, representing your concerns to the NACAA Board to improve this association. Just like our respective extension organizations are changing, NACAA must continue to evolve as an organization to meet the needs of its members.

I attended the JCEP Leadership Conference with many of our state association presidents in February. In addition to many great presentations, this conference is one of the opportunities for the NACAA Board to exchange ideas with state association.

I always come away with ideas on how to tweak NACAA to meet the needs of our members. I also represented our membership while serving on the Public Issues Leadership Development (PILD) planning committee and assisting during the conference in April. The conference went extremely well as we attended many great breakout sessions, conversed with our USDA National Program Leaders, and held many rewarding visits with our Congressmen on Capitol Hill.

What an honor it has been to serve the membership of NACAA in the North Central Region! I look forward to completing my term as your Regional Director and have full confidence that Connie Strunk will serve us well as the next Regional Director. I hope to see many of you in Salt Lake City, Utah for the 102nd NACAA AM/PIC!

**North East**  
**Region Director**  
**Ginny Rosenkranz**  
**Maryland**



I am honored to have the opportunity to represent the North East Region on the NACAA Board this year. I have enjoyed attending the North East states association meetings this past fall and this spring, and I have been impressed with the creativity, talent and dedication the extension professional's exhibit. The quality of each states Professional Improvement Conference at their annual meetings is a credit to their membership. Many of the states planned excellent tours where I learned so much and enjoyed very much.

I have also enjoyed the challenges of assisting with the Joint Council Extension Professionals (JCEP) and Public Issues Leadership Development (PILD). Both conferences were well attended and had many excellent breakout sessions, and I would like to encourage all members to plan on attending the next year's meetings.

I would also like to encourage all NACAA members to step out of their comfort zone a bit to look at giving back to their National Association, either as a chair or vice chair for a committee, become a SARE Fellows or write an article for the Journal of NACAA. I have found that the more I give, the more I receive!

Another challenge I helped with was assisting the North East with the decision to make a bid to host a National meeting in 2021. I became a part of a subcommittee with Dan Kluchinski from NJ, and Craig Williams from PA, that looked at many of the cities in the North East to select an exciting city that

could offer us what we needed for a successful AM/PIC. We examined various important aspects - convenient access to great locations for our many tours, one that provided excellent access by air, train and personal transportation, and one that could offer our NACAA members adequate comfortable space for the conference . I would also like to thank my colleagues in Maryland for giving me the opportunity to serve as the North East Director for NACAA these last two years. The opportunity only comes once in a person's career, and I am very thankful for the trust that they extended to me.

**Southern  
Region Director**

**Jerry Brown  
Kentucky**



It seems hard to believe that my term as a Southern Region Director is coming to an end. Serving as a Regional Director has been a highlight of my career. It has to be the best job in the NACAA! It has been a pleasure to serve on the board and to represent NACAA at all of the state association meetings that I have attended.

First, I would like to thank the Kentucky Association of County Agricultural Agents for their confidence in me and allowing me to serve as a Southern Region Director. It also has been a pleasure to get to know and to work with each of the NACAA officers and regional directors. I also want thank them for their dedication to the association.

While serving on the board, I have seen the value to our organization of our committee structure. This is where the real work takes place to make NACAA successful. Hopefully we can continue to enhance communications between committees of the state associations and the NACAA committees. Our state officers and state committee chairs are the backbone that makes our national program recognition and professional improvement efforts successful.

There are great things going on in every state that I have visited and there are many great association leaders in every state. Their professional development sessions and tours are interesting, educational and well planned. I have enjoyed representing NACAA at their business meetings. It is great to see all of the posters, presentations and program recognition awards received by the agents. And best of all, I enjoy just interacting with agents from these states.

A Special Thanks to all of the Southern Region states that have hosted, are considering hosting or have considered hosting an AM/PIC during my tenure as director. You have all been great to work with and I appreciate your willingness to undertake this task. Hosting a national meeting is one thing that will definitely bring your state association membership closer together.

The more time you spend involved with this organization, the better appreciation you develop for the tremendous opportunities provided by the NACAA. There is no other Extension organization that provides Extension professionals with the depth of professional development and leadership opportunities as the NACAA. I would urge every member to take advantage of the opportunities that the association can provide to them over the course of their careers as County Agricultural Extension Agents.

I look forward to many great achievements by NACAA as we move on into the future.

**Southern  
Region Director**

**Bill Burdine  
Mississippi**



The first year of my term as Director is almost complete. Somehow it feels like I have served for years, but also like I just started, but trust me when I say it's been a great ride so far. I've heard former Directors say that this is the best job in NACAA and now I know why. We get to meet so many new people and see new things during our travels. The people in Extension really are what makes Extension the vibrant, ever-changing organization that it is.

During my state visits, I've seen states coping with shrinking budgets develop new delivery formats and create new partnerships so they can continue to help the people of their state live better lives. I was impressed by one states' manner of providing monetary awards for great programs. Another state really assists its new members in getting programs moving in the right direction. Yet another pushes NACAA membership with a strong mentoring program. I've seen Old Gen X'ers (like me) work with Millennials to better reach our audience. Extension is mandated to be an 'Agent of Change' to help people do better. Change is always hard but in visiting state associations, I realize how much change is taking place. Kudo's to all in Extension who are stepping out of your comfort zone and making changes for the better. You've inspired me to do better.

The NACAA Board puts in many hours to make NACAA the association you need and want it to be. We hope to provide you with both professional and personal growth opportunities. If we are failing you, let us know. If we get something right, let us know we're heading down the right path. We are a large, dynamic and diverse group of individuals with many different needs but we are trying to offer everyone something of benefit. If you haven't benefitted, did we fail you or have you not grabbed onto an opportunity. Just food for thought.

I offer a special Thank You to the Puerto Rico Association for the amazing educational tour they provided of the island. It was one of the highlights of my career. You went above and beyond with your graciousness. I made friends I'll never forget.

In closing, I thank the Mississippi Association for giving me this opportunity. It has been great. If anyone from the Southern Region has an idea or problem, please give me a call.

**Western**  
**Region Director**  
**Stephen Brown**  
**Alaska**



What an honor it has been to serve my first term 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 Director that active participation in NACAA would do great things for my career and that has turned out to be very true.

Over this past year I have made many new friends and have met some truly amazing up-and-coming future leaders. In April I had the opportunity to attend the annual meeting of the Oregon Agents Association. I was impressed by the breadth and depth of knowledge those Extension professionals exhibited. It was my first trip to Eastern Oregon and I was really impressed with its rugged beauty.

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 attended my first Public Issues Leadership Development conference in Washington D.C. I would encourage all of our

member to attend if possible. The workshops and breakouts were extremely useful. I had made appointments to meet with the Alaskan legislative delegation, but they had to back out at the last minute for security briefings. On the way back to the hotel I thought it was curious that there were bumper to bumper pizza delivery cars going into the Pentagon complex. Later that day we fired missiles at Syria so I guess folks were working late!

The Western Region is the only region that conducts its own Professional Improvement Conference. This past year's meeting was in Kona, Hawaii. Many kudos go out to the Hawaii Association for conducting an outstanding meeting. The 2017 Western Professional Improvement Conference will take place October 24 & 25 and will be hosted by New Mexico. The Western PIC is a great alternative to the AM/PIC.

My only regret this past year is that I was not able to attend the JCEP meeting. I am President of the Alaska State Fair and our annual meeting and board election occurs at the same time as the JCEP meeting.

In closing, I would like to thank all of the Western Region members for their support. It has been an honor and I look forward to one more year. See you in Salt Lake City!

**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/Sea Grant 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.

Animal Science, Horticulture and Turfgrass, Natural Resources & Sustainable Ag—SARE committees have planned educational pre-tour opportunities. The Ag Economics and Community Development committee will offer a Super Seminar Tuesday morning, examining long term lease and crop insurance issues important to Extension professionals. Reading the Farm will be conducted as a super seminar, hosted by the Sustainable Agriculture SARE committee, to provide the background information required to plan and facilitate a Reading the Farm Program. Sustainable Agriculture has chosen four new SARE Fellows to begin their journey.

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 Richard Fechter for his leadership.

**Agronomy  
and Pest  
Management**

**Wade Parker**

**Georgia**



Committee members:

Wade Parker, Southern Region

Aaron Asser, Western Region

Jim Lewis, Northeast Region

Ted Wiseman, North Central Region

This year has been an extremely exciting and successful year for the Agronomy and Pest Management committee. We were very pleased with the attendance and interest of last year's Super Seminar on unmanned aircraft that our committee hosted a webinar this past February on topics related to precision planting and fertilizer applications. The webinar featured Dr. John Fulton, Associate Professor/Precision Agriculture specialist at Ohio State University and Dr. Wes Porter, Assistant

Professor, Irrigation and Precision Ag Specialist, University of Georgia.

Dr. Fulton and Porter did an excellent job covering production agriculture technology. Our land-grant institutions must work hard to stay on top of the cutting edge technology that farmers are now using and implementing. We must stay relevant.

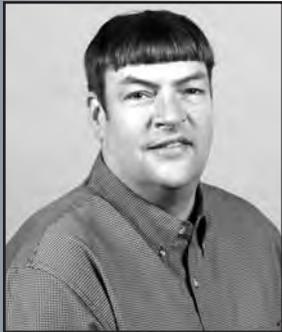
We are also excited about the 17 Agronomy related seminars that you will have the opportunity to hear in Salt Lake in a few weeks. The majority of these presentations focus on pest management education and research projects. Improvement seminars will be held Tuesday afternoon during the AM/PIC. Be sure to review the AM/PIC Program upon your arrival. I am sure there is a topic or two that interests you. We would also love to have you join us for the annual Agronomy and Pest Management Committee meeting Monday afternoon. Input from our members is always welcome.

Thank you to the committee vice-chairs who have all contributed to a successful year. This AM/PIC will wrap-up my service on this committee. This experience has been rewarding and fulfilling and I encourage rising agents to take advantage of these professional opportunities. See you in Salt Lake!

**Agricultural  
Economics &  
Community  
Development**

**David Bau**

**Minnesota**



The Agricultural Economics and Community Development committee is pleased offer professional improvement opportunities for NACAA members. This year's AM/PIC will include a Super Seminar Tuesday morning, examining farm legal issues important to Extension professionals. There will be member presentations on a variety of topics important to Extension professionals on Tuesday afternoon.

This year's super seminar will take place on Tuesday, July 11th from 8:30 am to 11:00 am. Speakers include Laurence Crane with National Crop Insurance Services will discuss use of crop insurance across the country and other crop insurance issues. Bill Hopkins will discuss Ranching Issues on Public and Private Land? Steve Clyde will discuss: Agriculture Water Rights: Protecting the Future of Our Nation? We are able to offer this seminar through the generous sponsorship of the National Crop Insurance Services (NCIS).

Our committee was very pleased by the number of abstract submissions for this year's AM/PIC. We were able to accept the following presentations on Tuesday afternoon. Topics include:

- Business Executive Training for Women --- Betty Berning, Minnesota MR 253 A 1:30 to 1:50
- Northeast Ohio Beginning Refugee and Immigrant Farmer Training Program --- Ms.Jacqueline Kowalski Ohio MR 253 A 1:50 to 2:10
- Making it in Michigan Conference and Trade Show Facilitates Economic Activity in the Agri-Food Sector --- Brenda J.Reau Michigan MR 253 A 2:10 to 2:30
- Farm \$EN\$E: Easy, Applicable Farm Financial Management Training --- Juliette Enfield Pennsylvania MR 253 A 3:20 to 3:40
- Impact of Grant Funding on a Small, Rural Farmers Market --- Shannon P Dewitt Tennessee MR 253 A 3:40 to 4:00
- Gaining a Better Understanding of Consumer Preferences of Local Produce --- Libbie Johnson and Matthew Lollar Florida MR 253 B 1:30 to 1:50
- Role of Agricultural Extension in Disaster Response and Recovery: Hurricane Matthew Success Story --- Dr.Bonnie C.Wells Florida MR 253 B 1:50 to 2:10
- Increased Local Food Access, New Farmers and Tribal Youth Development Result from Community Collaborations --- Iris Mayes Idaho MR 253 B 2:10 to 2:30

The members of the Agricultural Economics and Community Development Committee are:

North Central Region Chair and Vice Chair – David Bau, MN  
Southern Region Vice Chair – Lenny Rogers, NC  
North East Region Vice Chair – Shannon Potter Dill, MD  
Western Region Vice Chair – Jody A Gale, UT

## Animal Science

**Brian Beer**  
South Carolina



Committee Members:

Chair: Brian Beer, SC  
Northeast Region Vice-chair: Elizabeth Claypoole, NY  
Western Region Vice-chair: Kellie Chichester, WY  
North Central Region Vice-chair: Chris Penrose, OH  
Southern Region Vice-chair: Rebekah Norman, TN

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 2017 Pre-AM/PIC Animal Science Tour is scheduled for July 6-8 2017. Kim Chapman from Utah has a great tour planned for this year's meeting. The tour will begin in Salt Lake City, travel toward Richfield, and return to Salt Lake City. Tour highlights include; Moore Mountain to discuss public land grazing and a project to increase Quaking Aspen population; Johnson Mountain Ranch, a family cattle operation that also has a wildlife enterprise; Producers Livestock Marketing, Utah's largest livestock market; the East African Refugee Goat Project; and a roaster hog operation that direct markets to local Polynesian population.

This year's tour will have 35 participants from 18 different states. Each year the committee seeks sponsorships for the tour, with participants funding the remainder. We express our sincere appreciation to this year's sponsors: Livestock Marketing Association, Utah Beef Council, and Purina, Land O' Lakes. Also, thanks to all the tour stops and to our local meal sponsors for their vital role in making the tour possible.

In Salt Lake City you will have the opportunity to hear about some successful Extension programs and research being conducted by your peers. There will be 13 presentations offered during the Animal Science Professional Improvement Seminars on Tuesday afternoon 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 Utah 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. Contact any member of the Animal Science Committee for more information. In addition, continuing education units (CEU's) will be available for those who attend Tuesday's seminars.

Please join us for the full Animal Science Committee meeting on Monday afternoon. We will be planning the committee's activities for 2017-2018. 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.

2017 will conclude my second term as Animal Science Committee Chair. It was a privilege to be a committee chair

and serve the NACAA membership by planning meaningful professional development opportunities during the past two years. Thank you to the committee vice-chairs. Each of you contributed during committee discussions and helped guide decisions that will make the 2017 AM/PIC in Salt Lake City a great professional development experience for NACAA members.

## Natural Resources & Aquaculture

Libbie Johnson  
Florida



Natural Resources/Aquaculture

Libbie Johnson, Committee Chair, Southern Region, Florida  
Pat Rector, North Central Region Vice-Chair, New Jersey  
Darren Snyder, Western Region Vice-Chair, Alaska  
Todd Lorenz, North Central Region Vice-Chair, Missouri

The Natural Resources/Aquaculture Committee has had an active 2016-2017. We developed and administered an evaluation to determine what the natural resource educational needs are for our members. Results will be shared and we will start building a long range plan during our AM/PIC committee workshop on Monday, July 10 from 1:30 pm-2:30 pm. We welcome your input, so please check the schedule and plan to join us during our committee workshop.

We are eager to welcome a diverse line up of speakers during the Professional Improvement Council Seminars on the afternoon of Tuesday, July 11th.

- Examination Of The Rutgers Environmental Stewards Program After 10 Years—Amy Rowe, M. Bakacs, and P. Rector
- Rethinking Teaching and Learning Stormwater Practices—A National Resource For Professionals: Katie Pekarek
- Pennsylvania Conservation Practices Survey—Kelly Patches and C. Houser
- Expanding the Dark Skies Initiative Along Sea Turtle Nesting Beaches In The Florida Panhandle—Ray Bodrey, E. Lovstrand, and S. Jackson
- Aquaculture In Action—Jacqueline Takacs and J.A. Frederick
- Understanding Soil Compaction in Ocean County, New Jersey—Dr. Steven Yergeau
- Aquatic Invasive Plant Species and Breeding Mosquitoes - Perfect Together? Pat Rector, P.J. Nitzsche, M. Rosellini, S. Mangiafico and D. Ross
- Utilizing Switchgrass to Mitigate or Remove Nutrients from Conventional Septic System Drain Fields on Coastal Plain

Soils—James W. Lewis, Jr.

- Increasing Natural Resources Capacity through Changes in County Educator Position Descriptions—Dr. Andrew J. Londo, Julie Fox, and Jacqueline Kirby-Wilkins
- WSU Water Irrigation System Evaluation (WISE)—Don W. McMoran

Finally, with the help of Kevin Heaton (Garfield County Extension Director, Utah State), we will be offering an educational and scenery packed pre-tour of southern Utah on July 7th and 8th. Stops will include two national parks (Zion and Bryce Canyon), a desert tortoise preserve, an active open pit coal mine, a sage grouse habitat restoration area, a hike to Brian Head Peak, a trophy mule deer ranch, and local hospitality with a traditional Dutch oven meal. Follow our progress on social media—we will be sure to tag the conference during our travels.

If you are interested in learning more about our committee or taking a more active roll, please join us on Monday, July 10th at 1:30. See the conference agenda to find out which room.

## Horticulture & Turfgrass

Sarah Denkler  
Missouri



Committee Members:

Sarah Denkler, Committee Chair  
Cynthia Lauderdale, Southern Region, Vice-Chair  
Michael Bush, Western Region, Vice-Chair  
Marjorie Peronto, Northeast Region, Vice-Chair  
Patrick Byers, North Central Region, Vice-chair

The Horticulture and Turf grass committee have collaborated to develop an excellent slate of 15 presentations related to horticulture in Extension during the AM/PIC in Salt Lake City, Utah. There will be three professional improvement sessions offered on Tuesday July 11 from 1:30 to 4:00 p.m. The topics are grouped by research, general horticulture and volunteers.

In addition, the group has worked with Brittany Hunter Research Agronomist with Aqua Yield, formerly of Utah State University, to prepare a tour of horticultural enterprises in and around Salt Lake City, Utah on July 7 and 8, 2017.

The tour will begin on Friday, July 7 in Salt Lake City leaving in one vehicle from the hotel at 12:00 pm. The first stop is the Sejo Supreme plant introduction program at the Utah

State University Botanical Center with tour guides Richard & Bill Varga. From there we will travel to Perennial Favorites Nursery in Layton where Bill Varga will continue the tour. This nursery grows Sego Supreme releases and other plants adapted to the west. We will end day one with a short drive back to Salt Lake to tour Red Butte Gardens and to enjoy a Catered Dinner at the Place Heritage Park near Red Butte before returning to the hotel.

Saturday morning, we depart by 8:00 am from the hotel and continue the tour at the Salt Lake City Farmers Market. Once finished we will visit Aqua Yield sustainable fertilizer before continuing the tour at Olson's Greenhouse. From there we will take lunch at Grantsville/Tooele at Fawson's Farm before departing to head back to Salt Lake City to the county jail garden for a tour and discussion.

We cannot thank our sponsor, Bonnie Plants and their representative Cheryl Lange, enough for the chance to observe and learn during this educational tour. It is a privilege to network with our colleagues for an extended period and to visit with Cheryl and Bonnie Plants.

Please join us for the Horticulture and Turf grass committee meeting on Monday, July 10 from 1:30-2:30 p.m. where we will discuss horticultural issues and introduce the new committee leadership to begin planning for 2018. As committee chair, I would like to thank the regional vice chairs for all their help and support. The committee also thanks everyone who has helped make these educational opportunities possible including state chairs and the NACAA leaders/organizers/officers, especially Sherri Sanders and Scott Hawbaker for their easily accessible guidance and advice over this past year.

**Sustainable  
Agriculture**  
**Suzanne Mills-Wasniak**  
**Ohio**



The Sustainable Agriculture Committee has been active in 2016 and early 2017 revising SARE Fellows application procedures. Applicants for the SARE Fellows program are now required to have their immediate supervisor sign a Letter of Approval at the time the applications are submitted. The selected candidates must complete the two year fellowship (trips to the four regions) before they are considered to be Fellows.

In 2017 the SARE Fellows Program celebrates its' tenth year. Thirty-eight Fellows from twenty four states have completed

the USDA – SARE Fellows Program through 2015. Please join us on Tuesday, July 11th during the Sustainable Agriculture presentations for a celebration of the program, to hear and learn from the graduating SARE Fellows, and to welcome the 2017 SARE Fellows candidates.

In 2017 the SARE Fellows program had nine applicants. After reviewing the applications the committee selected one applicant from each of the four NACAA regions to be a Fellow. Please congratulate the 2017 SARE Fellows:

- Northeast Region – Fnu Naveen Kumar, Maryland
- North Central Region – Anthony Bly, South Dakota
- Southern Region – Amanda Sears, Kentucky
- Western Region – Kurt Jones, Colorado.

The 2017 SARE Fellows candidates represent four new states thereby bringing the number of states with SARE Fellows to twenty-eight.

We welcome Amy Garrett from Oregon State University as the 2016 SARE Fellow from the Western Region.

In 2016 SARE Fellows experienced Sustainable Agriculture in Idaho (Western Region) and West Virginia (Northeast Region). Sustainable Agriculture Committee vice Chair from the Western Region attended and participated in the Idaho trip. The Sustainable Agriculture Committee extends a THANK YOU to the Idaho and West Virginia Sustainable Agriculture organizing committees for the outstanding educational experiences afforded the SARE Fellows.

In Salt Lake City there will be two rooms devoted to Sustainable Agriculture presentations. One room will have the 2014 SARE Fellows presentations on their SARE Fellows experiences and how they plan to use what they have learned in their respective programs. We will also welcome the 2017 SARE Fellows candidates during the presentations. Please refer to your presentation schedule for the times and Room number.

It would be impossible for a committee to function without the dedicated Regional vice Chairs, working towards positive program impact. I would like to express my gratitude to Northeast vice Chair Michelle Infante – Casella, Southern vice Chair Debbie Roos, and Western vice Chair Matt Palmer.

I wish to thank Professional Improvement Council Chair Sherri Sanders and Scott Hawbaker for their counsel and patience.

The Sustainable Agriculture committee looks forward the seeing you in Salt Lake City.

## **Extension Development Council Chair**

**Kurt Jones - Colorado**



## **Agricultural Issues & Public Relations**

**Meredith Vaughn  
Melendez**

**New Jersey**



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 2017 AM/PIC include informational seminars on Tuesday morning, July 11. The presentations are part of four concurrent sessions featuring 12 hours of training. There are some exciting and diverse topics that have been accepted. Our council is also offering two additional seminars this year. Early Career is partnering with first timers committee for some information on making the most of your AM/PIC experience, and Ag. Issues has planned a super seminar to help County Agents identify the Food Safety Modernization Act Produce Rule training and outreach needs of their growers through the development of a statewide produce safety action plan. We hope you will join us!

Over the year, educational programming extended beyond the confines of the AM/PIC through one webinar. The Early Career Development Committee offered a "First Timers Webinar" in late April. These sessions are archived and available for those who missed the live broadcasts (see the NACAA website for the URL).

One piece of advice that I received as a relatively new agent was to join NACAA and get involved in committee work. It is something that I have taken to heart, and it has helped me in my career tremendously. 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 10 at the AM/PIC.

Finally, I offer my appreciation to our committee chairs, regional vice-chairs and state chairs as well as Vice President Fechter for their individual and collective leadership and guidance during the past year.

regulations, water conservation education, how to with the OYF Young Farmer of the Year Award and Extension's role in the watershed planning process. I hope you can find time to join us in this session filled with important information relevant to your producers.

The committee has also been hard at work preparing for our super seminar that will take place on Wednesday afternoon. The focus of this seminar is to update agricultural agents on the FSMA Produce Safety Rule and the On Farm Readiness Review preparedness tool. Kristin Woods from the Produce Safety Alliance and Wesley Kline from Rutgers Cooperative Extension and the On Farm Readiness Review development team will be joining us to share timely information and answer your questions.

While the AI&PR committee no longer has responsibilities to the OYF program, we still hold it close to our heart and support NACAA involvement with the program. I was lucky enough to nominate a NJ farmer that become a national winner in 2016, and was fortunate to attend the annual meeting that year. I have been so impressed with the farmer winners and nominees recognized by OYF, and encourage you to nominate one of your own farmers. Former AI&PR chair Don McMoran will be giving a presentation in the AI&PR session on what he learned through the process of nominating a farmer who won the national title. OYF information and application forms can be found at [http://www.nacaa.com/awards/other\\_awards.php](http://www.nacaa.com/awards/other_awards.php). Nominations are due by August 1st.

Finally I would like to offer my appreciation to the AI&PR committee members and Kurt Jones our Extension Development Council Chair. They have been incredibly helpful and responsive in our collaborations to organize our programs. We look forward to seeing everyone in Salt Lake!

## Early Career Development

Nicholas Simmons

Florida



The Early Career Development Committee has been busy during the past year thanks to the efforts of our committee members:

Ed Martin, University of Arizona Cooperative Extension

Emily Adams, Ohio State University Extension

Jenny Carleo, Rutgers University Extension Service

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 2017 AM/PIC in Salt Lake City, UT. Six abstracts from members have been accepted for presentation on Tuesday, July 11th beginning at 8:30 am. These topics are applicable to more than just early career professionals. Following is a list of accepted presentations:

CHALLENGES OF BEGINNING EXTENSION AGENTS AND THE BENEFITS OF PEER-LED TRAINING

Nicole Carutis, Penn State University

FROM A CHECKMARK TO A RELATIONSHIP

Mary Berg, North Dakota State University

AND THE SURVEY SAYS...METHODS AND OUTCOMES FOR EXTENSION OUTREACH OFFERINGS

Sheila L Gray, Washington State University

YOU, TOO, CAN PUBLISH AN ARTICLE IN THE JOURNAL OF NACAA

Lee Stivers, Penn State University

DON'T FORGET TO TAKE YOUR COMMISSIONERS A WATERMELLON: GUIDELINES FOR BUILDING

RELATIONSHIPS IN YOUR COMMUNITY

Carrie Stevenson, University of Florida

HOW TO GIVE A MEMORABLE INFORMATTIONAL PRESENTATION

Gary Fredricks, Washington State University

The other main product of the Early Career Development Committee was the NACAA AM/PIC First Timers Webinar held on Thursday, April 21st, 2017. The purpose of this webinar was to better prepare participants for the 2017 AM/ PIC by reviewing the conference program, logistics, and the registration process. Approximately 21 participated in the live presentation and the presentation was also archived. We partnered this year to incorporate more information from the committee working with First Timer's at the AM/PIC. The First Timer's Reception will be held on Sunday, July 9th, the luncheon on Monday, July 10th. 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 10th from 1:30 – 2:30 p.m. Your ideas will be useful for the development of goals for the 2017 – 2018 year and the 2018 AM/PIC. Please share your thoughts and ideas with any of the committee members.

It has been a pleasure to serve as your Early Career Development Committee Chair the past two years. I have enjoyed working and meeting many of you and look forward to seeing you at annual meetings in the future.

We look forward to seeing you in Salt Lake City!

## Leadership & Administrative Skills

Randy Saner

Nebraska



“Leadership and Administrative Skills” is a slight change of our name. We added Leadership to the name because many of our daily work responsibilities relate to more community leadership than administrative skills, therefore the name change. Many people look up to us as leaders in our community. This means sometimes doing things you would not normally think of in our job description. Leadership skills like these bring us closer to the community and help us to bring financial resources as

well as local volunteers for our program. Administrative skills are vital as we evaluate and manage staff. From these skills, I have learned to develop the ability of persuasion, integrity, caring, honesty, and tolerance within my work role. Our organization must strive for high standards and continually work to improve below standard performance, as this will affect the entire extension system.

By being a member of NACAA, we have a wealth of knowledge available from colleagues. The Leadership and Administrative Skills program will offer seminars for its members that continually update their knowledge.

This year our Tuesday morning session, will feature four presentations.

- Iowa's Madeline Margaret Schultz will present "WOMEN IN AG: DESIGNING A COMPREHENSIVE EXTENSION AND OUTREACH STRATEGY?"
- Florida's Daniel J. Leonard will present "SERVING OUR STAKEHOLDERS: AN ADVANCED MASTER GARDENER TRAINING SERIES ON CUSTOMER SERVICE AND PUBLIC SPEAKING."
- Utah's Taun Beddes will present "CREATING ALTERNATIVE FUNDING SOURCES FOR EXTENSION PROGRAMMING."
- Washington's Mark D Heitstuman will present "WASHINGTON STATE UNIVERSITY BLUE MOUNTAIN EXTENSION TEAM: DELIVERING IMPACTFUL PROGRAMS ACROSS A DIVERSE 5-COUNTY REGION."

If your administrative or leadership interest involves working with volunteers, generating alternative funding, delivering high impact programs across a diverse region, or designing outreach strategies, plan to attend these seminars.

As extension changes to meet the needs of our clientele, we need to be forward looking at the issues that affect society while celebrating our rich history. Hope to see you at these impactful seminars.

## Teaching & Educational Technologies

Susan Kerr  
Washington



Hello everyone – it is ironic that someone considered a troglodyte by her Extension colleagues is the national chair

of the Teaching and Educational Technology committee! That is one of the strengths of NACAA, though—there is a leadership role for anyone willing to step up and do the work.

From the 2017 NACAA Committee Handbook: "The Teaching and Educational Technologies Committee focuses on the development of programs to assist members in learning non-traditional Extension education skills. Possible areas of focus could include electronic multi-media skills, computer networking, compressed video, electronic communications, distance education, and traditional teaching skills. This charge includes the development of professional improvement opportunities, securing resources to fund these activities, and promoting these activities to members. Professional improvement program ideas should come from the total NACAA membership to this committee through the various State Chairs."

The TET committee hosted three webinars in the past year related to apps. On Nov. 16, 2016, Sarah Smith from Washington State University presented "WSU Carcass Calculator App: From Development to Use." Natalie Kinion and Trevor Lane from Washington State University presented "There's an App for That!" on Jan. 17, 2017. Blake Thaxton from the University of Florida presented "Increase Your Agriculture Awareness with an App" on Feb. 15. The first two webinars were recorded and are available on the NACAA web site at <http://www.nacaa.com/prof-dev/Webinars.php>.

TET presentations will be given during the Extension Development Council seminar session from 8:30-11:30 on Tuesday, July 11. Presenters and their workshop titles are: "Developing an Extension Program Using a Hybrid Teaching Approach" by Sergio Arispe; "Ten Digital Skills Extension Agents Need" by Nicole Carutis; "The Edtechln: A Key Resource for County Agents" by Daphne Richards; "High Tech and High Touch – Using Webinar Technology to Grow Agricultural Opportunities for Women" by Janet L Schmidt; "Developing a Power Point Using Proven Teaching Methods" by Suzanne Stumbo; and "Adobe Spark for Program Impact Reporting" by David A. Yates. We will also save time for an open discussion of technology topics of interest to attendees because that activity was such a success at last year's AM/PIC.

If possible, please join TET committee members at the Extension Development Council workshop on Sunday, July 9 from 2 to 5 PM and our committee workshop on Monday, July 10 from 1:30 to 2:30 PM. In addition to contacting your regional committee chairs or state chairs any time during the year, these workshops are an excellent way to influence TET committee activities in the year ahead. Also, please consider serving on this committee as either a state committee chair or regional vice chair when the opportunity arises. Your colleagues who served as regional vice chairs on the TET committee in 2016-17 were: Matthew Lollar (FL), Southern Region Committee Vice Chair;

Jennifer Rees (NE), North Central Region Committee Vice Chair; Michele Bakacs (NJ), Northeast Region Committee Vice Chair; and Susan Kerr (WA), Western Region Committee Vice Chair and National Committee Chair.

The Program Recognition Council (PRC) is one of the three Councils that make up the committee structure of NACAA. The Council consists of seven committees: 4-H and Youth, Communications, Professional Excellence, Public Relations, Recognition & Awards, Scholarship, and Search for Excellence.

## Program Recognition Council Chair

**Keith Mickler**

**Georgia**



The Program Recognition Council provides a vehicle to recognize the professionalism, performance and outstanding programs of NACAA members.

These committees help the NACAA recognize the outstanding work of our members in their respective states, regions and counties. Each year the committees review numerous entries to determine state, regional and national winners. Committees have worked hard to recognize NACAA members for their outstanding efforts. Program Recognition Council committees will award over \$32,000 to members during the AM/PIC. Without these committees and the members that have stepped up to participate in the committee leadership, it would be impossible for the NACAA to offer such an award program.

Each year it is a challenge to fill vacancies within the national committees. Members should look at becoming a committee member. If any member is interested or curious about being a committee member and/or the time commitment, I encourage them to speak to the current committee members or attend the committee meetings during the AM/PIC. I think that they will find that the fulfillment of the committee work far outweighs the time commitment.

The activities of this council focus on special personal recognition, presentations, programs, posters and other forms of recognition at the AM/PIC. In July, there will be a wide variety of presentations in Salt Lake City, Utah. I encourage you to attend sessions with the goals of networking as well as identifying programs and methods for use or adaptation.

This begins my first year of three as council chair; I am very gracious for the opportunity to serve as your Program Recognition Council Chair. This opportunity is a challenge

and blessing at the same time. My role would be impossible if not for the excellent group of chairs and vice chairs that have worked hard fulfilling this council's duties. I wish to thank each member for his or her time and hard work.

## Communications

**David L. Marrison**

**Ohio**



The NACAA Communications Committee is pleased to report that Bayer Advanced has continued sponsorship of the Communications Awards Program for 2017. 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 developed a "Frequently Asked Question" help sheet to help state chairman answer questions from their membership. We also held two ZOOM meetings to help members learn how to apply for the NACAA Communication Awards.

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 was very close and the quality of submitted items was top-notch. In total, we had 810 total entries (up from 586 in 2016) were made from across the nation. The Southern Regional led the way with 446 entries submitted in the Southern Region. Congratulations to the Florida Association for having 100 applications submitted at the state level to lead all states by a large margin. The North Central Region submitted 235 entries, the Northeast Region submitted 83, and the West Region submitted 46.

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

- Audio recording had 38 entries
- Published Photo and Caption had 50 entries
- Computer Generated Graphics had 48 entries
- Promotional Piece had 110 entries
- Personal Column had 87 entries
- Feature Story had 76 entries
- Individual Newsletter had 57 entries
- Team Newsletter had 35 entries
- Video Presentation had 84 entries
- Fact Sheet had 74 entries
- Publication had 73 entries

- Web Site had 55 entries
- Learning Module had 23 entries
- Bound Book had 15 entries

I am appreciative to the regional vice-chairs for the communication committee. The regional vice-chairs are: North Central Region Chair - Michelle Buchanan (Kansas), North East Region Chair - Marjorie Peronto (Maine), Southern Region Chair – Donna Hamlin Beliech (Mississippi) 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 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](mailto:marrison.2@osu.edu) or call 440-576-9008.

**Search for  
Excellence**

**Stanley A. McKee**

**Pennsylvania**



The current Search for Excellence (SFE) committee is comprised of four regional vice chairs and myself. The regional vice chairs include Amy-Lynn Albertson from North Carolina, Steve Van Vleet from Washington, Jennifer Schutter from Missouri, and Greg Strait from Pennsylvania.

The committee held an organizational meeting by Zoom/conference call in December 2016. We discussed procedures for promoting SFE entry submissions and for scoring the entries to be received. A description of the criteria was posted on the awards section of the NACAA website for consistency in judging entries. During the conference call we also confirmed the division of responsibilities regarding the SFE categories that each would lead. They were as follows:

- Consumer or Commercial Horticulture – Jennifer Schutter
- Livestock Production – Steve Van Vleet
- Crop Production – Greg Strait
- Young, Beginning, or Small Farmer – Stan McKee
- Forestry & Natural Resources – Amy-Lyn Albertson
- Farm & Ranch Financial Management – Amy-Lynn Albertson
- Farm Health and Safety – Greg Strait
- Sustainable Agriculture – Stan McKee

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, 2017. All the entries forwarded by the states were judged before the end of April, and national winners, finalists, and state winners were notified of their final placing by May 1st.

- The number of completed entries per category was as follows:
- Consumer or Commercial Horticulture – 20
  - Livestock Production – 16
  - Crop Production – 16
  - Young, Beginning, or Small Farmer/Rancher – 8
  - Forestry & Natural Resources – 10
  - Farm and Ranch Financial Management – 6
  - Farm Health and Safety – 7
  - Sustainable Agriculture – 9

The total number of entries received was an increase of 17 over last year, and the highest number of entries over the last 4 years. There is certainly an opportunity for more Members to participate by submitting entries in SFE. The entries are not difficult to prepare and submit, and the program provides a great opportunity for individual and team recognition. Our 2017 winners and finalists will be recognized during their respective SFE luncheons at the upcoming AM/PIC. The committee will continue to promote the SFE awards program, and encourage more applications next year.

The recently added Forestry and Natural Resources category increased to 10 entries this year. There are still opportunities for sponsorship with this new category, and suggestions of potential sponsors would certainly be welcome.

Thanks:

- 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 the other associated tasks of the committee.
- Thanks to Program Recognition Council Chair Keith Mickler for his assistance and support during the year.
- Thanks to the NACAA Board for their support of the Search for Excellence program.
- Thanks to NACAA Executive Director, Scott Hawbaker for his support and assistance to me when questions or situations with entries arose. He was always prompt and provided exceptional follow-up.

## 4-H & Youth

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 34 entries from all four regions. Judging was very difficult and the scores were extremely close. Same goes for the applications for presenters. 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

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, Eric Barrett; North East Region, Steven Yergeau; Southern Region, Gene McAvoy; and Western Region, Mylen Bohle.

The Professional Excellence Committee would like to thank Syngenta for once again sponsoring the poster session awards and breakfast at the 2017 AM/PIC.

This year we will have an excellent session with a total of 166 posters presentations (51 Research and 115 Extension Education) on display in Salt Lake. For 2017 we implemented pre-AM/PIC regional judging of state winners to select the 24 National Finalist posters (three from each region for both categories). This will make 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 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 1:00 p.m. Sunday, July 9 and stay through 4 p.m. Tuesday, July 11, 2017. “Meet the Author’s Poster Sessions” will be from 10:00 a.m. – 10:30 a.m. during the breaks on Monday, July 10 and Tuesday, July 11.

National winners and finalists will be formally recognized during the poster session awards breakfast to be held on Tuesday, July 11 starting at 6:30 a.m.

During the awards breakfast the top three posters in each category will receive a cash award and plaque; national finalists and state winners will receive a certificate.

## Public Relations

Kathryn Hopkins



The Public Relations 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. The Ag Awareness and Appreciation award program had 12 examples

of outstanding quality of public relations work. There is a tremendous amount of great Extension work that many educators and agents are doing and much of this work would make an excellent entry in the Ag Awareness and Appreciation award program in 2018.

Congratulations to Molly Jameson from Florida, who is the Ag Awareness and Appreciation National Winner. Molly will present her winning entry during the Ag Awareness and Appreciation Recognition Luncheon on Monday in Salt Lake. Her topic will be the Leon County Library Seed Program. Congratulations also go National Finalists Edwin Lentz from Ohio and Newton Mccarty and team from New Mexico.

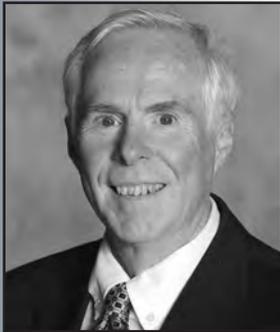
State winners include Craig Askim from North Dakota, Curtis Dame and Darrell Simpson from Kentucky, Zachary Taylor, Bill Stone, Minda Daughtry and Daniel Campeau from North Carolina, Kacy Atkinson of Colorado and Janet Laminack and David Annis of Texas.

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

The Public Relations Committee is looking forward to having entries from all of the four regions in 2018 and challenges everyone to submit an entry in one of the NACAA awards programs and especially in the Ag Awareness and Appreciation Award program. 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 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**

**Stephen E. Hadcock**



The committee welcomed Sherry Beaty as the new Southern Region Vice Chair. Joni Harper, Amber Yutzy, and Donna Hoffman have continued to serve as Vice chairs for their respective regions. As the “old pros,” these ladies have provided great leadership in their respective regions.

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, 62 Achievement Award recipients will receive their awards at a Breakfast in their honor. This is the 43rd year that NACAA has presented this award with this year’s recipients joining 2,111 fellow Achievement Awards winners. The 2017 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 Mark Nelson and American Income Life’s Bill Viar, who will assist with the awards presentation on Tuesday morning.

This year is the 79th year our national professional organization is presenting 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 61 NACAA members from across the country and join 7,271 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 12th 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.

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 44 years and they have provided sponsorship for 62 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 express my appreciation for the honor to serve as Chair of this committee. 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.

## Scholarship

Dwane L. Miller

Pennsylvania



The Scholarship Committee is charged with the responsibility of promoting the scholarship program by obtaining funds from NACAA members, friends of NACAA, and others interested in the scholarship effort. The committee works with the NACAA Educational Foundation to award scholarships for professional development to NACAA members. 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 through various means. I would like to say thank you to the members of the Scholarship Committee for their hard work during the past year: Sheila Gray, West Region Vice-Chair; Brian Haller, Southern Region Vice-Chair; David Handley, Northeast Region Vice-Chair; Travis Harper, North Central Region Vice-Chair; Charles Moody, Life Member Representative, and all of the state chairs. 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 excellent professional development activities.

The scholarship committee continues to work with state scholarship chairs to encourage donations to the scholarship program. During the period of May 16, 2016 through May 15, 2017, NACAA members and friends contributed \$20,887 to the scholarship program. Thank you all for your generous support! We had another tremendously successful scholarship auction at our 2016 AM/PIC, which raised \$10,489. This past year, 14 individual and 2 group scholarships were awarded for continuing education and professional development, in the amount of \$18,889.

The Scholarship Committee would like to recognize the following members for reaching designated giving levels to the NACAA Scholarship Program during the period of May 16, 2016 through May 15, 2017. Certificates of appreciation will be awarded to these members during the regional meetings at the Salt Lake City AM/PIC:

\$100-\$249

North Central Region: Darla Campbell, Russ Euken, Adele Harty, Michael S. Holder, Paul A. Mariman, Ted R. Probert and Mark Storlie

Northeast Region: Tanner Delvalle

Southern Region: Amy-Lynn Albertson, Craig S. Allen, Renee

Allen, Mark Blevins, Andy Braswell, Ed Burns, Jesse Clark, Terra Freeman, Lindsay Stephenson Griffin, Fred M. Hall, Donna Patterson, David R. Perrin, Ruby Rankin, Casey N. Russell and Rick Wimberley

West Region: Nicole Anderson, Michael R. Bush, Gary Fredricks, Susan Kerr, Tracy Mosley, Curtis J. Utley and Debbie Williams

\$250-\$499

North Central Region: Gary W. Lesoing and William Keck

Northeast Region: Karen A. Baase, Richard Brzozowski and David T. Handley

Southern Region: Liz Felter, Greg Hoover, Rickey G. Hudson, Andrew E. Overbay, Lenny Rogers, Sherri Sanders, M. Kent Stanford, Joe G. Taylor, Carla Vaught and Jeffery D. Via

West Region: Mark Nelson

\$500-\$999

North Central Region: Mary Sobba

Northeast Region: Wendy M. Sorrell

Southern Region: Paula J. Burke, Rex Herring, Ray Hicks, and Lance Kirkpatrick

\$1,000-\$2,499

North Central Region: Stuart Hawbaker

Southern Region: Keith Fielder and William A. Hogan, Jr.

\*\*\* I would also like to give special thanks to one of our life members for reaching a huge milestone in contributions. Congratulations to Eddie Holland from Texas for reaching the \$20,000 level! \*\*\*

\$20,000-\$24,999

Southern Region: Eddie R. Holland

The committee would like to remind the membership of the opportunity to submit applications for scholarships. These scholarships can be used for members' professional improvement, which can include funding advanced degrees, tours, seminars, research, or other specialized training.

- All applications are electronically completed on the NACAA website. Applications can be submitted anytime throughout the year. Deadline for applications is June 1st.

- 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. This contribution must be made before the end of the previous year's AM/PIC to qualify (ex: contribution must be received by the end of the 2017 AM/PIC to apply for an award in 2018).

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

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

- Bring items to the silent and live auction at the AM/PIC. You receive credit for the amount the item sells for.
- Purchase tickets (\$20 each) for the special cash drawing, held at the AM/PIC. Non-winning tickets receive credit for a donation to the scholarship program.
- Some states have auctions or other fundraisers in which they designate proceeds towards the NACAA Scholarship Program.
- Direct donations by individuals. You can also directly donate online with a credit card! Simply visit the NACAA website and scroll to the bottom of the page. Click on “Donate to the NACAA Educational Foundation – Scholarship”

The process of submitting applications is still continuing. All applications that have been submitted by the June 1st deadline will be reviewed by the scholarship committee at the 2017 AM/PIC in Salt Lake City. Please consider bringing an item or two for this year’s auction, and taking a chance to win some cash!

## Life Member

Neil Broadwater

Minnesota



The Life Member Committee Team consists of Regional Vice Chairs Russell Duncan, South Carolina; Eugene Schurman, Pennsylvania; Dave Phillips, Montana; and Melvin Brees, Missouri. With Russell and Eugene having served two year terms following this year’s AM/PIC, Eddie Holland, Texas and Paul Craig of Pennsylvania will be filling those slots for the 2017-19 term.

With over 2,500 Life members as part of NACAA, 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. This year we received approval from the Board to launch a Life Member page on the NACAA web site to provide information to life members across the country. We thank Scott Hawbaker, NACAA Executive Director, for setting up the page for us and we hope this can grow in the number of items posted to help our life members stay informed. Please check out the page at <http://www.nacaa.com/committees/LifeMemberInformation.php>. Let us know what you think.

At the 2015 AM/PIC in Sioux Falls, the Life Member Committee set up a rotating schedule by region for the year 2015-16 to find someone to write an interesting article for a Life Member page in each The County Agent magazine publication. Those four articles were published with the cooperation of Scott Hawbaker who puts the magazine together. We continued this rotation of articles during the 2016-17 year. 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 2017-18 year as well. If you have an interesting story to tell and may want 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 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.

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. Life members have a wealth of education and experience. Sometimes they may be able to help with a workshop or educational program where help is needed. State Associations may also be able to use life members as a resource for ‘educating’ decision makers concerning state Extension Service needs. So think about contacting a life member near you when something is happening.

Finally, I wish to thank the NACAA Board for always making sure Life Members are part of the association’s plans for AM/PIC. Life Members help make the AM/PIC better by them being there and being involved. Life members appreciate it. I also wish to thank the Utah Life Member Committee for helping set up a great Life Member program that include tours and activities at this year’s AM/PIC. It should be a lot of fun as well as be of educational value to our life members who attend. And, to be able to renew acquaintances, see old friends and make new ones during the activities scheduled should make for a successful visit to the Salt Lake City area. I am looking forward to seeing everyone there.

# Journal of NACAA

Lee Stivers  
Pennsylvania



The purpose of the Journal of NACAA is to give members the opportunity to publish in a peer reviewed journal and thereby advance their credentials. Because the Journal does not focus exclusively on research, it is an opportunity for agents and educators to publish articles on innovative activities, case studies or emerging opportunities. First time authors are especially encouraged to submit articles in order to gain experience and confidence in publishing.

Following twelve months of job shadowing with Stephen Brown, I began my term as editor of the Journal of NACAA with the December 1, 2016 issue. I am very grateful for the assistance Stephen provided, and still provides, to me to make this a smooth transition.

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 fourteen submissions for the December 2016 issue; twelve papers were published. For the June 2017 issue, we received sixteen submissions.

In December I surveyed the current list of peer reviewers to keep that list updated, and to collect more detailed information on what topics each reviewer was interested in reviewing. We currently have fifty-seven 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.

Based on feedback from several reviewers and authors, we have begun to take steps to make the submission and review process a blind process. The best practice for a peer reviewed journal is to have blind reviews where reviewers do not know who the authors are, and authors do not know who is providing the reviews. I am also working on revising and updating the submission instructions, and creating guidelines for reviewers.

I welcome comments and questions from authors and reviewers, both prospective and experienced. Please drop me an email anytime at [ljs32@psu.edu](mailto:ljs32@psu.edu).

## Thanks to 2016/2017 Journal of the NACAA National Peer Reviewers

Nicole Anderson	Oregon
William Bamka	New Jersey
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
Sheila Gray	Washington
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
Ayanava Majumdar	Alabama
Salvatore Mangiafico	New Jersey
Jeff McCutcheon	Ohio
Keith Mickler	Georgia
Tracy Mosley	Montana
Rebekah Norman	Tennessee
Andy Overbay	Virginia
Michael Pace	Utah
Angelique Peltier	Illinois
Chris Penrose	Ohio
Marjorie Peronto	Maine
Hans Schmitz	Indiana
Bill Sciarappa	New Jersey
Mary Carol Sheffield	Georgia
Bill Shockey	West Virginia
Mark Stewart	Missouri
William Strader	North Carolina
Gary L. Strickland	Oklahoma
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

Ray Hicks  
Georgia



“Certified Grown” was the theme of this year’s Outstanding Young Farmers Congress which was held in Greenville, SC, February 9 -12. The Southern region of Young Farmers really laid the welcome mat out for all the applicants and alumni, from great workshops to educational tours to delicious food. 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 2017 61th Annual Awards Congress, 12 of the 21 nominations were made by NACAA agents which resulted in 4 of the top 10 candidates and 2 of the top 3 who thanked their Extension Agents for their help in getting nominated. 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 2018 Congress will be held in Sacramento California, February 15-18. Applications for the program are due August 1 and can be found at <http://www.ofafaternity.org/nomination-forms>.

I thank you for allowing me to representing you and NACAA during my assignment.

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

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. My tenure began in January of this year in the capacity of serving as the liaison to NACAA for Extension Journal, Inc.

## Extension Journal Inc.

Melody Rose  
Tennessee



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 2016, along with 282 submissions received for publication. For more on the numbers, see the February 2017 Editor’s Page, “JOE by the Numbers 2015” found at: <https://www.joe.org/joe/2017february/ed1.php>.

You can also find the top 50 most read articles for 2016 at: <https://www.joe.org/website-statistics/top-articles-2016.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: <http://www.joe.org/about-faqs.php#rp01>.

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](mailto:robert.ricard@uconn.edu).

### A YEAR WITH THE NEW EDITOR

In late 2014 EJI president (at that time), Dr. Michelle Rodgers, along with Past-President Dr. Joseph Donaldson set the pathway to find a new editor to replace the longtime JOE editor Dr. Laura Hoelscher who retired on December 31, 2015.

A search committee was appointed with Terry Meisenbach chosen to lead the committee. The search committee consisted of Dr. Karen Cannon, Dr. Debra Maddy, Dr. Eli Sagor, and Dr. Keith Mickler. At the September 2015 EJI board of directors meeting; Debbie Allen was appointed new editor for JOE, effective January 1, 2016.

Debbie has done an outstanding job in this position for the last year, with many positive changes occurring along the way. Many components of the JOE website have been revamped, allowing for more clarity and easier access to visitors, along with the elimination of repetitious and outdated information. Authors should find the submission process more user friendly and the site easier to navigate.

Debbie has also written a new resource for prospective authors entitled, “Strategies for Success.” Read here for more information: <https://www.joe.org/for-authors-getting-published-in-joe-strategies-for-success.php>. New and improved versions of JOE submission guidelines, style and guidance for avoiding common manuscript problems, and JOE Manuscript Submission Checklists are also available, thanks to Debbie’s passion for assisting authors accomplish their goals of being published. See here for more info: <https://www.joe.org/for-authors-submission-guidelines.php>.

#### 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 o 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 to search through and find key individuals for positions they wish to fill.

#### SPECIAL THANKS

I have big shoes to fill after Keith Mickler’s retirement from the EJI board of directors on December 31, 2016. He represented and served as the NACAA’s representative to the EJI board for ten years. Luckily, Keith remains on the EJI Board as a member-at-large. I certainly hope I can serve in the capacity he has, and represent NACAA with pride.

Since joining the EJI Board in January, 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**



It’s hard to believe that another year has come and gone. When the position of Executive Director was created during the 1998 AM/PIC in San Antonio, Texas, nobody knew what truly to expect. Would this new role be worth the investment? Would there be enough work to keep this person busy? Hopefully during my 19 year tenure, those questions have been answered. From my perspective, I’m keeping busy, and do appreciate the opportunity to work with NACAA.

It’s been a pleasure working with the 2016-2017 Board of Directors and NACAA membership overall. Each year brings new challenges and objectives, but the mission remains strong, and I’m proud to be a part of this 102 year old Association. I’m here to serve NACAA, and will continue to do my best to meet the memberships expectations for years to come.

**Poster Session**

**Applied Research**

**2017 NACAA**

**102nd**

**Annual Meeting**

**and**

**Professional Improvement Conference**

**Salt Lake City, Utah**

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## NATIONAL WINNERS & FINALISTS

### 1<sup>st</sup> Place

#### SMOOTH BROME (BROMUS INERMIS) GROWTH RESPONSE TO RYZUP SMARTGRASS APPLICATION IS EFFECTED BY SURFACTANT

Rethwisch, M.D.<sup>1</sup>; Criag Hruska<sup>2</sup>; Garrett Tooker<sup>3</sup>; Kaleb Scheffler<sup>4</sup>; Anthony Meusch<sup>5</sup>

<sup>1</sup>Extension Educator, University Of Nebraska - Lincoln, David City, NE, 68632

<sup>2</sup>Summer worker, University Of Nebraska - Lincoln, Butler County Extension, David City, NE, 68632

<sup>3</sup>Summer Worker, University Of Nebraska - Lincoln, Butler County Extension, David City, NE, 68632

<sup>4</sup>Summer Worker, University Of Nebraska - Lincoln, Butler County Extension, David City, NE, 68632

<sup>5</sup>Summer Worker, University Of Nebraska - Lincoln, Butler County Extension, David City, NE, 68632

In 2012, striking differences were noted in adjacent field test plots of smooth brome (*Bromus inermis*) treated with RyzUp SmartGrass (active ingredient = gibberellic acid 3). Subsequent investigation noted different surfactants were used between the two sites, providing the first clue that the correct surfactant was critical to crop response to gibberellic acid application. A number of surfactants were screened in a series of RyzUp SmartGrass applications to smooth brome in small plot field trials over the next several years to determine which surfactants were most effective. Natural forage height and extended leaf measurements indicated significant differences due to surfactant included, and that best and most consistent growth responses occurred when non-ionic surfactants which contained ammonium sulfate were used with gibberellic acid. These combinations resulted in positive economic hay production values across several nitrogen fertility levels in fields, at 30 days and especially at 60 days post treatment. It is thought that the ammonium component of these surfactants help to keep the gibberellic acid from being denatured in the spray tank, while the additional nitrogen is also beneficial.

### 2<sup>nd</sup> Place

#### BIFENTHRIN TREATED SUBSTRATE FOR CONTROL OF TAWNY CRAZY ANTS (NYLANDERIA FULVA) IN CONTAINER NURSERIES

Pickens, J.M.<sup>1</sup>; Graham, L.C.<sup>2</sup>; Palmer, K.R.<sup>3</sup>

<sup>1</sup>Extension Specialist Nursery Greenhouse, Alabama Cooperative Extension System, Mobile, AL, 36689

<sup>2</sup>Research Fellow IV, Auburn University, Auburn, AL, 36849

<sup>3</sup>Regional Extension Agent, Alabama Cooperative Extension System, Bay Minette, AL, 36507

Poster URL: <http://www.nacaa.com/posters/uploads/1421.pdf>

*Nylanderia fulva* (Tawny Crazy Ant) has the potential to become a major pest in the Southeast. *N. fulva* has been reported in every Gulf Coast state and Georgia. There is a great potential for its spread through containerized plant material. Currently in Alabama, *N. fulva* is isolated to a few small areas in Mobile and Baldwin County. Nursery growers have expressed concerns about the potential problems should this ant infest a local nursery. In order to comply with the Federal Imported Fire Ant Quarantine, growers are required to use approved insecticidal treatments. Many container nursery growers utilize bifenthrin incorporated into their potting mix for fire ant control. Our objective was to evaluate the effectiveness of this treatment in controlling or repelling *N. fulva* in the container nursery. This experiment included the following treatments: untreated control, 12.5 and 25 ppm bifenthrin potted 240 days before placement (DBP) and 12.5 and 25 ppm bifenthrin potted 14 DBP. Treated media from a local nursery (15 ppm bifenthrin) was also included was also included. Pots were arranged in a randomized complete block design with 26 blocks an infested wooded area. Pots were inspected for the presence of *N. fulva* at 30, 40 and 75 days after placement. No interaction was observed between treatments and sample dates. All treatments had some level of infestation. Both the untreated pots and the pots with 15 ppm bifenthrin had a significantly greater level of infestation when compared to other treatments.

### 3<sup>rd</sup> Place

#### DIGGING INTO THE POTENTIAL OF SWEET POTATO PRODUCTION IN THE TRI-COUNTY AGRICULTURAL AREA OF NORTHEAST FLORIDA

Wells, B.C.<sup>1</sup>; Liu, G.<sup>2</sup>

<sup>1</sup>Extension Agent II, Commercial Agriculture, UF/IFAS Extension St. Johns County, St. Augustine, FL, 32092

<sup>2</sup>Assistant Professor, UF/IFAS, Gainesville, FL, 32611

Poster URL: <http://www.nacaa.com/posters/uploads/1305.pdf>

The Tri-County Agricultural Area of Northeast Florida leads the state in production of potatoes (*Solanum tuberosum* L.), with Hastings in St. Johns County being the official "Potato Capital" since 1908. However, in recent years potato growers have been operating on low profit margins, and production acreage is declining. Growers are looking for alternatives such as sweet potato (*Ipomoea batatas* L. Lam.) to diversify their farming systems and enhance sustainability. However, information about production in the area is lacking, and growers are relying on Extension for help. In response, field trials were conducted in summer 2016 to evaluate yield, identify the optimal nitrogen

(N) rate, and compare row spacing on selected cultivars. ‘Boniato,’ ‘Burgundy,’ ‘Covington,’ and ‘Palmetto’ were planted using two row spacings (40” and 80”) and four N rates (lbs/A) (0, 60, 90, 120). Yields were significantly different for the four tested cultivars. ‘Boniato’ was the greatest yielding followed by ‘Burgundy,’ ‘Palmetto,’ and ‘Covington.’ The 90 N rate resulted in the greatest yields for all cultivars. Due to insufficient slips, only the 40” row spacing was evaluated. Although ‘Boniato’ and ‘Burgundy’ had greater yields, ‘Palmetto’ may demand a better price with a promising market potential for Florida because of its high content of purple anthocyanin, an antioxidant that not only makes this sweet potato a superfood, but gives it an alluring purple color. The 90 N application rate had the best yield and nitrogen use efficiency, thus may be considered an appropriate rate for sweet potato production in the area.

## Finalists

### CORN NITROGEN CALIBRATION IN SOUTH DAKOTA

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Corn nitrogen (N) recommendations in South Dakota have not been updated since 1991. The current nitrogen recommendation calculator includes yield goal and an N coefficient as well as soil test nitrate-N from the two foot depth, allows for legume credits and adds thirty pounds of N for newly developed no-till. The research objective was to re-evaluate corn nitrogen recommendations because of advanced high yield corn hybrids and improvements to cropping systems. Twenty three locations were identified in producer fields and research farms from 2013 through 2016. Pre-project soil samples were obtained from the 0-48 inch depth in six inch increments for nitrate-N analysis. SuperU N fertilizer was surface applied immediately after planting at five rates (40, 80, 120, 160, 200) and a check treatment without N was included in 4 replications at each location. Treatment plots measured fifteen by thirty feet and were included in a randomized complete block design. SPAD meter readings were measured from the corn ear leaf at tasseling. Grain yield was determined from a harvest area in the center two rows of each plot. Estimated optimum nitrogen rate for each location was determined with the linear/plateau method and N coefficients were calculated by considering the maximum yield, estimated optimum nitrogen rate, soil test nitrate-N and legume credit. SPAD meter readings increased with N rate and the average N coefficient was determined to be near 1, as compared with 1.2 as currently used.

### USING UNMANNED AERIAL VEHICLE IMAGERY TO DETECT DOWNY MILDEW (PSEUDOPERONOSPORA CUBENSIS) ON CUCUMBER

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1341.pdf>

The use of unmanned aerial vehicles (UAVs) to obtain data throughout the growing season is rapidly becoming a new application of technology in agriculture; however, the practicality and usefulness of scouting data generated by UAVs in specialty crops is still largely unknown. A field study to investigate the use of aerial imagery to detect and quantify downy mildew (*Pseudoperonospora cubensis*) on cucumber at various growth stages was developed in western Ohio during the 2015 growing season. This study utilized a disease gradient of various combinations of host resistance and fungicides. Aerial images of plots throughout the season were analyzed using WinCam software and compared to ground observations. To compare the processed imagery with ground ratings, a concordance correlation coefficient ( $\rho_c$ ) was calculated. This value, calculated as 0.827, indicates UAV imagery was nearly as effective as ground scouting for quantifying downy mildew severity throughout the season. The results from the first year of this study show that plant disease can be quantified using aerial imagery; however, training the software to differentiate disease from other anomalies is labor intensive and can greatly impact results. More work on different crops, sensor configurations, and automation of detection will give rise to better understandings of the limits of this approach.

### FINDING REVENUE FOR NEW YORK BERRY FARMS

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In 2013, Cornell launched a new effort to analyze the financial condition of berry farms in the state through a Berry Farm Business Summary. Led by faculty and staff from the Department of Horticulture, and the Dyson School of Applied Economics and Management, a team of extension educators worked with eight berry farmers across the state to complete farm business summaries. Each farm provided descriptive information on their farm, and income, expense,

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labor, and capital records. Six of the farms had berries as a primary enterprise on the farm, and are smaller farms.

In addition to the business summary, an enterprise budget was developed based on input costs and labor costs that were broken down by tasks in typical blueberry, raspberries, and strawberries. Members of the New York State Berry Growers Association then verified the assumptions in the enterprise budgets. Each budget includes cost of production expenses for the pre-plant year, establishment year, and an early production year. Using data from the 2012 NYS Berry Pricing Survey, and the expenses from the enterprise budget, a breakeven analysis was developed based on different yield and price assumptions. For a grower to find additional revenue from their berry business, they need to understand their cost of production, pricing, and breakeven yields and prices. Growers that have more complete financial information about their business and overall berry economics should be able to better plan to meet their financial goals.

### **NITROGEN AND POULTRY MANURE USE ON SOYBEANS**

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Soybeans have traditionally been a crop that has not received manure but there are a growing number of poultry farmers who have reported doing so successfully with high yield irrigated soybeans believing that the response was due to the nitrogen in the manure. Policy makers in Maryland believe that there is excess poultry manure and changing regulations are requiring a broader distribution. So, a possible use is high yielding soybeans. There is confusion as to whether there is even a yield response and if so, is the yield increase from the extra Nitrogen, Phosphorus, Potash, Sulfur, or micronutrients. Research was conducted over 2 years on 2 irrigated farms. Treatments: Control, 1.5 ton poultry manure, Nitrogen pre-plant at the manure N rate, Nitrogen at R1 at the manure N rate, Phosphorus pre-plant at manure P rate, Potash pre-plant at manure K rate, Sulfur pre-plant at manure S rate. Yields on farm 1 ranged from 65 to 96 bu/acre across the 2 years and 6 replications. Yields from farm 2 ranged from 53 to 79 bu/acre across the 2 years and 6 replications. Total treatment yields over the 2 farms and 2 years were 73-76 bu/acre. Fall Nitrate soil test were conducted to measure residual nitrogen after harvest.

### **WEST VIRGINIA PERSONAL SIZE WATERMELON VARIETY TRIAL**

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Personal size seedless watermelon have great profit potential with small farmers growing vegetables in WV. 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. 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 WV producers to make more informed choices to improve profitability for their farm business.

### **VERTICILLIUM WILT IN TENNESSEE VALLEY COTTON**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1411.pdf>

According to the 2014, 2015 and 2016 Cotton Disease Loss Estimate Committee Reports, yield losses from *Verticillium* wilt (pathogen *Verticillium dahlia*) in Alabama and Tennessee exceeded 29,100 bales across those three seasons (Lawrence et al., 2014, 2015, 2016). Yield reductions due to *Verticillium* wilt have declined over the last 60 years. Much of this decline is attributed to selecting varieties that are less susceptible to the disease. Still, commercially available cultivars vary greatly in tolerance to *Verticillium* wilt. These varietal characteristics were evaluated within the Tennessee Valley region in 2015 and 2016. Variety trials were placed within fields with significant *Verticillium* wilt pressure and were maintained in accordance with extension recommendations. At the end of the effective flowering period in both years, variety trials were assessed for percent infection and severity of *Verticillium* wilt symptoms. At the end of the 2016 season, yield data was collected and samples were ginned to determine turnout and fiber quality parameters. Generally, low levels of infestation corresponded to low visual severity ratings. Lint yield response varied only slightly from in-season assessment of percent infection and visual severity ratings. Selecting tolerant varieties is one of the most practical and effective methods for minimizing the impact of *Verticillium* wilt. Producers can minimize the potential negative yield impacts of *Verticillium* wilt by selecting varieties that display low levels of infection, low visual severity ratings, and high yield potential on farms with a history of moderate to severe *Verticillium* wilt pressure.

## WESTERN REGION

### SPATIAL INTERPOLATION OF ANNUAL RAINFALL DATA FOR ARIZONA GRAZING ALLOTMENTS WITHIN A NATIONAL DATASET GAP

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National rainfall datasets have limited coverage in the Sonoran Desert region of Southwest Arizona. Due to the large geographical area which needs to be covered, and the limited rain gauge locations, it can be impractical to use the national precipitation dataset estimations on a local scale. The Arizona

Cooperative Rangeland Monitoring Program (ACRMP) has placed rain gauges at all of its vegetation monitoring key areas in La Paz County, Arizona, in an effort to better understand the local annual rainfall patterns in grazing allotments that are underserved by the national datasets. Spatial interpolation is a useful tool for estimating rainfall patterns in areas between rain gauges. Through the use of the ArcGIS inverse distance weighted (IDW) interpolation tool, it is possible to calculate a simple gradient of rainfall over a large area which could not be feasibly measured otherwise. The local rain gauge IDW interpolation is compared with the national precipitation estimates to further refine the accuracy. The resulting geostatistical model can help land managers and land users working with the ACRMP to visually understand local climate irregularities so they can make more informed decisions.

### CAN A GRAZED COVER CROP COMPETE ECONOMICALLY WITH DRYLAND GRAIN PRODUCTION?

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Benefits to the land from planting and grazing cover crops are hard to estimate and may not be realized in the short run, but rotational and soil quality benefits would be expected. A comparison of costs and returns for predominant dryland crops with a grazed cover crop shows that in times of low commodity prices, a grazed cover crop can be less unprofitable than other options. Two different cover crop mixtures planted in May and grazed for three months are compared to 2016 returns for direct seeded crops in the higher rainfall dryland cropping region. Assuming that cover crops can provide 4 AUMS per acre and an AUM is valued at \$18, net returns for a grazed cover crop option were about \$30 per acre less unprofitable than winter wheat production. In 2016, economic returns were estimated at -\$75 per acre for winter wheat, typically the main cash crop in this region, compared to -\$43 per acre for a 4-way grazed cover crop or -\$48 per acre for a 6-way grazed cover crop.

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## **ANALYZING THE CONTRIBUTION OF AGRIBUSINESS TO THE MAGIC VALLEY ECONOMY**

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The objective of this research publication was to demonstrate the contribution of agribusiness and analyze agricultural and economic policy issues critical to the economy of a region in south central Idaho known as the Magic Valley. The starting point to quantify the direct and indirect linkages was construction of an Input/Output model for the Magic Valley economy. The national IMPLAN data base was extensively modified with local data on the agribusiness sectors. The I/O model then derive multipliers and contribution for all industries in the economy. The model was presented as publications (infographic, poster, and extension bulletin) and numerous presentations targeted to commodity groups, agricultural associations, regional development groups, local and state governments (county commissioners, state legislature) and local stakeholder groups. This information is vital because agribusiness plays a major role in Idaho's economy and draws much economic activity into the region via output (sales), jobs and value added. In addition to the contribution of agribusiness the model is being used to analyze various policy impacts, such as water curtailments and the new or expanding agricultural processing companies, upon the economy of the Magic Valley.

## **LONG-TERM APHID (HEMIPTERA: APHIDIDAE) DATA SET AND THEIR RELATIONSHIP WITH POTATOES IN THE COLUMBIA BASIN AND NORTHEASTERN OREGON**

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Aphid species, such as the potato aphid (PA) *Macrosiphum euphorbiae* Thomas, and the green peach aphid (GPA) *Myzus persicae* Sulzer, are routinely considered the most important pests of potatoes. Both colonizing species (GPA and PA), and 'other aphids' (OA), such as the bird cherry-oat aphid *Rhopalosiphum padi* L. have been identified as vectors of

multiple plant pathogenic viruses in potatoes. Since 1970s, an area-wide trapping network was developed through collaboration between researchers, extension faculty and stakeholders, to monitor aphid populations in the Columbia Basin of Oregon (Umatilla and Morrow counties), and in northeastern Oregon (Union and Baker counties). The general objective was to determine GPA and PA incidence and to determine how they may affect potato production. Trappers drove once a week more than 400 miles, and aphid specimens were collected weekly using yellow bucket traps. Specimens were then identified and counted to determine population levels during the growing season (May-Sept.). Over 30 species of OA were identified. GPA and PA populations were found to have a heterogeneous distribution in most years; a few sites had high aphid populations while low numbers were observed at most sites. Data set is currently being used in prediction models.

## **THE CASE OF THE HOLEY CORMS IN TIMOTHY HAY**

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During 2014 and 2015, producers in central Washington reported damage to their crop that resulted in large (1/4-acre) patches of poor hay stands scattered throughout their irrigated fields of timothy hay, *Phleum pratense*. Soil samples and digital images of the potential perpetrators were brought into WSU Extension, but their identity could not be confirmed. Upon further investigation, timothy hay corms (vegetative reproductive structures) had been fed on and often completely hallowed out.

In 2016, "infested" timothy hay fields were sampled with Japanese beetle traps, pitfall traps, sweep nets and soil sod plugs roughly every other week starting in April and continuing through the end of October. During the first weeks of July, sweep net samples revealed an unexpected flush of moths that were identified as the Topiary Grass-veneer moth, *Chrysoteuchia topiarius*. Pitfall traps and soil sod plugs captured adult weevils early in the spring and again in mid-October. The weevils were identified as the Rocky Mountain billbug, *Sphenophorus cicutristriatus*. By autumn, the soil sod plugs revealed damaged corms and larvae feeding on timothy hay corms. Through DNA analysis, the moth larvae were confirmed as the subterranean sod webworm, *Chrysoteuchia topiarius*. Beetle larvae were identified as weevil grubs and deduced to be the Rocky Mountain billbug.

In support of our case, we provide evidence indicating that

the damage to the timothy hay corms is due to feeding activities of both the subterranean sod webworm, *Chrysoteuchia topiarius*, and the larvae of the Rocky Mountain billbug, *Sphenophorus cicatristriatus*.

## **FARMERS MARKET SURVEY RESULTS USING THE RAPID MARKET ASSESSMENT METHOD**

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Surveys are invaluable tools when it comes to realizing what is working and what does not when setting up the design of a farmer's market, its operations and whether it meets the wants and desires of market customers.

The information gained through the rapid market assessment method (RMA) helps local market boards and managers plan future market offerings for their vendors and shoppers by determining what aspects of a market is of value to their clientele.

In addition, the survey results have provided insight as to what current public behaviors are when attending a farmer's market and how extension can assist markets and their vendor members in becoming more successful through the offering a variety small business workshop in topics relative to agriculture.

There are several survey methods available to use for gathering information including the rapid response method, using a system designed for one purpose and finding a creative use for it in another way gives the method diversity. Each style of survey has its merits and downfalls. Graphics illustrated represent findings using the RMA method from five county farmers market surveys.

Information collected from results of this endeavor will set the course for future extension outreach education programming.

## **CUTTING IRRIGATED HAY COSTS BY USING SOYBEANS**

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Producers have limited impact on prices received for hay. However, producers can have large impact on expenses through creativity and detailed planning. In Washington State, producers spend approximately \$256 per acre for cutting, raking and baling alfalfa (*Medicago sativa* L.). Part of this expense is moving from field to field and the labor that is required for haying all summer long. Growing soybeans (*Glycine max* (L.) Merr.) for hay has the benefit of nitrogen fixation similar to alfalfa but unlike alfalfa it requires only one cutting, which would eliminate some haying expenses. For soybean hay to be successful it must yield well and hay must be of good quality. Irrigated soybean hay research conducted at Othello, WA and Logan, UT produced 5.0, 5.8 and 6.5 tons per acre, averaged over three years and locations, when harvested on September 1st, 15th, and 30th, respectively. Maturity group of soybean for hay production needs to be later than for grain production as large seeds are hard to dry down and will likely cause molding problems in the bale. In Washington State a maturity group 4 or later provides full season hay production with only small seeds produced at haying time. In contrast, for seed production a maturity group 1.5 is optimum. Producers in WA State have successfully grown soybean hay yielding with yields as high as 4.7 tons/acre with no drying problems. Soybean hay typically has 14 to 18 percent protein and relative feed value (RFV) ranging from 100 to 174.

## **EFFECT OF APPLICATION SPEED ON DESICCATION TO ALFALFA SEED FIELDS**

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This research project was stimulated by the alfalfa seed industry and growers in the Big Horn Basin, Wyoming, asking the question, "Does speed of application effect the desiccation of an alfalfa seed field?" The desiccation of alfalfa seed fields are done with contact herbicides, such as paraquat, to dry the crop in preparation for harvesting. The alfalfa seed industry observed that specific growers had better desiccation than other growers, which brings into question of the effectiveness of the advanced sprayer technology that allows applications to occur at speeds around 12 to 15mph.

This research was conducted on a producer's alfalfa seed field prior to harvest and with typical desiccation conditions.

Each treatment was sprayed with water/adjuvant mix, at a rate of 50 gallons per acre, and the pressure automatically set by rate of speed. Different rates of speed were conducted with two different nozzle types. Tee-Jet water sensitive spray cards were utilized at observation locations within the treatment area and at three levels within the crop canopy. The software DepositScan was utilized to scan the spray cards and determine the droplet distribution, individual droplet sizes, number of droplets, and the percentage of area covered.

The conclusion of this study indicates that desiccation applications conducted at slower speeds resulted in better coverage and more chemical applied to the entire alfalfa canopy. Since contact herbicides only kill the parts of a plant that they touch, the higher coverage throughout the plant canopy would provide more uniform desiccation of an alfalfa field.

## **SOUTHERN REGION**

### **POTASSIUM RATE EFFECTS ON YIELD AND FIBER QUALITY OF TWO NEW COTTON CULTIVARS**

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**Potassium Rate Effects on Yield and Fiber Quality of Two New Cotton Cultivars**  
Christy D Hicks<sup>1</sup>, Brandon Dillard<sup>2</sup>, Kimberly Wilkins<sup>3</sup>, William Birdsong<sup>2</sup>, Max Runge<sup>4</sup> and Glendon Harris<sup>5</sup>, (1)Alabama Cooperative Extension, Shorter, AL, (2) Alabama Cooperative Extension, Headland, AL, (3)Alabama Cooperative Extension, Fairhope, AL, (4)Alabama Cooperative Extension, Auburn, AL, (5)University of Georgia, Tifton, GA

The main objective of this study is to determine what rate of potassium achieves a higher yield and best fiber quality in two new cotton cultivars.

It is well known that potassium adds strength to plant leaf cells and the lack of potassium in leaf cells makes them weak and susceptible to secondary fungal infection (Harris, 1997). Current cotton varieties are relatively fast fruiting and early in maturity, this makes them more susceptible to potassium deficiency (Harris, 2015). Even in soils rated as high in available potassium, in-season potassium shortage can develop due to heavy demand during rapid boll set and fill (Abaye, 2009).

Field trials were conducted at four locations in Alabama. Plots were replicated 4 times. Foliar applications were made at 1st and 3rd week of bloom. Lint yield was significantly higher in one location with the 2X soil test rate and 2X soil test rate applied in split applications. The other three locations showed no significant differences in lint yield. Strength and Uniformity were significantly better

at the 2X rate. PHY 444 had significantly better fiber quality than DP 1646.

### **INITIAL IMPACT OF THE KUDZU BUG ON SOYBEAN YIELDS IN ALABAMA AND THE RESPONSE OF BIOLOGICAL CONTROL AGENTS TO THIS INVASIVE SPECIES.**

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Studies were conducted in soybeans in Alabama from 2013 through 2016 to gain information about the kudzu bug's effect on yields. During 2015 and 2016 efforts were made to assess the impact of the parasitic wasp, *Parateleonomus saccharalis* on kudzu bug density. Numbers of kudzu bugs were much higher in 2013 and 2014 than in 2015 and 2016 due to biological control agents becoming established. Once the bio-control agents became established yield reductions by kudzu bugs did not occur in 2015 and 2016. Studies conducted in 2013 and 2014 to determine optimal timing for kudzu bug insecticide application(s) showed statistically significant yield reductions of 21% and 24%, respectively when kudzu bug density levels were between 10 to 16 per sweep net sweep across two rows for 3 to 4 weeks during pod-fill. Observation of kudzu bug eggs collected from soybeans showed that the wasp parasitization rate was near 100% in late August at one study site in 2016. Observations also confirmed that the entomopathogenic fungus *Beauveria bassiana* caused tremendous kudzu bug mortality in 2015 and 2016.

### **PIERCE'S DISEASE RESISTANT HYBRID BUNCH GRAPES WITH HIGH POTENTIAL FOR THE SOUTHEAST**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1414.pdf>

Study to evaluate the vine growth and development of ten Pierce's Disease (PD) resistant hybrid bunch grape cultivars was initiated at the Sand Mountain Research and Extension Center near Crossville, AL in 2007. Long-term data collection was generated to evaluate the yield potential, fruit quality and foliar disease resistance of studied American and French-American hybrid bunch grape cultivars including 'Black Spanish', 'Blanc du Bois', 'Champanel', 'Conquistador',

'Cynthiana', 'Favorite', 'Lake Emerald', 'Seyval Blanc', 'Stover', and 'Villard Blanc'. Based on eight-year observations we found out the most productive cultivars based on cumulative yield results were 'Villard Blanc', 'Favorite', and 'Black Spanish' (86.3, 71.9, and 59.4 kg/vine respectively). 'Blanc du Bois' produced high yields of 12.3 and 12.8 kg/vine in 2015-2016. 'Villard Blanc' produced the largest fruit clusters throughout the study period. 'Champanel' and 'Cynthiana' were highly resistant to berry rot diseases which makes them suitable for home grape production with least pesticide application. Based on their overall performance 'Villard Blanc', 'Black Spanish' and 'Blanc du Bois' are considered suitable for commercial production in Alabama and the Southeast.

### **SOYBEAN IRRIGATION INITIATION TIMING USING EVAPOTRANSPIRATION AND SOIL MOISTURE SENSOR CUES**

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Expanded use of irrigation management tools is needed to improve water use efficiency in eastern Arkansas soybean (*Glycine max*) production. Irrigation initiation timing was studied on a furrow irrigated, sandy loam commercial field in Mississippi County. A major objective was to develop, validate, and expand use of irrigation timing cues, incorporating local weather station data, atmometers, and soil moisture measurements. Four timing treatments were evaluated: early, recommended, late, and rainfed, and the crop and pest response to each. Yields were measured with both a calibrated grain cart with load cells and yield monitor data. With above average rainfall in 2014 and 2015, results showed little variation of soybean yield. Yield monitor data indicated penalties only within sand blows in rainfed strips and yield boosts within sandy loam areas of the late initiated treatment in 2014, with no differences in 2015. Interestingly, the 2016 growing season was relatively dry and the only penalty seen was on rainfed plots. These three years of results show that a reduced number of early irrigations may be possible with no yield penalty. A conservative irrigation regime may, in fact, boost yield in seasons with above average rainfall.

### **ON FARM DEMONSTRATION WITH ESN- ENVIRONMENTALLY SMART NITROGEN**

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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 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. An on farm large-plot demonstration was established in a corn field in Clay County in 2016 to compare a preplant application of ESN to the producer's standards of urea and 32% UAN for nitrogen sources. Treatments included; 1) 200 units of nitrogen as ESN applied preplant incorporated, 2) 200 units of 32% UAN applied at sidedress and, 3) 40 units of nitrogen preplant incorporated plus 33 units on nitrogen at the V4 growth stage followed by 126 units of nitrogen as 32%UAN a week later. Treatments were replicated three times. Each plot was harvested and measured with a weigh wagon to evaluate differences in yield. The ESN treatment yield was 14 bu/acre less than the other two treatments resulting in \$50.00 per acre less income.

### **IRRIGATION WATER MANAGEMENT IN ARKANSAS ROW CROP PRODUCTION**

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Reducing amount of irrigation water needed for crop production and increasing irrigation efficiency are major concerns of Arkansas row crop farmers. Declining groundwater and the increased well pumping costs and increasing irrigation efficiency to ensure that Arkansas farms have economical water available for future generations are reasons for this research and Extension effort.

To address these concerns, we worked with row crop farmers to implement Irrigation Water Management (IWM) practices on their farm. The following practices are implemented as a comprehensive approach to IWM for furrow irrigation, computer hole selection, surge irrigation, soil moisture monitoring, atmometer, flowmeter, rain gauge, and irrigation termination. These practices were compared to a similar field used as a control which was irrigated according to their current practices and management.

The use of IWM practices in soybeans improved irrigation efficiency on the eleven soybean farms included in the study. Every farm in the study used less water by using IWM practices. There was no yield difference between IWM treatments and the control fields ( $p=0.864$ ) for water use, IWM fields used 27% less water than the control fields ( $p<0.001$ ). In soybeans, this equated to about 2.6ac-in/ac difference. Irrigation pumping plants were evaluated with an average savings of \$511.66 per farm.

Based on this research we are learning how we can decrease water usage without impacting yield and increase irrigation efficiency overall. This data is being presented at meetings throughout the row crop area to educate farmers on irrigation efficiency.

#### **EFFECTIVNESS OF THE ARKANSAS 4-H ATV SAFETY TRAINING COURSE**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1449.pdf>

In response to popularity of ATVs in Arkansas and youth ATV accident rates, the Arkansas 4-H program established an ATV safety training program in 2008. The program has educated 1,500 youth in Arkansas about basic concepts of safe ATV operation in response to youth accident rates. The course covered proper equipment, laws, proper riding, and handling techniques. The program has not been evaluated. The study was to evaluate participants' knowledge levels prior to participation in the program and after receiving instruction and hands-on ATV operation training, and to determine if Standard Course and S-Course participants' knowledge scores were different. The ATV Safety Program was used as a tool to teach participants basic concepts of safe ATV operation. The study also compared the results of two different versions of the ATV Safety program, the Standard Course and the S-Course in order to determine which course was most effective at teaching the concepts previously listed. ATV Safety Course participants who completed the training between December 2015 and April 2016 participated in this study. A significant difference was seen in test scores for both the Standard Course and S-Course, while

no significant difference was found when Standard Course and S-Course participant scores were compared. The study found that participant ATV knowledge increased regardless of which version of the course was completed.

#### **THRIPS RESEARCH PROJECT INCREASES AGENT EDUCATION OF THE RELATIONSHIP BETWEEN POTENTIAL THRIPS DAMAGE AND PLANTING DATE**

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This project was carried out because of the recent and potential economic impact on Georgia cotton by tobacco thrips. Thrips can cause significant economic loss to cotton growers during the first 30 days of the crops development. Through a collaborative effort of UGA Extension Specialists, UGA County Extension Agents and respective farmers, agents gained a better understanding of how significant planting date is on the potential for thrips damage in cotton. Agents participating in this research project prepared research plots in 1-leaf stage cotton by randomly applying an insecticide to three of the six individual plots at various planting dates. After 14 days, agents returned to the plots to inspect cotton for damage in each of the six plots. Once full inspection was completed, agents compared those plots sprayed with insecticide to those without treatment, observing the benefit/effect and how results changed through the planting season. This study was conducted in 59 fields across 21 counties by ag agents from across Georgia. This project has had a substantial impact in the counties involved by not only building data to show impact of planting date but also giving agents experience in the field with side-by-side comparisons. Agents have gained a better understanding of thrips damage and have shared this beneficial information with their respective clients.

### **EVALUATING FUNGICIDE PROGRAMS FOR CONTROLLING WHITE MOLD IN PEANUTS IN GEORGIA, 2016**

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White Mold (WM) (*Sclerotium rolfsii*) is considered one of the most destructive diseases in peanut production in Georgia. An 11 acre trial was installed in a commercial peanut field in Cook County, Georgia to evaluate nine fungicide programs for controlling WM in peanuts. GA 06G peanuts were planted 29 April under center pivot irrigation. Treatments included Provost; Provost + Propulse; Muscle; Muscle + Priaxor Xemium; Elatus (application 1, 3 and 5); Elatus (application 3 and 5); Fontelis; Convoy; and Abound + Alto. Control included Bravo Weather Stik only. Treatments were replicated three times. Greatest differences in WM incidence were noted at harvest. Peanuts were inverted and rated for WM 15 September (ratings recorded as number of 1 foot WM hits/200

feet of row). These ratings showed WM severity ranging from 42.7 in peanuts treated with Elatus (application 3 and 5), to 18 in peanuts treated with Convoy. Control (Bravo Weather Stik only) ratings showed greatest incidence of WM (60.3) among all treatments. Peanuts were harvested 20 September and yields among the treatments were compared. Peanuts treated with Elatus (applications 1,3 and 5) yielded 3,551 pounds per acre which was significantly greater among all treatments while peanuts treated with Abound + Alto (applications 3 and 5) yielded 2,921 pounds per acre which is least among all treatments with the exception of the control which yielded 2,687 pounds per acre. Leaf Spot and Tomato Spotted Wilt was minimal in these trials. Data disseminated to growers via email and county production meetings.

### **2015 NORTHEAST GEORGIA NEMATICIDE TRIAL**

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With the increase in corn prices, corn production in Georgia increased by 29% from 2006 to 2014. Historically livestock, poultry and forage production, producers recognized the potential for diversifying their operation and the opportunity of increased income. Topography many times is the limiting factor in field size for growers in Northeast Georgia. With the many rivers and mountain streams there is plenty of “bottom land” in which the soil is fertile. Average annual rainfall in northeast Georgia is about 10 inches higher than South Georgia. With the fertile soils and less dependency on irrigation due to abundant rainfall, Northeast Georgia producers have less inputs costs per acre than other areas of the state. With the increase in corn production some fields experienced diminishing yields over the past two years. In 2014 County Agents in Banks and Stephens County recorded similar yield limiting factors in fields and took post-harvest nematode samples. Both fields had high levels of root knot nematodes at a time when cool soil temperatures historically would have nominal nematode counts when an assay was performed. The County Agents and a UGA Plant Pathologist implemented research trials in Banks and Stephens County. A randomized complete block design trial was set up with two treatments with nematode sampling done pre-harvest and yields recorded. There were 4 replications of each treatment.

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## **MANAGEMENT OF BLANK SHANK ON BURLEY TOBACCO WITH OXATHIPIPROLIN**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1299.pdf>

Black shank, caused by *Phytophthora nicotianae*, is the most damaging disease of burley tobacco in Kentucky. Along with sound cultural practices, soil and/or transplant water applications of fungicides are key management recommendations for growers. Until recently, the only fungicides labeled for use on tobacco for control of black shank were all in Fungicide Resistance Action Committee (FRAC) group 4. Although resistance to this group of fungicides has not yet been reported, there is potential for development of resistance with the repeated use of a single mode of action. In this study, two fungicides with different modes of action are investigated.

The purpose of these studies was to evaluate the efficacy of oxathiapiprolin (OXTP) applied in transplant water and to soil after transplanting in two fields with histories of black shank compared to the current grower standard, RG (FRAC group 4). These studies compared management of black shank between OXTP and RG treatments in addition to measures of plant safety.

## **EQUINE INSULIN DYSREGULATION: OWNER AND VETERINARIAN AWARENESS OF AVAILABLE TREATMENTS**

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Insulin dysregulation (ID) is a condition where tissues fail to respond to normal insulin concentrations, creating devastating health concerns. Current data indicating owner awareness of treatment and management options is limited. The purpose of this study was to gauge owner and veterinarian awareness of insulin dysregulation and treatment options currently available. 122 horse owners and 18 veterinarians, representing 25 states, participated in a self-administered online survey available via Facebook. Close-ended questions were developed to determine participant's awareness of symptoms, management techniques, and current treatments for ID. Data was collected using Qualtrics (2015) and data analyzed using SPSS (v23.0). Participants revealed they were "moderately aware" (34%)

to "very aware" (25%) of ID in horses. Most participants (56.6%) were able to correctly identify symptoms associated with ID. Sixty-nine percent (69.3%) of participants correctly identified the most popular management strategy (feeding a low carbohydrate diet), however only one owner reported implementing the technique. Owners identified supplements (14%), a thyroid medication Thyro-L® (13%), and a dopamine antagonist drug Prascend® (21%) as acceptable treatment options. All participating veterinarians (100%) indicated diet and exercise as the main management strategy for ID. Veterinarians also recommended Thyro-L® (72%) and Prascend® (61%) as successful treatment options despite the limited research addressing their efficacy in ID horses. The findings of this survey suggest that although owners are aware of ID and available management and treatment strategies, their compliance varies. Additional education is needed to emphasize treatment follow through and continued research is needed to identify successful medications and treatment options.

## **WILL SOYBEAN SEED TREATMENTS IMPROVE PROFIT TO FARMERS**

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Soybean producers have many management decisions to make during a growing season. Producers need to increase yield and reduce pests while maintaining the best profit margin possible. One management decision available is variety selection. Each variety has a unique opportunity to perform well for a specific environment. Growers need to match their varieties based on a combination of factors such as crop performance, herbicide tolerance, disease resistance, soil type, planting date, and price in order to achieve the best profit possible.

A soybean producer approached me last year for my opinion on seed treatments to soybean seeds for economic return. Seed treatments can give growers an advantage against certain pests if those pests are in the environment. For varieties that need a boost against disease, insects, and nematodes, seed treatments may be beneficial for soybean producers.

I designed an experiment to determine if applied seed treatments to soybeans proved to be beneficial. I selected two similarly performing varieties with similar maturity dates to show the characteristics of each individual variety as well as each individual seed treatment. At harvest, yield and cost per treatment were compared. It was concluded that seed treatments do not give a significant yield advantage nor increase profit.

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## **YIELD AND QUALITY RESPONSE OF BUTTERNUT CULTIGENS IN NC**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1342.pdf>

In butternut squash (*Cucurbita moschata*), fruit size and fruit weight can be affected by temperatures and water stress. In addition, few cultigen studies have been conducted in the southeast US, leading to limited selection information. Butternut cultigen yield and internal nutrient composition over storage time were evaluated as potential variety selection tools using 22 cultigens and two climatic locations (Piedmont (PRS) and Mountains (UMRS)) in North Carolina. The study was arranged as a randomized complete block design and replicated four times at PRS and three times at UMRS on black plastic mulch with drip. In 2015, the UMRS experienced moderate temperatures and received above average rainfall, while the PRS experienced high average daily temperatures and minimal rainfall. This resulted in UMRS having larger fruit size for all cultigens trial. UMRS had significantly more fruit per plant for all cultigens except Hornet. The largest percentage difference was among processing types. Sampled cultigens increased in total carotenoid from 31% (Honeynut) to 49% (Polaris) between weeks 1 and 9 at 55°F storage. There are a large number of cultigens available for consideration in the Southeast. High temperatures and water stress appears to decrease fruit size and fruit weight.

## **COMPARING THE ECONOMICS OF TWO WEED REMOVAL STRATEGIES IN CONTAINER NURSERIES**

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Despite the availability of many broad spectrum herbicides

for weed control in container nurseries, supplemental hand weeding remains a costly component of production. Recent economic pressures have forced many growers to reduce the number of staff, resulting in less frequent hand weeding. Weed management practices that reduce man-hours have the greatest potential to reduce overall weed control costs. Preliminary data suggest that sanitation practices, such as frequent hand-weeding, reduce overall weed control costs by slowing weed reproduction and spread. To test this observation, the cost-effectiveness of frequent vs infrequent hand weeding was compared in experiments at five cooperating container nurseries and one research station. All containers were treated with a preemergence herbicide every eight weeks. Two hand-weeding strategies were compared: hand-weeded every two weeks versus hand-weeded just prior to herbicide application (every eight weeks). Time required for hand-weeding and fresh weights of weeds removed were recorded, and cumulative weeding time and weed biomass were calculated. In the first eight weeks, few differences were observed in the total time required to hand weed pots between the two treatments. However, both the time required to remove weeds and weed biomass increased over time, and significant differences were observed in the cumulative labor-time required. Compared to hand-weeding every eight weeks, frequent hand-weeding (every two weeks) reduced the man-hours required to remove weeds by 40% on average. This experiment demonstrates that increased weeding frequency has the potential to reduce production costs in container nursery crop production.

## **BROCCOLI VARIETIES FOR THE PIEDMONT OF NORTH CAROLINA**

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Locally sourced broccoli is a product local retailers are interested in purchasing because of nutrition and profitability for wholesale and retail markets. However, broccoli 's hard to grow in the Piedmont of North Carolina because of erratic spring temperatures.

Extension agents in Caldwell, Catawba, Cabarrus, Davidson, Davie, Forsyth and Rowan counties partnered with the NCDA & CS Piedmont Research Station and Plants for

Human Health Institute to plant varieties of broccoli and evaluate them for the past two years.

Six commercially available varieties of broccoli were rated on size, defects, weight, and lastly taste. Workshops for market growers and homeowners were held in May 2015 and May 2016. In the evaluations, all 24 participants showed an increase in knowledge on how to grow and store broccoli. Eighty-Five percent of the participants stated that they gained knowledge on pest and disease management of broccoli. Sixty-six percent reported that they would scout before spraying. Sixty percent said they would grow one of the varieties trialed in the workshop. The varieties 'Luna' and 'Green Magic' were rated best-tasting. Over half of the participants stated they would be willing to purchase 'Luna' or 'Green Magic.'

The information from this trial will aid Extension in giving better broccoli variety recommendations for wholesale and retail markets in the Piedmont of North Carolina.

#### **BIOMASS GRASSES AS ALTERNATIVE RECEIVER CROPS FOR SWINE LAGOON EFFLUENT MANAGEMENT**

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Potential grass alternatives to the commonly planted bermudagrass [*Cynodon dactylon*] on swine lagoon effluent sprayfields were evaluated in large-scale replicated plot experiments at three commercial farms in Duplin, Sampson, and Wayne counties. Related nitrogen response experiments were conducted in small experimental plots at the Williamsdale Biofuels Field Laboratory in Duplin Co. Results varied among sites and input levels, and highlight interactions between perennial species and cutting schedules in productivity and nutrient removal during the first five years after establishment. All perennial species, but not the annual sorghums, responded to nitrogen inputs after depleting initially present residual soil N. While higher productivity and nutrient removal levels can occur with Giant Miscanthus (*Miscanthus × giganteus*), Switchgrass (*Panicum virgatum*), and both forage and sweet sorghum (*Sorghum vulgare*) than with bermudagrass, results also suggest the importance of defining the business management plan. Management simplicity and marketability of species varies substantially, and multi-cut systems maximize nutrient removal while a single late-season cut system may maximize dry carbon-rich biomass. The choice of receiver crop and management intensity effects on productivity and nutrient

removal are likely to influence farm nutrient management plans and acreage requirements for lagoon effluent management.

#### **EVALUATION OF INSECTICIDES AND REPELLENTS FOR SUPPRESSION OF FEEDING INJURY BY DEER IN SOUTH CAROLINA SOYBEANS**

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We evaluated the effectiveness of repellents and insecticides at suppressing feeding injury from deer on soybeans in Orangeburg, SC. Plots were 8 rows wide by 35 feet in length. Base treatments included: aldicarb (Temik 15G), phorate (Thimet 15G), and no at-plant treatment. Base treatments were banded over the row at planting and were evaluated for deterrent effects with and without foliar treatments. Foliar treatments were applied weekly for three weeks over each at-plant treatment following emergence. Foliar treatments evaluated in this study included: acephate, Bobbex Deer Repellent, chlorpyrifos, Dave's Insanity Sauce, dimethoate, Hinder, insecticidal soap, Lannate, Miller's Hot Sauce, Ortho Deer-B-Gone, and untreated control. Trials were replicated four times. Plots were monitored weekly from emergence through 2 weeks after the third foliar application. Damage ratings (0 – 5 scale, where '0' indicated no damage, and '5' indicated total loss of foliage) were assigned to each plot weekly. At-plant treatments were statistically different in their ability to deter deer feeding ( $P < 0.0001$ ;  $\alpha = 0.1$ ). Mean damage ratings for aldicarb, phorate, and the untreated control were 0.366, 1.270, and 1.131 respectively. Soybeans with aldicarb as an at-plant treatment received significantly less damage than soybeans with phorate or those left untreated at planting. Minor differences between foliar applications were observed ( $P = 0.0689$ ;  $\alpha = 0.1$ ), but the two soap-based products, Hinder and insecticidal soap, provided the highest level of injury suppression. There were no interaction effects between the at-plant treatments and foliar treatments ( $P = 0.9605$ ;  $\alpha = 0.1$ ).

#### **EVALUATION OF SELECTED INSECTICIDES AND USE OF ADJUVANTS IN MANAGEMENT OF SUGARCANE APHID IN GRAIN SORGHUM**

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The sugarcane aphid (*Melanaphis sacchari*) is an emerging

pest of sorghum and can cause significant economic injury at various stages of growth. The objective of this research was to evaluate insecticide efficacy and adjuvant use in management of sugarcane aphid in a commercial grain sorghum field near Rosenberg, Texas. In the insecticide efficacy study, Endigo ZC (thiamethoxam+lambda-cyhalothrin, Syngenta, 5 oz./acre), Transform WG (sulfoxaflor, Dow, 1 oz./acre), Sivanto (flupyradifurone, Bayer, 4 oz./acre), and Baythroid (cyfluthrin, Bayer, 2.4 oz./acre), were evaluated against sugarcane aphid on sorghum. Aphid counts were taken at 3, 8, 15, 19, and 23 days after treatment (DAT). Field applications of insecticides to populations of sugarcane aphids showed that Endigo ZC, Sivanto, and Transform WG reduced aphid populations at 3, 8, and 15 DAT compared to the non-treated check. In the adjuvant trial, Transform WG (0.5 oz./A) was applied alone and with Liberate (NIS), LI700 (NIS), Phase (silicone), and Vader (NIS). Adjuvants were applied at 0.5% v/v. Aphid counts were taken at 3, 8, 16, and 19 DAT. No benefit was found by adding any of the adjuvants used in this trial. Insecticide efficacy results are similar to what was observed in 2014 and at other locations in 2015. Adjuvant results are similar to what was observed in another study using Transform and Sivanto in 2015

## **NORTHEAST REGION**

### **USING COPPER OXIDE WIRE PARTICLES TO REDUCE BARBER POLE WORM INFECTION IN MEAT GOATS**

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The barber pole worm (*Haemonchus contortus*) is the most common and pathogenic worm species affecting small ruminants. In 2014, bucks (n=74) participating in the Western MD Pasture-Based Meat Goat Performance Test were used to determine the effect of copper oxide wire particles (COWPs) on barber pole worm infections. Mid-way through the 84-d test, bucks (n=9) showing clinical signs of worm infection were orally dosed with a commercial dewormer (TX). All other bucks (n=65) were dosed with 0.5 g of COWPs (COWP). Copasure® boluses for cattle were repackaged into smaller doses for goats. Fifteen bucks (n=15) that were part of another study, but grazed alongside bucks in the test, were not treated, and served as controls (CON). Fecal samples were collected every 14 days. Individual fecal egg counts (FECs) were calculated and

treatment efficacy was determined according to the guidelines established by the WAAVP. Pre-treatment FECs averaged  $4251 \pm 1263$ ,  $2515 \pm 280$ , and  $2164 \pm 323$  epg, respectively, for the TX, COWP, and CON groups. After treatment, FECs averaged  $164 \pm 48$ ,  $588 \pm 96$ , and  $2317 \pm 574$  epg, respectively, for the TX, COWP, and CON groups. Treatment with COWPs reduced FECs by  $74.6 \pm .09\%$  (53-86 % CI), compared to  $92.9 \pm .09\%$  (84-96% CI) for the commercial dewormer(s). There was no reduction in FECs in the CON group. COWPs were determined to be moderately effective at reducing FECs, but the effect was less than for the commercial dewormer and by d-28, FECs had increased to pre-treatment levels.

### **ASSESSING MICROBIAL PRODUCED NITROGEN LEVELS IN SOILS WITH SOYBEAN-CORN ROTATIONS**

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Agronomic farmers in a soybean-corn rotation can develop richer, healthier soils with minimum tillage, cover crops and compost but do not get credit for biologically produced nutrients in the soil as nitrogen. The standard nitrogen recommendation rate is calculated for what the crop needs and yield goal requires. This laboratory estimate does not credit naturally derived nutrients from a fertile soil which can be as much as 25 to 75 lbs. N per acre.

Preliminary studies in a diversity of crops utilized the Solvita® biological soil test system for five years with 825 soil samples to determine the status and seasonal rate of microbial mineralization of organic matter to nitrogen compounds. This inexpensive tool measures carbon dioxide release from the crop rhizosphere where respiring soil microbes are actively converting organic matter to nutrients. The agronomic portion of this soil health project compared results from five long-term, agronomic farmers with 10 conventional soybean-corn rotational fields as to soil health, cultivation practices and agri-chemical usage.

Standard measures were taken for soil composition, CEC, pH, inorganic nitrogen, organic matter, fertility and biologically derived nitrogen produced by microbial mineralization. This additional information may allow crop advisors to assess changes in farming practices as cover cropping, tillage and soil amendments and/or recommend nitrogen rates based on credit for soil health and compare any cost differences from current fertilizer application rate recommendations. Aside from a cost savings, fertilizer rate reduction of nitrogen has important ramifications for sustainable farming and reducing polluted stormwater runoff.

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## **EFFECTIVENESS OF EARLY JERSEY WAKEFIELD CABBAGE AS A PERIMETER TRAP CROP FOR THE CONTROL OF CATERPILLAR PESTS IN EARLY MATURING BROCCOLI PLANTINGS**

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Broccoli is an important and popular garden vegetable grown throughout the United States. In West Virginia, the major pests of broccoli include several lepidopteran species: the imported cabbageworm, *Pieris rapae*, the cabbage looper, *Trichoplusia ni*, the crossstriped cabbageworm, *Evergestis rimosalis*, and the diamondback moth, *Plutella xylostella*. Although there are several insecticides that are effective at controlling these “cabbage worms”, organic pest control methods are becoming more desirable for producers and consumers. These methods give a sense of food safety to some consumers and add value to products, which can be labeled as pesticide free or organic. A trap crop is a highly attractive plant host with little or no harvest value grown to purposefully draw insect pest populations away from a target crop and thereby reduce plant damage. Trap crops concentrate pests to specific areas outside of the target crop, which can alleviate the need for insecticides and/or create opportunities to target insecticide treatments to these pest clusters. Cabbage (cv. Early Jersey Wakefield) has been promoted as a trap crop for lepidopteran pests by certain growers in West Virginia. Anecdotal evidence suggests that densities of lepidopteran pests are greater on Early Jersey Wakefield cabbage than broccoli. The objective of this research was to determine if a perimeter trap crop of Early Jersey Wakefield cabbage could successfully protect a centrally located main crop of broccoli (cv. Green Magic) from damage by lepidopteran pests.

## **NORTH CENTRAL REGION**

### **STUDYING SALES AND PRICING STRATEGIES AT MISSOURI FARMERS' MARKETS**

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Setting the right price for farmers' market products requires balancing consumer willingness-to-pay, competitive pressures, production costs, and product quality. As part of a multidisciplinary team effort to develop a proof-of-concept for an online price reporting system that shares price reports with Missouri farmers market vendors, five University of Missouri Extension specialists collected data on 14 crops (sweet corn, tomatoes, cucumbers, green beans, peaches, watermelon, bulb onions, bell peppers, blackberries, cantaloupe, cabbage, potatoes, zucchini and lettuce) at 9 farmers markets across Missouri during two collection periods (summer and fall) in 2014, 2015, and 2016. Data collection included price per unit, number of vendors with similar product, and product quality measurements. Project results include the contribution of components of price to the total value observed, and whether prices in one location can be projected to reflect prices in other locations. The project outcome will be recommendations that farmers market vendors could use to interpret price data and then use these data to inform their own product pricing. By studying sampling and conceptualizing a price reporting platform, Missouri farmers market vendors will have the information that they need to enhance their marketing mix and better serve their local communities.

### **WEED CONTROL IN PASTURES**

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Weed control is an essential part of all forage production systems because unwanted weeds compete for nutrients, water and sunlight needed for optimum growth. Forage growth in Ohio pastures is a critical part of farm production because grazing livestock are present on more than 36 percent of Ohio farms. Weeds lower forage crop quality and productivity if left uncontrolled. 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 throughout 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 mowings; June/July/August/September. Forage dry matter samples were

taken near the beginning of each month. Each plot was rated for the amount of broadleaf weed pressure contained at the time of sampling. A scale of 0-9 was used (0 meaning 0% weeds present to a 9, meaning 90% weeds present). 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.

### **USING UAVS AND RGB CAMERAS TO DETECT EARLY SEASON PESTS IN CUCURBITS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1292.pdf>

The use of unmanned aerial vehicles (UAVs) in agriculture is projected to be a \$82 billion industry in the next ten years. For decades infrared (IR) cameras have been used in forestry and land surveys to classify vegetation. Currently IR cameras are being used in agriculture to generate normalized difference vegetative index (NDVI) field maps as a general measure of crop health, but these maps do not yield precise actionable information related to pest management such as species identification. In this study, we determine if a UAV equipped with a GoPro high definition RGB camera can be used to identify and quantify key insect pests of cucurbits such as striped and spotted cucumber beetles. At a distance of 3-4 m above the ground, no live beetles could be detected on plant foliage, however, faux paper beetles glued to the topside of the foliage could be detected but not identified to species.

### **RESPONSE OF SOFT RED WINTER WHEAT TO NITROGEN RATE IN A HIGH YIELD ENVIRONMENT**

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<sup>1</sup>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 high yield environments. The objective of this study was to determine the nitrogen rate for optimal yields for soft red winter wheat in a high yield environment. Dyna-Gro 9522, a medium-maturity variety,

was established in the fall of 2015 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): 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 66.0, 89.9, 96.6, 100.2, 104.7, 106.8, 109.5, and 110.0 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 100 pound per acre nitrogen rate,  $p < 0.01$ . Yields were similar for treatments larger than 120 pounds nitrogen rate. An optimal spring nitrogen rate would exist between the 100 and 120 pound per acre nitrogen rate in this high yield environment.

### **FERTILIZER OPTIONS FOR STOCKPILING ORCHARDGRASS**

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Research has been conducted on stockpiling in the fall and winter, but there is limited research on using urea with a urease inhibitor (Agrotain®) on orchardgrass. The purpose of this study was to determine the effects of yield and quality of stockpiled orchardgrass. This 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. The application date was August 2, 2016 and harvested on November 4, 2016. There were no statistical differences in crude protein (CP), acid detergent fiber, and total digestible nutrients. CP was higher with the urea plus Agrotain® (12.65%) compared to urea only (12.40%), and control (12.28%), however, ammonium sulfate had the highest CP (12.94%). There was a statistical ( $P < 0.05$ ) difference in yield with of 3694 lbs. DM/A with urea plus Agrotain®, compared to the control (2698 lbs. DM/A). Urea averaged 3119 lbs. and ammonium sulfate averaged 3372 lbs. DM/A. The first significant rainfall (0.7 inches) was twelve days after initiation and daytime high temperatures averaged 89.6°F the first two weeks of the trial. This could explain the difference in yield with the urea plus Agrotain®. Ammonium sulfate improved yield and CP compared to the control, but fertilizer costs were over three times more expensive than the urea plus Agrotain®. Stockpiling may be a viable option to reduce costs,

and save time. If dry weather is forecasted when applying urea, utilizing a urease inhibitor may increase yield and quality.

## **DETERMINING THE RIGHT LOCAL CORN NITROGEN RATE**

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Nitrogen is expected to be 18% of total variable costs and over 8% of total costs for the 2017 corn crop in Ohio. Helping producers and educators identify the economic optimum nitrogen rate on their farms will not only help manage costs more closely but will prevent unnecessary nitrates from entering the water. This multi-year, multi-site corn nitrogen study has increased the confidence that this rate can be calculated more accurately. On farm research trials were set up across Fulton County, Ohio with local producers to evaluate at least four different corn nitrogen rates per site. In addition to calculating the economic optimum nitrogen rate based on corn price and nitrogen cost, corn stalk nitrate tests (CSNTs) and commercial nitrogen use efficiencies were calculated for each trial. Yield data was analyzed using a basic ANOVA statistics package. Differences were considered significant at  $P < .05$ . Based on thirteen site years of data, the optimum local corn nitrogen rate was determined to be 200 total units of nitrogen per acre, resulting in a commercial nitrogen use efficiency of 1.06 units of nitrogen per bushel of corn produced.

## **CORN NITROGEN RATES TO MAXIMIZE PROFITS**

Bruynis PhD, C.L.<sup>1</sup>

<sup>1</sup>Associate Professor, Extension Educator & County Extension Director, Ohio State University Extension, Chillicothe, OH, 45601

Recent research and publications indicate corn needs less nitrogen than previously thought due to genetic advancements. These findings, combined with higher nitrogen costs and lower grain prices, prompted research to determine the optimal nitrogen rate needed to produce the best economic return. A randomized complete block design with three replications at two separate sites was used. Total nitrogen applied to corn plots were the following: 100, 130, and 160 pounds per acre. Statistical analysis of the yield data, adjusting for moisture, showed no statistical difference between the three treatments within a 95% confidence level. Yield levels from site one were 205.6, 204.0, and 196.9 and site two were 168.2, 168.6, and 174.8 respectively, with the corresponding nitrogen treatments. End of season stalk nitrate tests completed on samples from each treatment group indicated low stalk nitrate levels on the lower rates. At site one, the yields trended lower as nitrogen

rates increased. Site two had the opposite trend with yields slightly higher at higher nitrogen rates. Since there were no statistical differences between the plots, the conclusion for the best economic return was the 100 pounds of nitrogen applied to a corn crop. Assuming the increase yield was significant at site two, the yield gain from the lowest to the highest nitrogen treatment would have only broke even at \$3.75 corn to pay the additional nitrogen costs at \$0.375 per pound. Additional research is needed to determine the optimal economic rate. Our research indicated 100lbs for optimal financial return in 2016.

## **COLD AND FROST HARDINESS EVALUATION OF LOWBUSH BLUEBERRY**

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Lowbush blueberry (*Vaccinium angustifolium*) is unique among fruit crops in North America in that known cultivars are not planted. Rather, fields are populated with wild plants from the existing seed bank, or by colonizing from neighboring areas. The resulting fields are a mosaic of plants with varying phenotypes and unique genotypes. Understanding the level of cold and frost hardiness present within the population in the major blueberry growing regions of Maine could result in identifying superior plants exhibiting exceptional cold and/or frost hardiness that can be used for hybridization with highbush blueberry (*Vaccinium corymbosum*). Cold hardiness and frost hardiness trials on closed flower buds and open flowers, respectively, were conducted in the winters of 2013/2014 and 2014/2015. 180 plants were chosen based on geographic location and management practices in the Mid Coast and Downeast regions of Maine. Flower buds were collected from all 180 plants at different time points and then were subjected to increasingly lower temperatures in the lab. Flowers were dissected and rated on the percentage of brown tissue present; 50% or greater damage was considered significant. Significant differences were found in cold and frost hardiness of plants within a field, and between fields. Superior plants with high levels of cold and/or frost hardiness are currently being investigated genetically with molecular markers for association analysis. This work will allow blueberry breeders seeking to increase cold hardiness in highbush blueberry to achieve their goal by including the superior lowbush blueberry plants into their breeding program.

**Poster Session**

**Extension Education**

**2017 NACAA**  
**102nd**  
**Annual Meeting**  
**and**  
**Professional Improvement Conference**

**Salt Lake City, Utah**

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## NATIONAL WINNERS & FINALISTS

### 1<sup>st</sup> Place

#### COMPOSTING GONE WILD: TEACHING SCHOOL AND COMMUNITY GARDENERS PROPER COMPOSTING.

Bakacs, Michele<sup>1</sup>; Flahive DiNardo, Madeline<sup>2</sup>; Szkotak, Becki<sup>3</sup>; Larson, Diane<sup>4</sup>; Melendez, Meredith<sup>5</sup>

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<sup>3</sup>Program Associate II, Agriculture, Rutgers Cooperative Extension, Cherry Hill, NJ, 08002

<sup>4</sup>Horticulturalist, Rutgers Cooperative Extension, Freehold, NJ, 07728

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1427.pdf>

Community and school gardens often have small composting systems to process food scraps and garden waste. Although gardeners understand the benefits of compost, managing the compost pile is often an afterthought. Challenges such as lack of a carbon-rich material, inappropriate setups for garden situations, or little to no maintenance often inhibits success. Rutgers Cooperative Extension has been working with school and community gardeners to teach proper composting techniques for greater success. This effort is part of a state-wide curriculum for Rutgers Master Gardeners which also includes food safety, pest management, and getting gardens started. Scripted and online audio presentations, and fact sheets have been produced. From 2015- 2016 close to 200 school/ community gardeners, and Rutgers Master Gardeners attended a composting presentation which focused on how to successfully compost with large groups. The emphasis was on managing the end of season garden dump when plants are pulled from their beds and dumped in the compost, in addition to understanding carbon to nitrogen ratios, and having a compost point person who manages the pile. Pre- and post-tests showed an increase in knowledge in important concepts such moisture and aeration, “green” and “brown” materials, and troubleshooting composting problems. Future efforts include a new website and monitoring composting efforts to determine whether gardeners put into practice the techniques they learned.

### 2<sup>nd</sup> Place

#### FINANCIAL LITERACY FUN ON THE FORT PECK RESERVATION

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Do you have bad credit, good credit, do you even know what credit is? How will that affect your future finance structure? The objective of the financial literacy workshops on the Fort Peck Reservation was to learn how and why we need to know about our individual credit, and how it can affect other decisions, and to learn in an exciting way. Many Native American’s grew up with a different type of credit system such as the barter system, however, increasingly with fiscal management becoming more integrated, this system isn’t as available to Native cultures. With an increased push on the Fort Peck Reservation to obtain jobs skills and become more financially secure, learning about credit and your financial worthiness has piqued interest for job-seekers as well. Individuals attending the Tribal Financial Literacy workshops, learned about credit structure, how to use it responsibly, and how to use it in everyday situations. Over 66 students and 45 adults participated in 10 different classroom settings learning to use computer programs and apps for the ipad, developed to improve credit savviness. Interaction with participants created an environment of sharing, fun, and education through the use of game-type skill. Others learned to write resumes, check background status, and prepare for potential interviews. Participants in the programs showed a 100% increase in knowledge of building good credit, and improved their ability to increase their credit score. Others indicated an ability to work to improve credit, teach others about credit, and yearly obtain their credit report.

### 3<sup>rd</sup> Place

#### OUTBREAK OF LOCALLY ACQUIRED ZIKA VIRUS IN MIAMI-DADE COUNTY--PALM BEACH COUNTY’S RESPONSE

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1375.pdf>

In 2016, reports of Zika virus transmission were confirmed within the Miami metropolitan area. Palm Beach

County Extension implemented a multifaceted approach to this developing crisis. Objectives of this program included, 1.) Develop a webpage with informational resources on the Zika virus, 2.) Develop and distribute informational factsheets to the public, 3.) Train pest control applicators on mosquito management, and provide license examinations, and 4.) Reduce potential mosquito larval habitats at a local teaching garden. An informational website was developed to provide the most current information on the disease spread, how individuals can protect themselves and their families, how to reduce *Aedes aegypti* populations in their yards and communities, and how to understand mosquito management techniques undertaken by the local mosquito control division. Additionally, the website provided information for licensed pest management professionals on mosquito management. Agents in this program submitted a fact sheet and article written for the Florida Certified Pest Control Operators magazine on which licenses are required to control mosquitoes in Florida. Four presentations to local pest control professionals on managing mosquitoes and to local landscape professionals and residents to update them on the current issue were conducted. A knowledge gain of 33% (N=40) on Zika mosquito identification and control was achieved. Finally, an assessment in collaboration with community members was conducted at the Mounts Botanical Garden to identify areas that may produce *Ae. aegypti* mosquitoes. Extension agents hope to continue this program in 2017 to assist in reducing the spread of Zika virus in South Florida.

## Finalist

### ANNIE'S PROJECT FOR WOMEN CREATED POSITIVE IMPACTS IN 14 STATES

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1465.pdf>

Annie's Project is an 18-hour educational program carried out over 6 weeks. The course empowers farm and ranch women to be better business partners by focusing on agricultural risk management.

Objectives: Educators in 14 states collaborated to evaluate the effectiveness of 74 Annie's Project courses from 2013 to 2015.

Methods: Research Institute for Studies in Education collected participant data using ID codes, resulting in 677 matched pre- and post-course surveys. Questions included changes in knowledge and practices for the five risk areas of

finance, human resource, legal, marketing, and production. A paired t-test was used to analyze knowledge gains from pre- to post-course surveys.

Results: Analysis showed courses were successful in significantly ( $p < 0.01$ ) improving the knowledge of participants in all risk areas. In addition, women implemented risk management practices during the course. Surveys indicated 39.9% of respondents were farming 10 or fewer years. More than 95% of respondents indicated educators encouraged learning from classmates and speakers, and provided a safe learning environment.

Financial management goals for 'applying what was learned' were stated most frequently. Respondents selected topics on legal risk as 'most valuable' more often than other topics. Respondents identified human resource topics as 'unexpected learning' and 'wanted more' on marketing and production topics.

Conclusions: Annie's Project created positive impacts in 14 states by extending knowledge and empowering women to apply risk management practices. Beginning farm and ranch women learned with and from experienced business owners. Results demonstrate the important role Extension educators have in risk management education.

## Finalist

### INCREASING NITROGEN BMP ADOPTION THROUGH ON-FARM TRIALS AND EDUCATION

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Groundwater in Southeast Minnesota is especially susceptible to pollution due to its unique Karst geology. Drinking water sources in the area, in some cases, exceed the nitrate drinking water standard. University of Minnesota Extension has developed nitrogen best management practices (N BMPs) whose use should reduce the amount of nitrates leaching into groundwater. However, not all producers have implemented these practices. Starting in 2015, University of Minnesota Extension, Minnesota Department of Agriculture, and Southeast SWCD Technical Support Joint Powers Board created a unique partnership to carry out an outreach program for corn producers and crop advisers in six counties of Southeast Minnesota to increase the adoption of N BMPs. Project partners work with cooperating farmers and advisers to implement on farm research trials using N BMPs. In addition, through field days and workshops, cooperators learn more about N BMPs, the results of their trials and those of

their peers, and receive soil and basal stalk nitrate test data – all along with guidance on interpretation. Evaluations from year end workshops summarizing results of the 2016 trials show that of 19 respondents, 48% plan to decrease their N rate. In addition, all participants were considering other changes like using sidedress applications, properly counting N credits, using nitrification inhibitors or N stabilizers. Also, 96% of attendees say that based on their experience in the program, they plan to continue to explore new or different N management practices. This project is funded through the MN Clean Water Fund.

## **Finalist**

### **MAY 30TH FROST: KEEP FLAX OR TRY SOYBEANS?**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1384.pdf>

A re-plant decision demonstration project was conducted in rural Rock Lake, ND in the summer of 2015. On May 30, a 27°F frost destroyed a cooperating farmer's flax stand to approximately 50%. Advice was given to leave the field in the current condition as remaining plant populations were in the range of the minimum stand recommendations of 20 to 40%. The farmer chose to reseed 100 acres of the field to a 00.6 maturity Asgrow soybean cultivar on June 13; the remaining 85 acres were kept in flax production. Field observations were taken throughout the growing season. Ten 1-square foot samples were hand-harvested from the field on September 2. Plant stands and branching were recorded. Plant stands ranged from 21 to 80 plants per square foot. Branches ranged from zero to 20. Higher plant stands tended to have less branching than low and mid-range stands. Sample yields ranged from 18 to 50 bu/acre, with an average of 33 bu/acre. The farmer's field average was 17 bu/acre after a high wind-storm shattered the flax two days prior to the October 13 harvest. Soybean yielded 30 bu/acre from farmer's harvest. The 50% flax stand produced a crop with compensating yields without extra input costs of reseeding and underutilized fertilizer. However, from the farmer's perspective during a post-season interview, the soybean achieved the best-recorded yield on his farm. Combined with the shatter event, he felt replanting soybeans was the best decision.

## **Finalist**

### **PUTTING A FARMER FACE ON CROP INSURANCE: AN OUTREACH APPROACH IN MAINE**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1300.pdf>

Maine farmers are identified as “underserved” by the USDA Risk Management Agency (RMA) due to low crop insurance participation and program availability. The University of Maine Cooperative Extension in partnership with RMA created the Maine Risk Management and Crop Insurance Education Program. The objective is to provide farmers the information needed to make informed risk management decisions. Based on 2015-2016 farmer survey results we received feedback that future outreach should include “real world” examples of crop insurance programs in use. As a result, our 2016-2017 goal is to improve our outreach by putting a “farmer face” to the crop insurance policies available in Maine. Our methods were to conduct interviews with various Maine farmers who have experience using crop insurance. Farmers were asked to describe their farm, farming risks, how risks are managed, why crop insurance, the enrollment steps, and what happened when a loss occurred. To date, we conducted three interviews of farmers who use apple, blueberry, and the Whole Farm Revenue Protection (WFRP) crop insurance policies, respectively. The interviews have been effective outreach tools and have been used in crop insurance sales closing date announcements and as presentation tools at farmer meetings. Farmer surveys will be conducted at the end of upcoming spring meetings to measure the impact of our outreach. Surveys from 2017 will be compared to surveys conducted in 2016 to measure the impact the interviews have had on enhancing our crop insurance outreach.

## **Finalist**

### **USING WEBINAR SHORT COURSES TO EDUCATE SMALL RUMINANT PRODUCERS**

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Webinars can be an effective teaching tool. In 2011, the MD Small Ruminant Extension Program initiated webinar short courses as a means of educating sheep and goat producers. Ten short courses, consisting of 2-6 webinars each,

were held over a 6-year period: 1) Special topics (2016); 2) Pasture management (2015); 3) National Sheep Improvement Program (2015); 4) Health (2014); 5) Ethnic marketing (2013); 6) Breeding (2013); 7) Hoof health (2012); 8) Nutrition (2012); 9) Worms (2011); and 10) Ewe/Doe Management (2011). Short courses were promoted via newsletters, web sites, social media, and a listserv. Each webinar lasted for ~1 hour. Additional time was allotted for questions. Interaction was via a chat box. Most webinar participants logged in from their home computers. Some attended group meetings. Participation in individual webinars ranged from 26 to 86. Total participation was 3264. Participants were from numerous states, provinces, and countries. All webinars were recorded and converted to YouTube videos (in 2015). Accompanying PowerPoint presentations were uploaded to SlideShare. To date, YouTube and SlideShare views total 5493 and 175,352, respectively. Follow-up surveys showed that 90-100% of participants learned something new that they planned to apply to their small ruminant enterprises. On a scale of 1-10 participants rated the information presented in the webinars as useful (8.5-9.5), easy-to-understand (8.6-9.4), and interesting (8.8-9.5). On-average, the webinars increased subject matter knowledge by 26%. Webinar short courses have proven to be an excellent tool for educating small ruminant producers and connecting them to the MD Small Ruminant Extension Program.

## Finalist

### 2014 MONROE COUNTY PRECONDITIONING PROJECT

Bilderback, D.C.<sup>1</sup>; Rhea, J.<sup>2</sup>

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Cow-calf producers need to look at the preconditioning program the same way a backgrounder would evaluate performance. Most often, the price difference between the preconditioned sale and the weekly livestock market will cover the cost of preconditioning the calves. Any additional profit is derived through additional weight gain. The Monroe County preconditioning Project evaluated two cow-calf producers that were preconditioning their calves to realize the direct economic impact of a preconditioning program that encourages weight gain and thus profit. The program keyed on the producer's nutrition program because feed is generally the largest variable expense. The evaluation focused on feeding the calves at a level that makes the producers more profitable. The program tracked the calves' weight gains and cost throughout the preconditioning program. Farm 1 preconditioned 42 calves for 46 days and only gained an average of 32 lbs. per calf. With a significant increase in the market price farmer 1 still increased the value of their calves by \$131 per head.

Farm 2 preconditioned 10 calves for 57 days and gained an average of 129 lbs. per calf. Farm 2 increased the value of their calves by \$256 per calf. After reviewing the data with the producers, Farm 1 realized the lack of gain and has changed his feeding practices. The increase in market price was the only reason for a profitable outcome. Farm 2 had a very profitable preconditioning program and set a goal of increasing their ADG above the 2.26 they achieved in 2014.

## Finalist

### EXTENSION EDUCATIONAL PROGRAM FOR LIVESTOCK DROUGHT MANAGEMENT STRATEGIES IN EAST CENTRAL ALABAMA.

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1473.pdf>

East-central Alabama experienced extreme drought in the summer and fall of 2016. Undesirable conditions left livestock producers with tough decisions, as grazing animals required nutritional supplementation early in the fall. To combat such circumstances, five drought management meetings were planned and implemented in east-central Alabama to provide best management strategies to drought stricken producers. Pre and post-program surveys were conducted to evaluate program impact. There were 163 total participants across this meeting series, and an estimated 8,304 cattle and 23,530 acres were reached by the information presented during these workshops. Results indicated that many producers left their respective meeting with knowledge levels of good or excellent for all topics (available assistance, 92%; proper culling strategies, 87%; correct supplementation of the herd based on hay quality, 86%). Eighty-four percent of attendees indicated that they were overall well prepared to manage their herd through the drought following the meeting, and requests from attendees for pasture recovery assistance sparked a drought recovery field day planned for April 2017. Ten producers followed meeting attendance with extensive one-on-one interaction to determine correct supplementation options for their herd. Due to increased knowledge, producers saved an estimate of \$0.09 per pound of feed correctly fed versus overfed. Furthermore, proper supplementation will lead to increases in reproductive performance with producers gaining an estimated \$2.80 in future calf prices for each day cows re-breed earlier due to correct body condition. In summary, knowledge gained from

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this program will increase producers' ability to successfully manage their operations through the drought.

## Finalist

### **BRINGING RANGELANDS INTO THE BACKYARD: EDUCATING URBAN AUDIENCES ABOUT RURAL LANDSCAPES**

Smith, M.L.<sup>1</sup>

<sup>1</sup>Northwest Wyoming Rangeland Resources Educator, Big Horn County Extension, Greybull, WY, 82428

Rangelands cover 85% of Wyoming and the average precipitation is less than 13 inches per year. An online survey showed the need for a class on rangeland plants and native landscaping to plant more adapted landscapes.

The class developed was a 4-session event entitled "Keep Wyoming in Your Backyard". Three evening classes introduced participants to Wyoming's climate, soils, native plants and how to incorporate them into Wyoming landscapes. A Saturday class followed where participants learned about landscape design and a field trip where participants toured nearby rangelands and homes with native landscaping design elements.

An evaluation was completed at the conclusion of the class where participants explained their planned projects like doing "*landscape plans with natives to reduce water use and help native pollinators*". Another was completed five months after the class. 100% responded they have completed projects this summer related to using natives in the landscape including "*A rock garden with native plants*" and "*Spread wild flower seed received from the class*".

When asked what benefits will result from your planned or completed projects, the following were selected: use of regionally adapted plants, soil conservation, water conservation, pollinators, reduced non-native or noxious weeds, wildlife habitat or food, reduced pest management and medicinal or other uses.

Wyomingites are interested in learning about native plants and, when given education on what plants to use and how, they will implement projects that bring rangelands into the backyard.

## Finalist

### **DELIVERING STRATEGIC PEST ALERT INFORMATION AND INTEGRATED MANAGEMENT OPTIONS DIRECTLY TO AG AND URBAN AUDIENCES**

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<sup>2</sup>Extension Educator, Cropping Systems, University of Idaho Extension, Caldwell, ID, 83706

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PNWPestalert.net was created in 2002 by University of Idaho and Oregon State University Extension faculty. This unique network system utilizes a broad base of partners to create and distribute alerts to agricultural and more recently, residential subscribers, delivering timely, research-based Integrated Pest Management (IPM) information on the emergence, identification and management of common pests and diseases of concern through email and text messages. Twelve years of survey data show that users increased their knowledge of IPM, adopted recommended IPM strategies, reduced pesticide use by 6 percent, and minimized adverse pest and pesticide impacts on the environment and human health in the region.

To extend these benefits to the homeowner population, the network now serves this audience as well. Most homeowners have never heard of Integrated Pest Management (IPM) or have difficulty fully understanding the concept. To minimize the occurrence of infestations and reduce the need for unnecessary pesticide applications, homeowners need to be educated on IPM practices. In order to better understand IPM, gardeners, landowners, and retailers require access to timely pest emergence and activity information and research-based, appropriate management options. Using an IPM based decision making process, in both agricultural and residential settings, provides timely management of pest problems while reducing overall costs and pesticide impacts to human health and the environment.

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## WESTERN REGION

### MEETING MULTIPLE EXTENSION OBJECTIVES THROUGH COMMUNITY PARTNERSHIPS

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<sup>2</sup>Executive Director, Bullion Plaza Cultural Center and Museum, Miami, AZ, 85539

Community partnerships can help Extension educators achieve significant community development goals while meeting primary programming objectives. This example demonstrates how Extension horticulture and water education can help result in valuable community investments.

In the historic rural mining town of Miami, Arizona, population 2,000, is the Bullion Plaza Cultural Center and Museum. Built in 1923, it was the segregated school for Hispanic and Apache students. Although it is an architecturally and historically significant landmark, it had become so dilapidated by 1994 that it was closed as a school. Concerned citizens banded together to renovate the building into a museum, which opened in 2000. Since 2012, local county agent, Chris Jones, and museum director, Tom Foster, have partnered to offer Extension education classes and events at the museum, and projects to help restore the facility and its landscape to its former glory.

Efforts include assisting to repair the school's gymnasium, a \$420,000 investment including a Phoenix Suns grant; designing and installing a picnic area; hosting a regional garden conference with over 100 participants; acquiring a matching grant to restore the museum's landscape and install a water harvesting demonstration project, valued over \$18,000; hosting Master Gardener and Master Watershed Stewardship courses; hosting Project WET WaterFest, with over 400 fourth graders and community volunteers; and other Extension seminars and related events. Since 2012, over 60 Extension volunteers have contributed approximately 3,000 hours of service, valued at least \$66,000. Finally, student and program evaluations confirm that the community connection helps to build pride and loyalty.

### CREATING GOOD STEWARDS OF THE LAND THROUGH EDUCATIONAL PROGRAMMING

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University of Arizona (UA) Gila County Cooperative Extension established Reading the Range program in 2000 at the request of stakeholders to provide vegetation data to ranchers and United States Forest Service staff of the Tonto National

Forest (NF). This program is a critical need because it provides data, which quantifies rangeland health and sustainability of livestock grazing in Gila County. Livestock grazing occurs on approximately one million acres of rangelands on the Tonto National Forest (NF) and is a main economic driver in Gila County. Reading the Range collects data on six vegetation attributes in order to evaluate long-term rangeland health. This is a unique programming effort because it has both educational and research components. It serves an educational purpose by teaching land managers about vegetation changes with varying management practices and climate. Ranchers new to the program are educated on rangeland ecology and health principles that help them better understand the land. Reading the Range also promotes education through collaboration of a wide variety of stakeholders from state and government agencies to local producers. On ranches where multiple years of vegetation and precipitation data are collected, research aims to examine how vegetation changes over time. Currently the UA Cooperative Extension assists in collecting data on over 150 ranches in Gila County, with approximately 5-10 ranches enrolling in the program each monitoring season. The goal of the program is to engage all ranchers in Gila County, expand to surrounding counties, and continue to use data to quantify long-term vegetation changes.

### BUILDING AND SUPPORTING A COUNTY MASTER GARDENER PROGRAM

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Between 1998 and 2016, the Yavapai County (Arizona) Master Gardener Program has increased the numbers of clients served, active Master Gardener volunteers, and documented volunteer service hours. The increased participation and clientele service can be attributed to multiple factors which include: presenting conferences, web-based resources (monthly newsletters, electronic volunteer reporting, and meeting information), volunteer recognition events, introduction of continuing education requirements, formation of a Master Gardener Association, formalized volunteer coordination and a mentoring program, creation of a Speaker's Bureau, creation of a Facebook Page, and fundraising through an annual garden sale. During this eighteen-year period, Master Gardener volunteer service hours per year increased by up to 836%, number of clients served per year increased by up to 514% and the dollar value of volunteer service to Yavapai County communities per year increased by up to 1,544%. Formalized volunteer coordination was critical to achieving these increases in volunteer service and associated dollar values. These data

indicate that by providing expanded educational opportunities, mentoring, volunteer recognition, and creating opportunities for fun activities and social interactions, Yavapai County Master Gardeners are more likely to remain engaged and provide increased service to their communities.

### **ASSESSING PROGRAM OUTCOMES THROUGH A MASTER GARDENER STAKEHOLDER SURVEY**

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<sup>1</sup>Extension Agent, Agriculture, University of Arizona, Casa Grande, AZ, 85122

<sup>2</sup>Master Gardener Volunteer, University of Arizona, Tucson, AZ, 85719

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<sup>4</sup>Program Coordinator, University of Arizona, Tucson, AZ, 85719

Extension programs are often required to search for, identify, measure, and report short-, medium-, and long-term outcomes and impacts. In an effort to determine measurable program results, the Pima County, Arizona Master Gardener Program conducted a 2016 county-wide survey of all program stakeholders registered in their Constant Contact file, a data management program. After key long term impact areas of focus were identified, an online survey was created, reviewed, administered, and evaluated. The survey centered on five areas of focus: 1) Building Better Communities, 2) Mitigation of the “Heat Island Effect,” 3) Water Conservation, 4) Local Food Production, and 5) Healthy Living. The survey drew a reply from 383 individuals from a pool of 3,099 for a 12.4% return. Specific and measured outcomes derived from the survey indicate that the Pima County Master Gardener Program has helped stakeholders achieve significant improvements in each of the targeted areas of focus. While the survey revealed definite program outcomes, it did at the same time identify areas where additional work will be required.

### **ARIZONA COOPERATIVE RANGELAND MONITORING PROGRAM**

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The Arizona Cooperative Rangeland Monitoring Program (ACRMP) is a partnership between the Arizona Strip and Colorado River Districts of the Bureau of Land Management (BLM), and the University of Arizona College of Agriculture and Life Sciences Cooperative Extension (CALSC-CE). The

program began on the Arizona Strip in 2004 and expanded to the Kingman and Yuma Field Offices in 2012. The program provides long-term vegetation monitoring on BLM administered allotments throughout northwestern Arizona. One of the goals of the program is to coordinate collaborative monitoring efforts between ranchers and Agency professionals. Through this on-the-ground collaboration, it is hoped that working relationships between BLM personnel and producers will begin to build trust and improve. In addition to collecting important rangeland trend data, one-on-one education sessions and group workshops are conducted to inform ranchers about the importance of methods used for collecting vegetation data. A major output of the ACRMP was the development of VGS. VGS is a computer database application that is now used throughout the West to support recording and managing data for a variety of vegetation monitoring methods. ACRMP routinely helps with training and support of the VGS program. The ACRMP project samples 706 key areas on 171 Allotments administered by the Arizona Strip District, 421 key areas on 65 Allotments administered by the Kingman Field Office, and 65 key areas on 9 Allotments administered by the Yuma Field Office.

### **CATERPILLAR TUNNELS - A COST BENEFIT ANALYSIS FOR MOUNTAIN GROWERS**

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Caterpillar tunnels are low cost season extension structures that are easy to build and yet have great benefits for small scale market farmers. Several growers expressed interest in learning how to construct Caterpillar tunnels on their farms, but were concerned with longevity of the structures, cost, and return on their investment. To answer these questions for local growers, Eagle County CSU Extension office coordinated 6 workshops at 6 different market farms to teach market farmers about the tools and supplies needed to construct, and the expenses incorporated in building Caterpillar tunnels. Through the educational workshops, CSU Extension Eagle County was able to determine the average cost per square foot of Caterpillar tunnel as well as a return on investment figure for one growing season. The Colorado Mountain towns of Basalt and Aspen may not sound like the ideal place to grow vegetables, however, an aspiring group of beginning farmers in the area has found that using caterpillar tunnels provides them with a long enough season that they are able to diversify their market offerings and increase their profits. CSU Extension Eagle County will continue to monitor costs and returns for three growing seasons to determine a final expense figure for other growers who may want to incorporate Caterpillar tunnels in the future.

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## **WINTER BEEF SCHOOL: ENCOURAGING CATTLE PRODUCERS TO CONSIDER PRECONDITIONING**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1425.pdf>

As 2015 came to a close, cattle markets began their decline and became more volatile through 2016. The outlook for 2017 is more of the same with hopefully some stabilization. Cattle producers, during these times, take stock of their operations and consider ways to keep costs down and get more return from their calves. An option producers should be aware of and consider is preconditioning calves. Before management decisions can be made producers must be educated on how to implement this practice. They also need to understand the reasons for preconditioning.

A Winter Beef School was organized to provide area producers informative and applicable information to better enable them to make management decisions. Producers were quizzed prior to delivery of information to get a base knowledge. The same quiz, plus evaluation questions, was administered following the school to see how much they learned.

As a result of the school 20% more of the participants knew when the recommended time to wean calves is. Forty-six percent more knew which class of nutrients contributes to inflammation in calves. Forty-three percent more knew that preconditioning is not a form of risk management. Forty-six percent more know that there are other benefits of preconditioning regardless of a marketing plan. When asked to define the three characteristics of "Palatability" 70% more were able to and 17% more knew some of the goals in vaccinating the cow prior to calving.

## **TREASURE VALLEY DAIRY REPLACEMENT HEIFER PROJECT INCREASES KNOWLEDGE GAINED OF THE DAIRY INDUSTRY THROUGH EXPERIENCE**

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<sup>1</sup>Extension Educator Livestock, University Of Idaho, Caldwell, ID, 83605

The average age of farmers in the United States is 58 years old, creating a need for young people to enter the agricultural

industry. The Idaho dairy industry ranks 3<sup>rd</sup> in the nation for milk production and supports approximately 23,000 jobs. The Treasure Valley Dairy Replacement Heifer Project (TVDRHP) is designed to generate interest by exposing 4-H and FFA members to elements of the Idaho dairy industry. The 16 month program is open to youth in six counties throughout Southwestern Idaho who must complete an application process, pass a farm visit, purchase a heifer calf and work with an assigned mentor from the TVDRHP committee. Accepted TVDRHP members are given the opportunity to develop additional skills in budgeting, record keeping, nutritional management, reproductive management, and selection. Members specifically learn key selection points, body condition scoring, and how to utilize linear appraisal data to choose an appropriate bull to be bred for their heifer. A newly added element affords members the opportunity to learn anatomy and then use that knowledge in an applicable way by palpating cows at a local dairy. The heifers are exhibited at multiple shows and the sold as bred heifers at the Western Idaho Fair.

## **INCREASED LOCAL FOOD ACCESS, NEW FARMERS AND TRIBAL YOUTH DEVELOPMENT RESULT FROM COMMUNITY COLLABORATIONS**

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The objective of UI Extension in partnering with community organizations and Tribes is to build capacity of stakeholders. In North Idaho, specifically the Palouse Region, collaborations have resulted in grant funding that has helped build the local food system, develop farmers, gardening programs, and support development of Tribal youth. In rural Idaho, engaging with stakeholders can be challenging. Towns are separated by great distances and populations in most towns are small, yet needs still exist for community development. Process and methods used to engage with various local nonprofit organizations as well as the Coeur d'Alene Tribe and the Plummer School District include, convening and collaborating on workshops, new community programs, organizations, and leadership development. Specific programs include beginning farmer and rancher education (statewide), farmers market development, business development programs, community action and leadership capacity building, community orchard, community garden programs, an after-school program and others. This work has resulted in nearly \$800,000 in USDA-NIFA grant funding that has been awarded to UI extension from 2012-2015 and \$600,000 in 21st Century grant funding awarded to the Plummer School District for a total of \$1.4 million based on these collaborations.

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## **DEVELOPING A MASTER GARDENER MONARCH BUTTERFLY RESEARCH PROJECT IN THE DESERT.**

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<sup>1</sup>Horticulture Specialist, University Of Nevada Cooperative Extension, Las Vegas, NV, 89123

~~Concern continues to grow over the decline of the pollinator population, especially bee and butterflies. Observers have put forth several explanations for this drop, such as the increased use and misuse of pesticides, and loss of habitat due to urban expansion. The vivid coloration of Monarch butterflies makes them easy to spot in a landscape. Unfortunately, their population has been declining along with other pollinators. There has been relatively little research on the flight path western monarchs. Southern Nevada might be on their migration path for western monarchs on their way to California or Mexico. Occasionally these butterflies do appear in the area, but it is not certain whether this is a rare event or part of the actual route. Master Gardener volunteers in Clark County have created a new project, which will provide forage for the butterfly larvae, nectar for adults, and study the incidence of monarchs in the Mojave Desert. Volunteers have established populations of 26 different milkweed species at the University of Nevada Cooperative Extension botanical garden in Las Vegas. These volunteers collected seed, started plants indoors, and have transplanted seedlings into the field under irrigation. Thus far, several butterflies have appeared on the nectar plants, and seen larvae have been observed on some of the milkweed. Results of this research will inform the study of monarch butterfly flight paths in the west, and demonstrate which type of milkweed survives best in this part of the Mojave Desert

## **WSU WATER IRRIGATION SYSTEMS EVALUATION (WISE)**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1326.pdf>

As with many parts of the country, Washington state farmers have been adversely impacted by insufficient water, drought conditions and water use curtailments that have left fields under irrigated. Washington State University Water Irrigation Systems Efficiency (WSU WISE) aims to increase irrigation efficiency in the state by encouraging adoption of proven irrigation monitoring technology, irrigation efficient

equipment and conservation practices through education and consultation. WSU WISE has enlisted Extension support in hubs throughout the state to ensure all farmers have access to the program benefits: Western Washington, Northeast Washington. Central Washington, Southeast Washington and Southwest Washington. WSU WISE has received a USDA CIG grant for \$455,915 over the course of 3 years (2016 to 2019) to educate and enroll farmers in the Irrigation Scheduler Mobile (ISM) system. WSU WISE will increase water-use efficiency by providing voluntary irrigation assessments, deliver a tailored compilation of recommendations for irrigation system improvements and quantify changes in water-use efficiency rates of participants. This program will facilitate the adoption of irrigation equipment upgrades by providing consultations and technical assistance for EQIP grant proposals. WSU WISE intends to be the catalyst for efficient irrigation upgrades by an averaged measure of 20% for those participating in assessments and consultations. With an average farm participant size of 50 acres, this will result in a water savings of approximately 300 million gallons over the duration of the program and continued water savings into the future.

## **WASHINGTON STATE UNIVERSITY BLUE MOUNTAIN EXTENSION TEAM: DELIVERING IMPACTFUL PROGRAMS ACROSS A DIVERSE 5-COUNTY REGION**

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The WSU Blue Mountain Extension Team provides Extension programming to a 5-county region in Southeastern Washington with a population of 137,000. Agriculture is a major contributor to the local economies with 2,842 farms generating over \$937 million dollars in crops and livestock. Currently 5 WSU faculty provide programming Asotin, Columbia, Garfield, Walla Walla and Whitman Counties. Faculty meet on a quarterly basis to discuss emerging issues and develop programs in agriculture, natural resources, horticulture, 4-H/youth development, and economic development.

Several impactful programs were delivered during the past year. Two day-long Soil Health workshops were attended by 185 individuals, generating over \$18,000 in fees and industry

support. WSU Extension Grain and Legume Crop Variety Tours were held at 11 locations and attended by over 125 individuals. Pesticide Education classes provided re-certification credits to 191 individuals holding Washington State Pesticide Licenses. Grants have been submitted in 2017 to the Washington Grain Commission to provide additional agronomic programs in the 5-county area. Regional Master Gardener training is held annually for over 60 certified volunteers who help answer questions on gardening and IPM.

Internal WSU funding was received to hire 2 WSU Summer Interns who coordinated five 2-4 day Robotics Day Camps across the region for youth in the 3rd-6th grades. Over 190 youth participated in Livestock Field Days targeting Life Skills Development and Quality Assurance Training.

As a result of this informal model, Extension clientele from a large geographical area have been able to access high-quality Extension programming at the local level

### **THE NACAA/SARE FELLOWS PROGRAM: PROMOTING SUSTAINABLE AGRICULTURE, EDUCATION, AND FELLOWSHIP**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1301.pdf>

The 2014-2016 cadre of NACAA/SARE Fellows consisted of Extension educators from Missouri, Maine, Florida, and Washington. They engaged with peers and producers on agricultural enterprises in Arkansas, Nebraska, Idaho and West Virginia. The various locations visited, diverse enterprises studied, and range of farming practices employed ensured exposure to a cross section of current agricultural business with varying degrees of sustainability. The Fellows learned to use the “Reading the Farm” assessment tool, which provides a framework for holistic evaluation of farms.

Due to the two-year term of each class of Fellows and alternate year start of each class, each cadre has in-depth contact with eight other national Extension colleagues interested in sustainable agriculture. In addition to complete tour travel support, Fellows received an extensive library of sustainable agriculture resources, and travel support to the NACAA AM/

PIC during their national presentation year.

The 2014-2016 Fellows agreed their Fellowship experience helped them obtain the education, experience, and insight to make positive contributions to the field of sustainable agriculture. They plan to use their program stipends to deliver Reading the Farm training to their Extension peers throughout the U.S. Their goal is to work hand-in-hand with SARE to achieve its vision: agriculture that is “profitable, protects the nation’s land and water and is a force for a rewarding way of life for farmers and ranchers whose quality products and operations sustain their communities and society.”

### **HIGH TECH AND HIGH TOUCH-USING WEBINAR TECHNOLOGY TO GROW AGRICULTURAL OPPORTUNITIES FOR WOMEN**

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<sup>1</sup>County Director And 4-H Youth Educator, Washington State University Extension, Colfax, WA, 99111

To be successful as female farm operators, women need educational resources to help them improve their skills and make informed management decisions that will increase their farm profitability and quality of life. Through utilization of webinar technology and facilitated on-site discussion, women in the western region participate in skill building presentations connecting through technology with experienced women farmers from across the United States. Originally, the Women In Agriculture Conference was a traditional place bound conference. It evolved to a one day conference within easy driving distance for the participants. The Women, Farm and Food Conference-offered in 31 locations, 5 states and 3 time zones in the Western Region reaches hundreds of women. Each site has a host contact who makes local arrangements and facilitates the program. A new theme and keynote presenter is selected each year. In 2016, it was “Power Up Your Farm – Power Up Your Communication”. Participants discovered their unique communication style and how to use it to build their business and personal relationships.

Other useful technologies employed for the Women, Farm and Foods Conference are Constant Contact for timely communications, Brown Paper tickets for registration, a well-designed, easily navigable website and facebook. In a follow up survey, 53% of the respondents indicated they market to their farms strengths and 86% analyze their business for profitability. The Women, Farm and Foods Program is a unique and effective program in reaching women operators and providing them with the skills to be successful in their farming operation.

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## **AG LEGACY**

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A legacy is the summation of a lifetime of achievement and the context in which that lifetime will be remembered. A legacy is not just money but a reputation, what was accomplished, and the difference a person makes in the world. More importantly, a legacy is something that remains years after a person leaves the world as we know it. Deciding to leave a legacy can provide a road map for future generations. Planning an AG LEGACY should include discussion of all five components of a true legacy: values and life lessons, personal possessions of emotional value, fulfilling final wishes and instructions, ownership of financial assets and real estate, and management succession. If the discussions between generations do not cover all five components, the legacy transfer will not be fully complete. AG LEGACY materials and online learning modules are resources intended to assist farm and ranch families to develop a complete legacy. The website [AGLEGACY.org](http://AGLEGACY.org) hosts: 1. Self-paced course materials- two covering A Lasting Legacy and three covering Management Succession issues; 2. Workbooks entitled - A Lasting Legacy, Management Succession, and Passing It On; 3. Bulletins, including the Planning Ahead and Difficult Decisions series covering various estate planning issues and legal documents; and 4. Modules covering specific legacy issues each including- a newsletter, recorded webinar, and online learning components on the topic. These resources, coupled with an aggressive social media campaign, regular newsletter circulation, and onsite presentations, are helping families develop and successfully transfer their AG LEGACY.

## **SOUTHERN REGION**

### **MIDDLE SCHOOL TUNNEL HOUSE PROGRAM**

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<sup>2</sup>Henry County Extension Coordinator, Alabama Cooperative Extension System, Abbeville, AL, 36310

In Henry County, agriculture has been a way of life for many. However, we face the issue of instilling its importance in our future generations. The primary goal of the tunnel house program was for students to learn about and enjoy agriculture. In the fall of 2013, the Wiregrass Research Conservation and Development Council funded the building of two tunnel

houses at Headland Middle School in Headland, AL. Due to the lack of staff and funds, the Headland Middle School tunnel houses set fallow for two years. In January of 2016, the botany teacher approached County Extension Coordinator Jimmy Jones and Regional Extension Agent Lucy Edwards to help revitalize the houses. Throughout the semester, we taught botany students the fundamentals of soil, irrigation, planting, harvesting, pest, disease, and weed management. When it was time to harvest, the students reveled in the fruits of their labor. They were impressed they had grown carrots, radishes, squash, and zucchini. "Dirt" was no longer an issue; they were willing to eat the produce prior to washing. Because of the interest from the students and faculty, we have seen an increase in educational opportunities with the school from 2016 to 2017. We extended the program to three class periods, doubled our student numbers, and doubled the number of meeting times with the students. With this success, we hope to continue to educate our youth about the importance of agriculture in 2018.

### **INCREASING PEANUT PROFITABILITY BY USE OF SUB-SURFACE DRIP IRRIGATION IN SOUTHEAST ALABAMA**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1303.pdf>

The purpose of this educational program was to demonstrate the use of subsurface drip irrigation technology to increase the profitability of peanut growers in Southeast Alabama through proper irrigation scheduling using CropWat model. This result demonstration plot was established at Landmark Park Agricultural Museum and Demonstration Farm near Dothan, AL some five years previous through a Rural Development Grant to increase knowledge of subsurface drip irrigation technology in the Wiregrass Region. The crop rotation of corn and peanuts was established with a small grains cover crop during the winter season. Strip tillage was used each year into the buried down winter cover for corn and peanut plantings. A non-irrigated check was also established within the same plot. Georgia Green Peanuts were planted in the entire test plot. Peanuts received some 10 inches of irrigation in the subsurface drip plot in addition to the normal rainfall in Southeast AL. Peanut yields were increase approximately 1990 pounds more farmer stock peanuts using CropWat Model to schedule irrigation over the non-irrigated rain-fed check plot. Producers using this technology would serve to increase their bottom line \$290 per acre using subsurface drip technology and proper irrigation scheduling over their rain-fed fields after accounting for the prorated irrigation establishment costs and the cost of pumping the water.

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## **FIRE ANT CONTROL DEMONSTRATION AT STORYBOOK FARM**

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<sup>1</sup>Regional Extension Agent - Home Grounds, Gardens & Home Pests, Alabama Cooperative Extension System, Autaugaville, AL, 36003

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Storybook Farm, located in Opelika, Alabama is a non-profit organization serving children ages two to young adulthood who face obstacles such as autism, cerebral palsy, cognitive delays, sensory integration issues and bereavement situations to name a few. Horseback riding provides physical benefits such as improvements to balance, motor skills, muscle strength and coordination. Due to the popularity of this venue and those it serves, public health concerns must be addressed. Fire ant management has been a challenge on this 25-acre site. In 2015 we were notified of the problem through a volunteer at the facility. Extension then reached out to Storybook to develop a strategy to address this public nuisance. After a site assessment, an application of fire ant bait was chosen as the control measure of choice for the farm. Pre-treatment mound counts were taken on four ¼ acre plots and Extinguish Plus® bait was applied in October of 2015. Data were collected four, eight and twelve weeks post-application. By week twelve, fire ant mound numbers were reduced by 80 percent. A second bait application was made in October 2016. November data indicate we had achieved 97 percent control compared to original numbers in 2015. Storybook Farms director, Dena Little has been thrilled with the extremely effective control using the bait application method and especially the safe environment it has provided at the facility

## **ADDING VALUE TO FEEDER CALVES IN NORTHWEST ALABAMA THROUGH PRECONDITIONED FEEDER CALF SALES**

Tigue, D.A.<sup>1</sup>

<sup>1</sup>Regional Extension Agent I - Animal Science/forages, Alabama Cooperative Extension System, Moulton, AL, 35650

Weaning, vaccinating, and starting calves on feed, known collectively as preconditioning, is a widely accepted practice that can add value to a cow-calf producers calf crop. By preconditioning calves before sale, the stress of these tasks is separated from the stress of shipment and immunity to respiratory disease is increased, lowering the risk of sickness. However, the average cowherd in the nine counties in northwest Alabama is approximately 30 head; not large enough to create truckload groups of like type cattle. By working with a local livestock auction, a precondition feeder calf sale was established in the fall of 2015 and an additional two sales were conducted in 2016, one in the spring and one in the fall. Producers were recruited and educated on how to

properly perform tasks associated with preconditioning. In the three sales in 2015 and 2016, a total of 748 calves were sold representing 29 consignors. These calves brought an average of \$55.44/head more than similar non-preconditioned calves sold later that day in at the same livestock auction. This equates to \$41,469.12 actual added value for the producers that participated. Additional sales are scheduled for 2017.

## **4-H COLLARD CONNECTIONS**

Yates, Elizabeth, Andrew Williams, Linda Hudson<sup>1</sup>

<sup>1</sup>4-H Foundation Agent I, Alabama Cooperative Extension System, Linden, AL, 36748

Due to the decline in the agricultural roots of families in West Alabama, many youth in Marengo County do not understand the connection between the food they eat and its agricultural source. The purpose of “Collard Connections” was to provide youth with a hands-on gardening experience that would help them make a real life connection to agriculture. The project was implemented at Amelia Love Johnson High School located in Thomaston, AL. (population: 431) Local farmers, Extension personnel, teachers, cafeteria leadership, Natural Resource Conservation Service staff and other volunteers invested their time and expertise to teach 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grade students about vegetable production. A garden was created on the school campus using drip irrigation, fertilizer and plastic mulch. The youth planted, watered, tended, harvested and eventually ate the collards grown during lunch at the school cafeteria. Monthly 4-H programming centered on horticulture topics throughout the year. Germination, fertilization, insect control, weed control, irrigation and food safety were all covered with the students. The project ended with the youth using their acquired knowledge to cultivate pepper plants from seeds to sell at the local “Pepper Jelly Festival.”

## **TRI-COUNTY BEEF PRODUCTION MEETING**

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<sup>1</sup>CEA - 4-H/Agriculture, University Of Arkansas Cooperative Extension Service, Arkadelphia, AR, 71923

Cattle producers in Franklin, Johnson and Logan Counties benefited from the Tri-County Beef Production Meeting. The meeting was conducted to help producers increase the value of production and improve the quality of their cattle. Topics covered were bull selection, vaccination programs, fly control and mineral supplementation. Producers indicated they plan to adopt management practices and share with other producers what they learned in the beef cattle production meeting. 100% percent of the producers indicated they increased their knowledge of the value of bulls, vaccination programs, fly control techniques and mineral supplementation a result of attending the meeting. Producers stated they plan to implement

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a better vaccination program and make sure they are using the proper mineral supplementation. The Tri-County Beef Production meeting proved to be beneficial to the producers of Franklin, Johnson and Logan counties. Producers stated that they plan to attend additional meetings in the future and provided agents with suggestions on topics they would like to see presented.

### **SOUTH AND NORTH HOMESTEADING CONFERENCES IMPACTING ARKANSAS**

Walz, L.S.<sup>1</sup>

<sup>1</sup>County Extension Agent-Staff Chair, University of Arkansas, Rison, AR, 71665

The purpose of the Homesteading Conference is to provide a venue for “Back to Earth” sustainable agriculture producers, traditionalists and educators to share their skills. People expressed a desire for this type of hands on experiential learning; but access to educational opportunities had been limited to tucked away heirloom societies.

In response to stakeholder recommendations I began to expand my knowledge of sustainable agriculture by attending two (2015 and 2016) Southern SAWG (Sustainable Agriculture Working Group) conferences. At the local level, myself and volunteers used grant money to construct 20 raised beds, a DIY High Tunnel, and a demonstration “Chicken Tractor.” The mobile chicken tractor showcases egg production utilizing limited space and available resources. In 2015, a South Arkansas Homesteading Conference (held at the Pioneer Village in Rison, AR) and a North Arkansas Homesteading Conference (held in Mountain View, AR) were conducted. The popularity of the conferences saw growth in 2016 with additional educational opportunities offered at both conferences. During 5 conferences, 58 presentations (26 given by Arkansas Extension) were delivered on Homesteading and sustainable agriculture practices educating over 1500 attendees from 111 counties and 19 states. As evidence of the popularity of sustainable agriculture and homesteading practices, both conferences have doubled in attendance for consecutive years. There have been more than 25,000 people reached through media/social media efforts and estimated economic impacts exceeding \$230,000.00. In addition, the conference has been requested by 3 other counties in Arkansas. Locally, Cleveland County has been branded “America’s Homestead. Real. Simple. Life.”

### **RICE PRODUCTION EDUCATION STARTS WITH STUDENTS**

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Rice production education starts with teaching students about rice from farm to table. School enrichment programs have been successful for many years in teaching students the importance of many subjects. In White County there is a need to educate students in science, technology, and agriculture. The White County Extension Service, in collaboration with White County Farm Bureau, Red River Farms and Peacock Farms, has developed a program that works with 4rd grade students and teachers to reinforce the science that has been taught in the classroom in a hands-on environment on the farm. This program takes kids to the farm to experience all aspects of rice production. For the past 2 years, this program was conducted with the entire 4th grade of Beebe Elementary, reaching 250 students per year. Students rotated through 4 stations. The stations included farming of rice, rice harvest and storage, rice milling and rice products, by-products and their uses. Each station had hands-on activities and taught the students how science and math is used in rice production. After the program, 90% of students stated to have an increased knowledge of rice production and its uses.

### **MASTER GARDENER BEAUTIFICATION PROJECT**

Keaton, M.<sup>1</sup>

<sup>1</sup>CEA-Staff Chair, U of A Division of Agriculture Baxter County Cooperative Extension Service, Mountain Home, AR, 72653

Thousands of tourists visit Baxter County each year for its lakes and rivers and overall beauty of the area. Baxter County Master Gardeners ( BCMG ) have been a part of making the landscape attractive for tourists and residents for the past 22 years. The Norfolk National Fish Hatchery is located on Highway 177 below the Norfolk Lake dam. BCMG chose the hatchery as one of its beautification projects in 2008 and continues today having added several beds over the years. The beds are located at the visitor center, office, and the entrance sign with BCMG responsible for their maintenance throughout the year. Native plants are used in the beds except for the addition of some annual flowers added each season for color. BCMG have made name tags for each plant to properly identify them. Over time, a rain barrel and watering system have been added to the gardens at the visitor center. Also, there is a three

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section compost bin made from wooden pallets. The hatchery is visited by 280,000 people yearly, making it one of the most visited areas in Baxter County.

### **LONG TERM IMPACT OF COWHERD PERFORMANCE TESTING PROGRAM IN VAN BUREN COUNTY ARKANSAS**

Griffin, D.J.<sup>1</sup>

<sup>1</sup>CEA-StaffChair, University Of Arkansas, 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 will be starting on the program this fall.

### **INCREASING AGRICULTURE LITERACY THROUGH SCHOOL ENRICHMENT PROGRAMS**

Johnson, S.B.<sup>1</sup>

<sup>1</sup>CEA - 4H, University of Arkansas, Lonoke, AR, 72086

American Farm Bureau reports that farm and ranch families make up less than two percent of the U.S. population and the average American is at least three generations removed from the farm. With agriculture being the number one industry in Arkansas, it's imperative our youth understand the importance of agriculture and where their food comes from. Utilizing a 4-H school enrichment delivery mode insured that youth from a variety of backgrounds had the opportunity to participate in hands-on agriculture literacy. Arkansas Agriculture lessons

were conducted in first grade classrooms at Lonoke Primary School. In the 2013-14 and 2014-15 school years, an average of 39 youth from two first grade classes participated in 10-12 programs. In the 2015-16 school year, another first grade class was added, and 63 first grade students participated in 13 hands on programs. As a result of these Arkansas Agriculture programs, 2016 evaluations indicate 98% of students knew what agriculture was, understood what plants need to survive, and could name crops grown in Arkansas and products of those crops. In addition, 96% of students could identify plant parts and their uses and recognized the importance of soil. Teaching youth early in their academic career about agriculture might encourage them to become involved in the largest industry in Arkansas, or to pursue college studies or a future career in some aspect of the agriculture industry.

### **CORN MAZE FROM START TO FINISH**

Perkins,\* J.K.<sup>1</sup> Ross, J.K.<sup>2</sup>

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<sup>2</sup> Extension Agent, University of Arkansas Cooperative Extension, Lonoke County, Lonoke, Arkansas 72086

The need to educate our producers about agri-tourism and corn maze production is a tremendous responsibility of county agents. Today's producers are technology oriented, production focused and do not always explore the opportunity to develop all of their marketing opportunities. Tremendous marketing opportunities are always present at county, district and state levels. When a producer decides to explore agri-tourism it gives the agents an opportunity to work with producers to develop a plan for their farm. I have worked with producers on production practices from seeding rate, planting date, variety selection and soil fertility that best fit corn maze development. Also, I advise producers on design and ideals that attract customers. I work with producers utilizing GPS technology and a zero turn mower to cut the design into the corn fields. It is through educational programs that they acquire the knowledge needed to produce corn mazes that are a major attraction for customers. Educational impact of this program is measured through various means; some of which are number of visitors, and educational information. Evaluations will continue throughout the life of this program and I would like to share this information with other agents in the NACAA.

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## **BENEFITS OF FERAL HOG EDUCATION TO PRODUCERS**

Caraway, J.<sup>1</sup>

<sup>1</sup>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. Our annual Ag Expo trained 162 participants in Feral Hog Control and the legalities. Additionally, a relatively new trapping system called the “BoarBuster” was set up at a producer’s farm where we were seeing accelerated damage. Game cameras were set up in conjunction with the “BoarBuster” to aide in tracking movement and groups frequenting the area. Different baiting methods were also tested to determine the best attractant. The “BoarBuster” was set up in late April, at the end of what would be considered the trapping season for this area. Even so, 29 hogs were caught in the first three drops. Utilizing the “BoarBuster’s” live feed camera, along with our game trail cameras, we were able to prove that the majority of the hogs in the area at that time were captured and removed. As a result, the producer in the area was able to go back in and replant several acres of corn that had previously been destroyed due to hog damage.

## **ARKANSAS ROW CROP VERIFICATION SOCIAL MEDIA**

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<sup>3</sup>Program Associate - Soybean/Wheat Verification Coordinator, University of Arkansas System Division of Agriculture Cooperative Extension Service, Paragould, AR, 72450

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<sup>5</sup>Program Associate - Rice Verification Coordinator,

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1460.pdf>

In the 1980’s, crop yields were declining, prices were low, and production costs were high. Producers requested that the University of Arkansas field-test existing technologies to determine the profitability of production. The Arkansas Row Crop Research Verification Program was born. The Arkansas Row Crop Verification Program is an interdisciplinary effort between growers, county Extension agents, Extension specialists, and researchers. It is an on-farm demonstration of all the research-based practices and technologies recommended to maximize the production and profitability of row crops in Arkansas. The overall goal is to verify that management according to University of Arkansas recommendations can result in increased profitability compared to standard producer practices. In 2016, the Arkansas Row Crop Verification Program moved into the Social Media age with a presence on Twitter, Facebook and Instagram. Coordinators use these social media outlets to update and promote the verification programs that are happening in the state. For the program year of 2016 (October 2015 – September 2016) the Arkansas Row Crop Verification Twitter account had 390 followers with 525 tweets with 272,616 impressions, the Facebook page had 172 page likes with 482 posts with 50,955 reaches and the Instagram page had 143 followers with 323 posts and 1379 likes. The Twitter account is @ar\_verification ([https://twitter.com/ar\\_verification](https://twitter.com/ar_verification)), the Facebook page is Arkansas Row Crop Verification – UAEX (<https://www.facebook.com/Arkansas-Row-Crop-Verification-UAEX-771774992969179/>) and the Instagram page is @ar\_verification ([https://www.instagram.com/ar\\_verification/](https://www.instagram.com/ar_verification/)).

## **YOUTH LEADERS CREATE SUSTAINABLE EXTENSION POLLINATOR GARDEN**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1287.pdf>

Pollinator gardens incorporate the use of plants that attract butterflies and other pollinators such as native bees, wasps and

hummingbirds. Bees need nectar and pollen, both of which are provided by flowers. All pollen is not created equal, and “pollen from different floral sources has different quantities of each component” (Ellis, et al, 2013). Objectives: The purpose of this project is to teach youth and their families about the importance of pollinators. This project promotes Florida Friendly Landscaping™ principles to reduce stormwater runoff, attract wildlife, limit pesticide use and pollinator risk, promote community beautification, and conserve resources such as water. Methods: Grant funding provided youth backpacks which contain jeweler’s loupes, insect and flower rubbing plates, a butterfly life cycle model and guide books. Funding also provided signage, plants, mulch, fertilizer and garden tools. Results: A Girl Scout troop, Master Gardener volunteers and Extension faculty partnered to create and maintain the garden. Youth watered, weeded, pruned, composted and practiced integrated pest management. Three Girl Scouts received Silver Leadership Awards for their participation in this sustainable Take Action project. During 2016, more than 1,000 people visited the Extension demonstration gardens. Visitors learned how to attract pollinators to their landscapes and reduce negative environmental impacts associated with landscape management practices. Conclusions: This project provides a template that can be used nationwide where youth develop leadership skills and address a community need.

### **US AGRICULTURAL EXTENSION IN CENTRAL AMERICA: GUATEMALA CASE**

Steed, S.T.<sup>1</sup>; E. Vanessa Campoverde<sup>2</sup>; Dan Culbert<sup>3</sup>

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<sup>3</sup>Retired Extension Agent,

**Poster URL:** <http://www.nacaa.com/posters/uploads/1379.pdf>

Rationale: International extension work is a great way to expand university extension agents’ abilities, and understanding of global issues and develop competencies in working with non-traditional audiences.

Objective: The objective of this Farmer-to-Farmer (F2F) assignments was to assist and strengthen the ornamental plant producers of Guatemala by extending technical expertise to stimulate productivity of small- and medium-scale farmers.

Methodology: Recruitment was by invitation by US A.I.D. John Ogonowski and Doug Bereuter F2F Program and Florida Association for Volunteer Action in the Caribbean and the Americas to three UF/IFAS Extension agents. The assignment term was two weeks to meet specific objectives.

Extension volunteers went on daily field visits to local Guatemalan producers, providing consultations and giving recommendations to improve crop production.

Results: Extension agents generate a summary of visit and a technical document on recommendations for adoption. At the end of field visits, two day workshops on their current issues were delivered to reinforce recommendations to farmworkers and nursery owners. A total of 125 participants attended and knowledge increased.

Conclusion: International extension presents challenges: leave from office, county clientele misunderstandings, travel and health safety, barriers of language, customs, culture, and costs. It can also be a way for agents to gain international expertise, expand programming and leadership skills, assist and build connections to the people of developing nations, and gain valuable experiences in critical thinking on how to best approach future clientele in a world where cross cultural contacts are common and increasing in frequency.

### **SOUTH FLORIDA FINANCIAL WORKSHOPS FOR LANDSCAPE NURSERY AND SMALL AGRICULTURAL BUSINESSES**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1361.pdf>

According to the U.S. Small Business Administration (SBA) Office of Advocacy, there are almost 28 million small businesses and over 22 million are either self-employed with no additional payroll or have fewer than 20 employees. Between 1993 and mid-2014, these type of small business firms accounted for 63 % of net new jobs estimated at 14.3 million. As impressive as these numbers are, according to the SBA only 66 % of small businesses startups will survive their first two years and after 4 years only 47% will remain in business, mainly because of a lack of business skills. To assist small business owners to remain in a long term business environment an informative Growing Your Business Profits Finance Workshop was provided designed to assist landscape, nursery and small farm owners better manage the financial aspects of a small business in south Florida. The 2-day workshop was a collaborative effort between UF/IFAS Specialists, UF/IFAS County Extension faculty, along with USDA- Farm Service Agency (FSA) and Farm Credit of

Florida financial experts. On a Likert scale of 1 to 5 survey results indicated that 10 out of 17 participants gave an overall satisfaction of 4.6 with the workshop, while more than 80% of the students indicated they would incorporate sound financial practices, such as developing a business plan and incorporating better record keeping into their daily business practices. Over 90% indicated they were certain that they would develop both an income statement and balance sheet to help better manage their business.

## **SMALL FARMS PORTABLE SOLAR HYDROPONIC GROWING SYSTEMS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1424.pdf>

Hillsborough County has almost 3,000 farmers. For 55% of farmers, agriculture is not their primary occupation of the principal operator and 83% operate on less than 50 acres. County challenges include the increase of beginner small farmers, the high Hispanic population (35%), the average age of small farmers (57), educating the younger generation in agricultural skills and the reduction in agricultural land. Recommendations for small and beginning farmers include start with hands-on experience in small trials and use equipment that helps to develop agricultural skills and competencies, identify market niches, develop a sales strategy and make adjustments and corrective measures that result in a sustainable operation.

Hydroponics is an alternative to produce high quality and profitable specialty crops such as herbs, greens and cut flowers in places that are not suitable for cultivation. Hydroponics also has the advantage of increasing production per square foot in comparison with traditional agriculture. Introducing this concept to people without the background in science, chemistry and agriculture is difficult. It is imperative for the new generation of farmers to have hands-on experience that includes technology and the opportunity to acquire the skills and competencies to succeed in ag-business. Learning how to build a small scale hydroponic system will help new farmers explore ag-business, acquire ag-skills and learn the competencies necessary to integrate in agricultural industry.

The fact sheets are distributed by email campaign (n= 155), Facebook county page (n= 1,348). The factsheet was designed by the submitting Agent and printed on office equipment.

## **SERVING OUR STAKEHOLDERS: AN ADVANCED MASTER GARDENER TRAINING SERIES ON CUSTOMER SERVICE AND PUBLIC SPEAKING**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1313.pdf>

UF/IFAS Extension Master Gardener volunteers assist Extension in Walton County by reaching over 5,000 clients annually. Many interactions clientele have with Extension are with Master Gardeners, thus it is imperative that Master Gardeners be trained in customer service techniques. Since these skills were not addressed in the initial training course for Master Gardeners, an advanced training series was devised to teach those necessary skills. The series consisted of three 2 hour trainings and was designed for an audience of 25 Master Gardeners. Intended outcomes were for 75% of participants to gain knowledge on topics including resources available to Master Gardeners, presentation delivery, office administrative skills, customer service techniques, and handling difficult clients. In addition, 50% of attendees were expected to use these techniques in interactions with clientele. The workshops included a one hour presentation on customer service topics and a one hour, hands-on component that allowed participants to navigate resource sites on their computers, prepare a presentation, field clientele questions in a live scenario, and demonstrate proper email and telephone etiquette. In total, 29 Master Gardeners attended the events and 13 completed an end of program evaluation. Evaluations indicated 85% gained knowledge on Master Gardener online and print resources, 77% gained knowledge on proper presentation delivery, 77% gained knowledge on office administrative procedures, 85% gained knowledge in customer service techniques, and 92% gained knowledge on handling difficult clientele. A follow-up survey conducted two months later found that 100% of participants have used the knowledge gained in clientele interactions.

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## **ROLE OF AGRICULTURAL EXTENSION IN DISASTER RESPONSE AND RECOVERY: A HURRICANE MATTHEW SUCCESS STORY**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1279.pdf>

In October 2016, Florida encountered a storm of a magnitude that it had not seen in more than 11 years. Category 4 Hurricane Matthew blasted its way up the East Coast with winds in excess of 100 mph and heavy rainfall. The effects were especially felt in St. Johns County where more than 1,100 acres of crops were impacted. Asian vegetables and snap beans were the worst hit, along with cabbage, cauliflower, broccoli, and squash. Most of these specialty crop farmers were uninsured and left “hopeless and without options.” In response, the agricultural agent began assessing farms within 24 hours to document crop losses and prepare a report for the Agricultural Extension Program Leader with information that would ultimately be submitted to the USDA in hopes of getting a disaster declaration that would qualify farmers for federal assistance to help them recover. The agent surveyed 17 farms in St. Johns County. Losses were more than \$1.6 million for Asian vegetables and snap beans alone. Farmers reported 30 to 100% losses. The USDA eventually designated St. Johns and three other counties in Florida primary natural disaster areas due to the damage caused by Hurricane Matthew. Without timely and detailed reporting by UF/IFAS Extension, Florida farmers may not have received the assistance they needed to help recover from the storm. This response can serve as an example of the role of agricultural extension in the wake of a disaster.

## **LEARNING LANDSCAPES: A VALUABLE TOOL FOR DEVELOPING SKILL SETS AND ADOPTING FLORIDA-FRIENDLY LANDSCAPING PRACTICES IN BAKER COUNTY**

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In rural Baker County, the lack of outdoor education programs coupled with relatively high homeownership and acreage home sites have increased the demand for hands-on horticultural workshops that help individuals identify plants, make informed plant selection decisions, and develop skills needed to perform landscape maintenance tasks. Grant funding for the establishment of the Baker County Arboretum and Teaching Gardens was secured by the agent to meet these needs, replacing classroom lessons with outdoor activities that

aid in the adoption of Florida-Friendly Landscaping practices and skill development among home gardeners, Florida Master Gardeners, small farmers, and youth. Teaching methods include garden tours, demonstrations, and hands-on activities on topics such as plant identification, landscape design, edible gardening, pruning and drip irrigation. Program materials created include presentations, fact sheets, study materials, and a dichotomous key. Of the 294 individuals utilizing the learning landscapes in the past three years, 175 reported a plan to adopt Florida-Friendly Landscaping practices while 116 reported developing tree identification skills and/or pruning skills as a result of the respective program attended. Of the 52 individuals who responded to an online survey six months after the program, 86% (n=45) reported changing their landscape to make it more Florida-Friendly, many of which also reported reduced water use (67%), reduced fertilizer use (35%) and reduced pesticide use (31%) as a result of practices adopted. Not only are learning landscapes effective for teaching, the learn-by-doing approach aides in practice adoption and skill development necessary for maintaining a healthy landscape and healthy environment.

## **INTER-AGENCY PARTNERSHIPS: WHAT MAKES THEM WORK, WHAT MAKES THEM CHALLENGING, AND WHAT IS YOUR ROLE AS AN EXTENSION PROFESSIONAL**

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Extension professionals are compelled to participate in a broad range of partnerships to develop their programmatic expertise and fulfill obligations or expectations in the community. This professional development program was developed to prepare Extension agents to more effectively engage in multi-stakeholder inter-agency partnerships in their counties. The specific objectives of the program were to: 1) Examine diverse examples of inter-agency partnerships to identify elements that lead to success and key barriers associated with creating and sustaining these multi-stakeholder groups; 2) Reflect on the multiple roles Extension professionals play (as leaders and participants); 3) Discuss experiences with monitoring, documenting, and reporting partnership success; and 4) Explore Extension agent needs for further training and available resources. The professional development program combined a panel of speakers, PowerPoint presentations and interactive activities. Fifteen Extension professionals spent over four hours discussing the complexities and opportunities associated with inter-agency partnerships. A diversity of Extension areas were represented, including family and

consumer services, production agriculture (vegetables and row crops), water resources, insects, and coastal systems. To close the program, participants considered the challenges they confronted as Extension professionals and listed the types of support that might help them to be more effective in catalyzing and sustaining inter-agency partnerships. Following the program, participants were provided an Executive Summary highlighting the topics discussed during the program: key insights on inter-agency partnerships; support needed for extension professionals; main take home messages; main challenges and barriers; and key opportunities and issues.

### **GULF COAST SMALL FARMS: CONNECTING SPECIALTY CROP PRODUCERS WITH CONSUMERS AND MAXIMIZING PRODUCTION PRACTICES**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1322.pdf>

Consumer demand for locally grown food is rapidly increasing. Despite high interest in locally produced food, small farmers are faced with challenges limiting their ability to meet increased demand. Challenges include farmers' access to new markets and maximizing production through various cropping systems. The Gulf Coast Small Farms team is comprised of state and county faculty from UF/IFAS working together to provide hands-on training programs for small farms. Objectives - The team will expand marketing opportunities for local specialty crop farmers and will identify management practices that increase productivity in protected agriculture production systems. Methods - The team offered four field days and one workshop to showcase the trials and marketing materials developed from the project. Marketing materials include six checklist style publications to guide producers entering various markets and regional planting and harvesting calendars housed on the [Gulf Coast Small Farms Team website](#). Thirty-two participants of project activities have taken steps to sell at new markets. Eighty percent (154/192) of participants indicated improving knowledge of cropping systems and protected agriculture. Ten participants made the investment and established protected agriculture structures on their farms, leading to opportunities for an expanded season and increased revenues. The marketing toolkit provided a streamlined and standardized approach for producers seeking to enter new

markets. The established yields and quality of fresh produce grown in protected agriculture systems have helped growers utilizing these systems to maximize their production.

### **GREENHOUSE ORIENTATION AND MANUAL PROVIDES MISSION, STRUCTURE, AND EDUCATION TO MASTER GARDENER VOLUNTEERS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1412.pdf>

The UF/IFAS Lake County Greenhouse is a facility used to propagate plants for demonstration gardens, fundraisers and to teach class participants about propagation techniques and botany. Prior to 2016, the Master Gardener volunteers working in the greenhouse were not formally trained on pesticide safety and did not understand the importance of cultural practices, such as sanitation and proper fertilization and irrigation. The objective of the greenhouse orientation and manual was to teach pesticide safety and cultural practices to volunteers working in the facility and to reinforce the greenhouse mission. The seventy-one page greenhouse manual was created and utilized to deliver a three hour orientation to Master Gardeners that plan to work in the greenhouse. Twenty-six Master Gardeners received manuals and attended one of the two greenhouse orientations offered in 2016. 100% (n=26) of participants increased their knowledge on topics including, sanitation, pesticide safety, heat stress treatment, labeling plants appropriately and other cultural and procedural concerns. An average knowledge gain of 39% was realized by participants as determined by pre and post-test scores. 100% (n=26) of participants visually sighted and signed off on a greenhouse safety location checklist. As a result of the greenhouse manual and orientation classes, Master Gardeners improved sanitation practices by disinfecting pots and tools before and/or after use. The greenhouse floors and weeds are maintained on a frequent basis. Master Gardeners have also demonstrated an understanding of pesticide applications and applicator requirements. The greenhouse is now an organized, safe, and sanitary environment.

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## **FLORIDA-FRIENDLY FERTILIZING FOR NEW FLORIDA RESIDENTS**

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~~Sumter County is one of the fastest growing counties in Florida. Sumter also contains one of the fastest growing cities in the United States, The Villages. According to the UF/IFAS water resources focus team, nitrogen and phosphorus from improper fertilizer applications are the chief pollutants of waterways in Florida. Nitrates, from inappropriate use of fertilizers, can runoff into lakes, rivers and streams causing excess algae growth and can harm beneficial aquatic organisms and wildlife. With the surge in population and the increased risk of pollutants, UF/IFAS Sumter County Extension developed monthly workshops specifically for new Florida residents that emphasize the Florida-Friendly Landscaping™ principle of fertilizing appropriately. 38.4% of the 409 residents who responded to a follow-up survey have lived in The Villages for two years or less. 28.8% of residents have lived in The Villages for at least 2-5 years. After attending extension workshops, 26.6% of residents now use 15% or more slow-release nitrogen, 39.9% of residents now use slow or controlled release fertilizer on landscape plants and 28.8% of residents now remove fertilizer from hard surfaces after application to prevent runoff. 36% of residents now avoid weed and feed formulations, 51% of residents do not use fertilizer in the winter months, and 42.7% use the recommended palm fertilizer as measured by a follow up survey. As seen in the data, focusing on new residents results in significant behavior change for improved environmentally friendly landscape practices.

## **A SUCCESSFUL PARTNERSHIP EDUCATING AT-RISK STUDENTS LEADS TO PROGRAM EXPANSION AND SCHOOL-WIDE ENGAGEMENT**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1419.pdf>

Clay County Master Gardener Volunteers have partnered with Bannerman Learning Center, an alternative program for students with intellectual disabilities, behavior issues, and unique educational needs, to provide hands-on learning experiences in a student developed garden. This partnership was established in 2000 to develop an unused section of the school grounds for a garden. Due to the success of this education partnership, the program has expanded in recent years and now includes a student built greenhouse, gazebo, succulent garden, fish pond,

herb garden, several ornamental areas, and a vegetable garden which was converted to a container garden this year to allow groups of students to each have their own small garden. This has resulted in a partnership with our FCS agent who teaches them how to prepare their harvest when they take it home to their families. Students work in their garden in their math, science, and carpentry classes, where teachers have aligned the garden with their curriculum. Math and science students apply principles such as measurement, biology, and the scientific method to their hands-on lessons and carpentry students learn skills such as plumbing and woodworking by building garden infrastructure. This cooperation between the teachers and Master Gardener volunteers leads to a cohesive program to provide students with applied knowledge and skills that will aid them throughout their lives.

## **A CHANGE MAKER: SMALL FLOCK POULTRY PRODUCTION : A PROGRAM FOR CENTRAL FLORIDA PRODUCERS AND BACKYARD HOBBYIST**

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**Rationale:** Locally sourced food trends increased small scale and backyard poultry production (urban poultry) popularity. Surveys indicate new poultry owners lacked poultry husbandry knowledge. A 2014 Florida law enabled limited egg sales and poultry processing, previously illegal in Florida. Cities/counties classified poultry as “livestock,” prohibiting them within residential zoning areas. These legal changes resulted in rural/urban issues, creating a need/opportunities for agriculture Extension services in these communities.

**Educational Methods:** Three seminars were presented to the Surf Coast Planning and Zoning Association educating ordinance writers regarding urban poultry. A seven-hour small scale/urban advanced poultry management seminar was developed, regionally presented across nine-county area, 6 times and numerous 2 hour poultry overviews were

presented to clientele. Extension Agents delivered educational expertise regarding poultry, human/food safety. Teaching props demonstrated concepts and legal requirements. Two TV shows were broadcast and available to 2 million residents, regarding urban poultry.

**Results:** One-hundred-forty-seven residents attended the 7-hour seminar. Surveys indicating 96 - 100% increased knowledge and intention to adopt change behavior. Surveys indicated most attendees were first time Extension users. Thirty-six entities registered as Limited Egg and Poultry producers across 9 counties. Thirteen Central Florida cities adopted ordinances permitting urban poultry. Educational opportunities expanded/led to new Extension audiences and additional supporters. Municipalities drive the new audiences to Extension for required classes for permitting. Media coverage regarding poultry increased awareness regarding urban poultry.

**Implications:** Thirty-six businesses started. Three hundred-seventy-five residents keep or received urban poultry permits. Municipalities stated no complaints regarding urban poultry. Classes generated Extension funds.

### **3G FOCUS ON AGRICULTURAL CAREERS**

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Many students complete high school without a firm idea about their career objects and skills. To address these needs, 3G was created. 3G: Greenscaping and Growing it Green is a program for high school students, ages 16 to 18, which teaches participants how to apply Best Management Practices to landscape maintenance and nursery production. The UF/IFAS Manatee County Commercial and Environmental Horticulture programs have partnered with the Manatee County School District to offer this program. The educational outreach focuses on three target audiences: FFA students, career prep high school students attending technical schools, and at-risk youth. The participants learn how to scout for pest problems and use Integrated Pest Management practices including appropriate fertilizer application techniques, tree and ornamental installation and maintenance, invasive plant management, sustainable turf management, and nursery production management. Methods included hands on demonstrations, discussions, educational games, and presentations. A pre and posttest and a 6 month follows up survey were conducted. 19 of 21 participants (91%) showed knowledge gained. 82% of the attendees (17 of 21) acknowledged that they changed their perception of agriculture and would consider it as a career. 85% (18 of 21) of the students stated that they had

changed an agriculture practice to align with best management practices taught during the workshop (some examples were to fertilize and irrigate at the correct rate and time when needed). This workshop is an important step in preparing the younger generation to be responsible citizens and productive members of the agricultural workforce.

### **WATER QUALITY EDUCATION AND OUTREACH IMPROVES COASTAL COMMUNITIES**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1298.pdf>

In 2014, the Camden County Extension Agriculture and Natural Resources (ANR) program developed a strong emphasis on water quality education and outreach. As a coastal county with a large expanse of salt marsh and estuaries, the health of our aquatic ecosystems is very important to the health of our community and economy. Camden County Extension holds multiple volunteer river cleanups annually to remove litter from our communities and waterways that can affect the health and safety of our citizens, tourists, and natural assets. The ANR agent also serves as a local trainer, coordinator, and board member for the Georgia Adopt-A-Stream program. The agent offers multiple certification and recertification workshops in bacterial and chemical water monitoring each year and works with three local teachers and their classes, who monitor regularly. In addition to cleanup and monitoring efforts, the ANR agent partners with a local Department of Natural Resources (DNR) biologist to hold volunteer days to remove island apple snails, an aquatic invasive species that severely impacts the ecology and health of the waterbodies that it invades.

### **THE EFFECTS OF PHENOXY HERBICIDES ON LANDSCAPE TREES AND SHRUBS, NON-TARGET TREES IN PASTURES, AND CARRYOVER IN HAY AND MANURE TO VEGETABLE CROPS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1278.pdf>

County agents have noted a lack of understanding of

farmers, professionals, and homeowners about modes of action of herbicides, environmental fate, and potential herbicide injury that may be caused by soil mobility of phenoxy (synthetic auxin) herbicides as well as carryover of turfgrass and forage applied herbicides via grass clippings, manure, and hay used as mulch to other valuable crops, vegetables, and landscape features such as trees and shrubs. During the past three years, Paul Pugliese has written several articles and developed two PowerPoint presentations concerning the effects of phenoxy herbicides on non-target plants and has presented these topics in front of over 315 farmers, green industry professionals, arborists, and home gardeners. Each of these programs also provided continuing education units (CEU's) for private and commercial pesticide applicator's licenses as well as arborist recertification hours. In program evaluations, participants demonstrated an increase in their confidence to reduce injury to trees, shrubs, and vegetable crops from turfgrass and forage applied herbicides.

### **JOURNEYMAN FARMER CERTIFICATE PROGRAM EQUIPS BEGINNING FARMERS THROUGHOUT GEORGIA**

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In the United States and the state of Georgia, there has been a noticeable decline in the number of small to medium-size farms while at the same time the average age of farmers has increased. This trend points to the fact that it is very challenging for potentially new farmers to start and establish a sustainable farm operation. One of the greatest challenges to a sustainable farm is financial competency. The Journeyman Farmer Certificate Program was developed by UGA Extension and its partners to provide a comprehensive training program for beginning farmers. This project was funded by USDA NIFA Beginning Farmer Rancher Development Program and includes three training steps: Small Farm Business Planning, Small Fruit & Vegetable Production or Small Ruminants Production, and Hands-on Production Training. This program

is focused on those interested in starting a farm business or those who have recently begun or have been farming less than ten years and want to improve their operations. The certification program combines business knowledge, practical knowledge, and practical experience to give the beginning farmer a foundation for running a sustainable farm. The program was piloted in North Georgia in the fall and winter of 2015-2016. The program had a total of 92 participants. In year two, the project took place in Dougherty County with a total of 46 participants. After reviewing participant surveys from the first year, several adjustments have been made to further improve the program for the current and future participants.

### **HEALTHY FLOCKS THROUGH BACKYARD BIOSECURITY**

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Backyard flock owners who do not practice biosecurity could result in greater potential for the spread of disease into commercial flocks and pose a serious economic threat to the largest agricultural commodity in Georgia. Commercial poultry is the largest agricultural commodity in Georgia and has a total Farmgate Value in Paulding County of \$6,558,552. The agent worked to provide basic biosecurity training for backyard flock owners in Paulding County. The primary objective of this program in Paulding County was to educate backyard flock owners about the importance of biosecurity the critical importance backyard flock biosecurity implementation to the commercial poultry industry. Thirty-nine backyard flock owners from Paulding, Bartow, and Haralson Counties attended the two programs offered in Paulding and participants initiated changes in their flock management to increase biosecurity. Increased awareness of disease potential and the actions of class participants to increase their backyard flock biosecurity practices after participating in the class should keep their flocks healthier and help protect the commercial poultry industry.

### **DEMONSTRATING THE RELATIVE EASE AND EFFECTIVENESS OF USING BAIT PRODUCTS TO MANAGE IMPORTED FIRE ANT POPULATIONS: A DEMONSTRATION AT YATES FARM**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1296.pdf>

Yates Farm had a serious imported fire ant problem. A survey of the farm's pastures revealed an average of 73 live mounds per acre. Imported fire ant populations of this magnitude can have an adverse effect on cattle performance and cause damage to farm equipment. Bait products marketed for fire ant management can be used to safely and effectively control fire ant populations to reduce their negative impact on cattle operations. To demonstrate the relative ease and effectiveness of using bait products to manage fire ant populations, a demonstration was set up at Yates 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.

### **CHAINSAW SAFETY TRAINING FOR LANDSCAPE AND TREE CARE WORKERS**

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<sup>3</sup>Associate Profesor, UGA Plant Pathology Department, Griffin, GA, 30223

We successfully trained 4,174 landscape workers in safety and chainsaw safety and other topics. The chainsaw is arguably the most dangerous tool used in the landscape and tree care industries. Landscape workers use it occasionally; tree care workers may use it daily. Landscape workers risk accidents from inexperience, tree care workers from confidence. Both tend to be visual and hands-on learners. Demonstration and picture-rich training materials are important for both. Peer-to-peer training and the street credibility of the trainer are also very important for both groups. Despite these similarities, training programs for the two groups quickly diverged. Large landscape companies are keenly interested in safety training and eager to host training onsite, while large tree care companies have strong internal safety training programs and little interest in external trainings. Small and mid-sized landscape and arborist companies can be reached via state industry associations (the Urban Ag Council and the Georgia Green

Industry Association, Georgia Arborist Association). Though it is relatively easy to draw participants in both groups who are interested in continuing education credits (CEU), these participants were often middle managers, rather than workers. Companies suggested pole saw safety be included and were far more interested in ladder safety than tree care companies. Very few Hispanics workers participated in the English trainings. It remains to be determined if the low Hispanic turnout resulted from reliance on online marketing efforts, the seasonality of tree care workers, or employer preference.

### **PROMOTING SPECIALTY CROP BEST PRODUCTION METHODS BY ORCHARD DEMONSTRATION AND EVALUATION**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1437.pdf>

Specialty crop production of fruit in the deep-south is a constant battle against insect and disease problems and extreme temperature fluctuations. Even with advanced pesticide spray regimes, successful production is still a challenge. Growing fruit plants that are adaptive to northern Mississippi is a necessity for successful production. A teaching/demonstration orchard was installed in Verona, Mississippi in March of 2016. The objectives were to identify newer, low input cultivars; to determine best production practices; and to educate extension agricultural agents and others on these local best production practices. Four trainings (workshops) were conducted to provide multi-level education in specialty crop production procedures for Extension agricultural agents, Master Gardener volunteers, local fruit growers, and the general public. The extension agents and Master Gardeners will take this knowledge and educate interested clientele in their counties. The hands-on techniques learned by participants will lead to a more knowledgeable grower and more successful fruit production. Knowledge of better fruit production practices will also lead to lower input and more sustainable orchards. Future plans include a minimum of two educational workshops each year over the next five years.

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## **NC FARM SCHOOL**

Duncan, L.<sup>1</sup>; Cutting, D.<sup>2</sup>; Albertson, A.<sup>3</sup>; Brennan, M.J.<sup>4</sup>; Jones, P.<sup>5</sup>; Holcomb, D.<sup>6</sup>; Bullen, G.<sup>7</sup>; Taylor, A.<sup>8</sup>; Worden, L.<sup>9</sup>; Mitchell, C.<sup>10</sup>; Birdsell, T.<sup>11</sup>; Washburn, D.<sup>12</sup>

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<sup>9</sup>Extension Agriculture Agent, NC Cooperative Extension, Dallas, NC, 28034

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Farm loss and the average age of the current farmer has become a concern of North Carolina Agriculture Extension Agents. To help strengthen new and transitioning farms extension agents across North Carolina created the NC Farm School program. The NC Farm School is a seven month program that teaches new and transitioning farmers business skills to survive. Six schools have been created in North Carolina over the past six years since NC Farm School was created. There have been over 300 graduates of NC Farm School since its inception. To graduate from the school students must complete 50% of their farm business plans and attend 80% of the classes. In addition to helping farmers complete business plans, NC Farm School also educates students on financial statements, marketing, estate planning, taxes and offers one on one consultations. The NC Farm School program helps match current students with profitable farmers as mentors and guides.

## **LANDSCAPE MANAGEMENT; HANDS-ON LEARNING**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1495.pdf>

The Western North Carolina 'Green Team' provided an educational program through lecture, hands-on demonstration and an interactive activity that allowed professionals in the green industry to learn how to develop and implement a landscape management and maintenance program. Participants were given a lecture focusing on sustainability and how it relates to landscape design and management. After the lecture, participants divided into groups, each group having a focus point of either integrated pest management, rejuvenating a landscape or sustainable landscape design in a new planting area. Groups were allowed an hour to walk the site and study current issues in design and implementation. After studying the areas, participants were asked to develop a presentation including a landscape plan and design as well as maintenance program utilizing information given in the previous lecture that would apply to their specific area of focus. After given time to brainstorm and put together a poster and/or power point, each group presents to the class as a whole and there is time for discussion. By providing the foundation for a good landscape management strategy and then allowing interaction and discussion through hands-on group work, participants left the workshop with the skills to immediately apply the information given to them in their own landscape management programs. Last year over 70 participants received 3 hrs of NC Pesticide credits and 5 hrs of NC Landscape Contractor's License credits for this workshop.

## **EFFECTIVENESS OF NURSERY WEED MANAGEMENT RESEARCH FIELD DAYS**

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Container nursery growers struggle to control weeds due to infrequent weeding, non-uniform herbicide applications and improper herbicide selection. Two field days were held in Eastern and Western NC in summer of 2016 at the conclusion of on-farm research to expose growers to study results on increased weeding frequency, herbicide efficacy,

plant spacing, uniformity of herbicide application, calibration of granular spreaders, and use of mulches for weed control. The purpose was to increase grower's knowledge, confidence, and intent of using these practices. Research trials included two hand weeding frequencies, herbicide efficacy on weeds, and use of several types and depths of mulches. Calibration of commonly used spreaders and herbicides was conducted in controlled environments for accuracy and demonstrated at field days. Research data was collected prior to field days with one replication left for field day demonstration and collected later. Data was presented at field days using data table posters and educational handouts were provided to reinforce results. Participants were surveyed after to determine increase in knowledge and intent to change practices. An average of 61% intend to increase hand-weeding frequency, adjust herbicide rotation, and calibrate spreaders to increase weed control. Most growers had at least a 20% increase in knowledge of weed control costs, herbicide selection, granular application/calibration, mulch efficacy/costs, and confidence in developing weed control programs. Field days were effective in demonstrating that growers are willing to change practices in order to save time and money by reducing labor and making more effective applications with proper products and techniques.

### **EASTERN CAROLINA HAY DAY SHOWCASES THE LATEST AND GREATEST IN HAY PRODUCTION**

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The Eastern Carolina Hay Day offers the opportunity for producers and ag companies to come together for a showcase of hay equipment and forage products. This field day is organized by a group of 5 extension agents and has been held on a biannual basis since 2011. The field day is held in June and focuses on the management and harvest of bermudagrass and other warm season grasses for hay production. Equipment dealers provide different models of equipment that demonstrate cutting, tedding, raking, baling, wrapping and handling of hay throughout the field day. Extension agents and state specialists provide additional information on forage management, weed control, and stand establishment. Demonstration and test plots of annual forage varieties, different fertilization practices, and herbicide applications allow producers to visually access differences. 213 producers have received 1054 hours of continuing education credits for animal waste application and pesticide licenses over three field days. Producers report they have achieved an additional \$1.1 million of gross revenue due to improved and new practices learned at the event. Ag dealers report that they have sold \$270 thousand dollars of products to producers who have attended the field day. Producer continually tell the extension agents they look forward to the next hay day to see the latest and greatest in hay production.

### **NATIONAL CATTLE COMFORT ADVISOR**

Chris Richards<sup>1</sup>; Albert Sutherland<sup>2</sup>; Megan Rolf<sup>3</sup>; Rafal Jabrzemski<sup>4</sup>; Michael Klatt<sup>5</sup>

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The Oklahoma Mesonet has expanded its Oklahoma Cattle Comfort Advisor to a national tool with the launch of the National Cattle Comfort Advisor. This new version is available at <http://CattleComfort.Mesonet.us>. National cattle heat/cold stress maps are updated hourly and archived back to January 1, 2016. These national stress maps help cattle producers: monitor stress conditions using local environmental conditions, guide cattle water demand decisions, track weather changes that increase cattle health risk, track stress over multiple days, monitor severity of extreme weather events, monitor when to avoid working cattle, and know when transported cattle came from an area with weather stress. With no national database of solar radiation, the National Cattle Comfort Advisor calculates heat/cold stress at 100%, 60%, and 20% sunlight levels each hour. Users select the sunlight level map that best fits their local conditions. There are also national maps of 1.5 meter air temperature, 2 meter relative humidity, 2 meter wind speed estimated from 10 meter wind speed data, and estimated solar radiation in watts per meter squared for each sunlight level. The National Cattle Comfort Advisor is based on the 'Comprehensive Climate Index' formula for livestock stress from Mader et. al. 2010. Air temperature, relative humidity, and wind data are from National Weather Service METAR dataset.

### **BASIC WEATHER AND CLIMATE FACT SHEETS FROM GRAZING CAP**

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The USA Great Plains is known for the variability of its weather and has experienced even more variability and new

record setting extremes recently. A review of Kansas State University and Oklahoma State University factsheets revealed that weather and climate information was included as snippets in more than 100 factsheets across the two universities. While this provided important production information for unique situations, it did not provide an overarching perspective of weather and climate. A bits and pieces approach makes it difficult for producers to consider weather and climate information within their total farm management strategy. This piecemeal approach also makes learning about weather and climate difficult and time consuming. To help agricultural producers learn more about weather decision support information and tools we set out to develop a new set of Extension factsheets. These fact sheets focus on basic weather and climate information, decision support, and livestock production needs. Authorship and printing 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. These factsheets can be used by Cooperative Extension educators throughout the 48 continental USA states and are available at <http://GreatPlainsGrazing.org>. These factsheets provide Extension educators focused fact sheets on weather and climate information. Three examples are: 'What is the Difference Between Weather and Climate?,' 'Estimating Water Requirements for Mature Beef Cows,' and 'Weather Forecasts from the National Weather Service Serving Agriculture.'

### **SOWING THE SEEDS OF SUCCESS THROUGH BASIC HOME GARDENING WORKSHOPS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1289.pdf>

There is an ever-increasing trend of public demand for locally grown produce, sparking an avid interest in local food systems in rural communities. Many individuals seek knowledge to grow their own food supply. As a result, **UT** Extension in Greene County, has both assisted gardeners and raised public awareness about the local foods movement through a series of seasonal workshops focused on producing sustainable gardens in Greene County and providing nutritious alternatives to low income families.

Greeneville is currently located in a "Food Desert," a *low-income census tract* meaning a substantial number of residents have *low access* to large grocery stores. With just over 50 percent of the town population considered to have low access to fresh, affordable food, UT Extension and Master Gardeners intervened.

Demonstration gardens were designed and installed at the local Soup Kitchen, offering monthly educational seminars to enhance hands-on experiences. This venture facilitated the use of an outdoor classroom, offering clientele the opportunity to witness firsthand the various methods of small-scale gardening on a low-cost basis. The gardens demonstrate unique concepts to illustrate methods of growing nutritious food. Over 2000 pounds of food were grown in the gardens, which were either prepared for consumption for Wednesday lunches (6,943 meals fed) or distributed to local families in the area.

In addition, a series of 16 "Gardener's Toolshed" workshops with 187 participants was delivered to the public with a focus on seasonal points of interests related to growing successful gardens in order to promote sustainable gardening production practices.

### **NURSERY, GREENHOUSE, AND LANDSCAPING TOUR**

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The University of Tennessee Extension Eastern Region Nursery, Greenhouse, and Landscaping Tour is held annually in the fall. Each year, this 3-day tour visits innovative nurseries in the southeast. During 2014-2016, the tour averaged 42 participants from at least 14 counties including nursery growers, landscapers, and Agriculture Extension Agents. Based on survey responses of tour participants, 90% have developed networking relationships, 73% learned about improved marketing practices, 72% learned about production technologies, 69% learned about new horticultural practices, 63% learned about water quality and conservation, 63% learned about innovative plant materials, and 56% learned about pesticide application. 100% of tour participants agree that they would recommend the tour to others. The average annual economic impact of the tour was \$257,500 for a total 3-year economic impact of \$772,500. Nursery growers and landscapers paid \$250 per person based on double occupancy and Agriculture Extension Agents participated at no cost using grant funds. All participants were eligible to receive 11 pesticide education credits.

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## **IMPORTANCE OF MATCHING TRUCKS AND LIVESTOCK TRAILERS FOR SAFETY AND LEGAL ISSUES**

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Matching trucks and trailers is an important safety and legal issue for agriculture. There are numerous combinations and options for trucks and trailers on the market today. Livestock producers need information to help them buy wisely when purchasing a new truck and/or trailer or to evaluate their current tow vehicle and trailer. Producers need to be educated on proper truck and trailer ratings and ratios to properly match trucks to trailers for safety and legal reasons. Producers need to be aware of how to correctly do these calculations using these ratings and ratios in order to make informed truck and trailer buying decisions. Producers also need to know other important issues regarding purchasing decisions and safety such as brake controllers, transmission coolers, correct tire sizes, hitch types, and other information. Proper trailer maintenance is also important and is essential to keep trailers in good safe operating condition.

## **GROW YOUR FARM PROFITS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1319.pdf>

The purpose of the Grow Your Farm Profits program was to assist current and/or future small agriculture producers gain knowledge in planning, increased profitability, increased sales, marketing, and to develop new farm business management skills. Many current producers in Grundy County only farm part time and would like to manage their operation more profitable so that farming could become a greater share of their household income. In an effort to provide educational programming to this underserved audience, UT Extension in Grundy County has developed and implemented twelve (12) educational seminars in two days aimed at addressing this topic. The fee-based program included topics such as: farm planning, finances, operation funds, record keeping, producer networking and sharing, website/social media marketing, making money, pricing for profit, successful marketing, tax tips, producer diversification, and farmland legacy. As a result of this educational effort, twelve (12) participants attended the program. These participants reported gaining knowledge on all topics covered by fifty-six percent (56%) and the program reportedly had an economic impact of more than \$19,000. One-hundred percent (100%) of all producers attending the

Grow Your Farm Profits program said they have set some future goals for their farm or future operation as a result of things they learned.

## **ADVANCED MASTER MEAT GOAT PRODUCER: INCREASING KNOWLEDGE TO SMALL RUMINANT PRODUCERS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1467.pdf>

According to USDA-NASS, Tennessee is the second largest meat goat producing state in the U.S. As identified by UT Extension, there is a need to educate small ruminant producers with the Advanced Master Meat Goat Producer program. A plan was developed to address those specified needs. Topics for the three day program were Health and Biosecurity, Reproduction and Breeding, Retail and Wholesale Meat Regulations, Sales and Business Tax, Forages and Pasture Management, Facilities/Equipment/Fencing, Livestock Guardian Dogs, Genetics and Replacement Stock Selection, Nutrition; and Record Keeping and Budgeting. Carcass Evaluation and Fabrication was taught through a demonstration. A hands-on demonstration of FAMANCHA, hoof trimming, biosecurity, and Body Condition Scoring (BCS) was conducted on-farm. In 2016, twenty-four (24) producers from thirteen (13) Tennessee counties attended the program offered in Jackson. A pre/post program evaluation was conducted to determine deeper understanding of subject matter, situations in which knowledge gained can be applied, and plan to apply recommended practices. With more than half participants in operation less than six years, 68% Strongly Agree to have situations they can use knowledge gained and 58% responded Strongly Agree they will change practices based upon what they learned from the program. The evaluation also served as a tool to survey total satisfaction with the program and identify future small ruminant programming needs. As a result of this program, 100% of small ruminant producers, owning 853 head of goats and sheep, felt they would recommend this program to others and was worth the cost of attendance.

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## **GRAZE 300 VA**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1435.pdf>

More than 50% of grazing livestock production costs are found in winter feeding expenses in Virginia Extension budgets. To improve profitability while also improving water quality, livestock producers can reduce their reliance upon hay feeding by adding additional days of grazing during the winter dormant season. Graze 300 VA is an educational initiative designed to address this issue and its significant potential for economic impact. Presently, a small group of producers in Virginia's Northern Piedmont and Northern Shenandoah Valley, regularly approach or achieve a 300-day grazing season. They extend their grazing season through adjustments in stocking rate and adjustments in pasture management. Having accomplished these needed changes, participants realize a 50% reduction in feed costs for each day of grazing added and a corresponding improvement in net revenue. With cattle, the potential for additional net can be as high as \$200 per calf sold when winter grazing is fully maximized. With over 96,000 beef cows in the Northern Shenandoah Valley and Northern Piedmont of Virginia, if 20% of the farmers (19,000 cows) improve economics by \$100 per head per year, the benefit would be \$1.9 million. Extending the grazing season will benefit water quality through improved water infiltration, improved nutrient use efficiency, fewer barren areas in fields from winter feeding sites, and improved soil organic matter. The Chesapeake Bay TMDL gives nutrient and sediment credit for every acre of pasture converted into a grazing management system and every foot of stream bank where livestock are excluded.

## **GILES COUNTY TEACHES AGRICULTURE THROUGH THE GILES COUNTY AGRICULTURE LAND LAB**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1394.pdf>

With the growing interest in local foods, the global issue of rising demand for more food for 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, Giles Technology Center, Agriculture Cooperative Extension programs, 4-H, Virginia Tech Ag Technology program, and other community based groups.

Since breaking ground in 2011, 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. The program has fostered 12 interns over the past two summers in addition to the students 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. The Giles County Land Lab is still in its infancy yet has already accomplished so much. The future of this program is promising and it is serving as a role model for programs across the Commonwealth of Virginia.

## **NORTHEAST REGION**

### **CREATING A SOILS AND FERTILITY COURSE FOR FARMERS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1312.pdf>

Interest in soils talks at winter meetings and nutrient management updates led to the creation of a soils course for farmers. Many new and established farmers indicated they either have not had a soils course, or it had been many years since they studied it. A four part course covering soil maps, physical and chemical properties was initiated in Dorchester County, MD. The dates were spread out over four months to allow farmers to attend over the winter. Based on surveys at each session, the majority in attendance were farmers with more than 20 years experience. Some new and beginning farmers also attended. Those who participated in the surveys indicated an increase in knowledge of soil maps and horizons, as well as particle size, structure and water holding. The largest increase in knowledge was reported for chemical properties, including cation exchange capacity ( from Poor to Good) and soil pH

(from Fair to Very Good). From these surveys the course will be improved to better explain soil physical properties. It will also focus more on chemical properties, as farmers indicated the most deficiency with those topics.

## **BIOSECURITY VIDEOS FOR POULTRY GROWERS**

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As our world continues to move toward informal education it is important for extension professionals to look for new ways to meet their needs. One of the first places people turn for information is the internet, and quality unbiased information needs to be available. In order to meet this need the Poultry Extension Team at the University of Maryland received a USDA-NIFA Smith-Lever Special Needs grant to develop short (6-minute) biosecurity videos for commercial poultry growers, technical service personnel, and backyard poultry producers. These videos demonstrate the proper protocols that are needed to help those that work with poultry to stop the spread of disease. In order to disseminate these videos, there were shared with poultry industry representatives as well as state and federal animal health agencies, Extension agents, and emergency response personnel. Additionally, the videos are also available on YouTube and at the University of Maryland Poultry Extension web site in an effort to educate growers on ways to help prevent future outbreaks of avian influenza. By using short videos we are able to get beneficial information out to individuals that work with poultry in an easy readily available form.

## **100 SUMMER GARDENS PROGRAM**

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During the school year, students enrolled in the Horticulture Careers and Technological Education (CTE) program at Parkside High School are actively involved with production and sales of the A+ Greenhouse Centre. Summer break often leads high school students to seek out activities to occupy free time. To continue the engagement of students past the school year, vegetable garden starter kits were made available to any Wicomico County school student. Only 100 garden kits were made available. For only \$20 per garden kit, this program effort was to encourage agriculture skills taught in the classroom to be used at home. The garden starter kits, ideal for a backyard 4x12 sq.ft. plot, included one bag of compost, 16 plants, and four tomato stakes. Seedling varieties included tomato and green peppers. Seed varieties included squash, cucumbers, green beans. A garden factsheet sheet, which included University of Maryland Extension (UME)

gardening information and resources in the form of QR codes, was provided with each garden kit.

In practicing their gardening skills developed in school, students would hopefully engage their family members to become involved in tending the garden and harvesting the fresh, nutritious vegetables as growing a vegetable garden is an empowering activity for all ages. Gardening promotes being physically active. Additionally, harvesting the vegetables relates the economics to students how producing your own food can save money on household food expenses. This program showcases healthy living all around!

The 100 Summer Gardens Program is a partnership between UME and Parkside High School.

## **USING GOOGLE FORMS TO ENHANCE THE UNDERSTANDING OF COLD DAMAGES AND ITS MITIGATION IN NEW JERSEY VINEYARDS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1423.pdf>

Following the very low temperatures during the winters of 2013-14 and 2014-15, many New Jersey vineyards experienced cold damage to vines. That event provided an opportunity to assess the degree of winter damage in more than 60 different wine grape varieties grown in New Jersey. Two *Google Form* based surveys were conducted by Rutgers New Jersey Center for Wine Research and Education (NJCWRE) and sent to wine industry in spring of 2016. Cold damage was defined as noticeable damage to any tissue on cane, cordon or trunk. A total of 32 vineyards participated in two surveys, representing more than 70% of wine grape acreages. At 2017 *Grape Expectation* symposium, after the presenting results of both the survey, authors measured the intension to adopt winter prevention practices (27 response). The participants increased their understanding of vulnerability to cold injuries to grapevines and many indicated their willingness to adopt some of the effective cold injury prevention practices, which they were not performing so far.

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## **TRAINING GROWERS FOR FSMA PRODUCE RULE COMPLIANCE**

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The first grower trainings for the Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR) were held during the winter of 2016/2017. New Jersey growers were first made aware of the regulation after its signing in 2011. Growers were given annual updates on how the regulation was being drafted. During that time growers became anxious over who would conduct the Food and Drug Administration (FDA) required inspections of their farms, what the regulation would actually require, and the financial impact the regulation would have on their business. Six trainings were held with over 200 grower attendees regionally throughout New Jersey during the 2016/2017 meeting season. The FDA approved Produce Safety Alliance Grower Training PowerPoint presentations and grower manual were used. Both trainers are certified as lead trainers through the Produce Safety Alliance. Participants who had already completed buyer required third party audits found relief in the simplicity of the regulation, while growers who had not previously completed food safety training were overwhelmed at the prospect of compliance.

## **THE RUTGERS COMMUNITY GARDENING SERIES: MASTER GARDENER TRAIN-THE- TRAINER PROGRAM**

Flahive DiNardo, M.<sup>1</sup>; Bakacs, M.<sup>2</sup>; Melendez, M.<sup>3</sup>; Nitzsche, P.<sup>4</sup>; Larson, D.<sup>5</sup>; Szkotak, R.<sup>6</sup>; Magron, R.<sup>7</sup>

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1357.pdf>

Where to get started and how to maintain a productive

vegetable community garden are challenges for local organizations. To increase extension's outreach to these clients, a team of Rutgers faculty and Master Gardener Program Coordinators developed a curriculum for volunteer Master Gardeners to deliver to community organizations. The curriculum consists of scripted and audio PowerPoint™ presentations on: Starting a Community Garden, Composting, Harvesting & Food Safety, and Insect & Disease Management. Each presentation is accompanied with fact sheet resources and pre/post evaluation quizzes. Regional training programs were attended by 137 Master Gardeners in fall of 2016. Each participant received a jump drive containing the curriculum, and received instruction on how to use the materials, including administering pre/post evaluations. Lead authors of the presentations delivered the lectures. The participants completed the pre/post evaluation quiz for each topic. On program evaluations, Master Gardeners (N=105) reported increased confidence in delivering the presentation topics and 70% will use the curriculum to teach others in community garden settings, county garden helplines and Speakers' Bureaus.

## **SOWING VIRTUAL SEEDS: UTILIZING YOU TUBE(R) FOR THE ULTRA-NICHE FARM**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1480.pdf>

Teaching new and beginning farmers about the cultivation,

marketing, and business management of “ultra-niche” crops - those of exceptionally high value that can be grown successfully on 10 acres or less – can be a daunting task. How to engage audiences in a method that will keep them interested enough to pursue their agricultural aspirations without overwhelming them in the process is a major hurdle for many beginning farmer programs. Rutgers University launched the “Ultra-Niche Crops for the Progressive New Farmer” series in September of 2016, with four sessions covering four specific crops completed by March of 2017. The team launched a You Tube® channel devoted exclusively to this project in May of 2016, [www.youtube.com/channel/UCQ3vTwbKmePQmoezIBVuEQA](http://www.youtube.com/channel/UCQ3vTwbKmePQmoezIBVuEQA). Viewers are able to virtually visit the farm in season, see how the crop is grown, learn what buyers look for, and hear from an expert about any specific difficulties growing, harvesting, or marketing a crop may pose. While 232 registrations were recorded for the face-to-face sessions, 309 virtual attendees viewed the You Tube® videos, while an additional 96 views of the live stream recording of the four sessions have also been facilitated through this channel. While the channel lists only 16 subscribers for the 22 videos currently in its library, it has logged 1,030 views and stands to be the premier online platform for this project to reach additional and younger audiences seeking inroads to their agricultural aspirations and for asynchronous on-demand learning from repeat and future audiences.

## **NORTH CENTRAL REGION**

### **POLLINATOR DAY**

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With the increase in honeybee and pollinator awareness, a one-day event, Pollinator Day, was created. Classes offered were; Beginning Beekeeping, Spring Management of a Beehive, Cooking with Honey, Planting for Pollinators, and The Use of Pesticides around the Home. The event was free to the public, and participants received t-shirts and lunch. There were several stations where participants could learn about pollinators. Stations included Planting for Pollinators, What Do I Pollinate, a Honeybee Observation Hive, Beeswax Lip Balm Making, a craft corner for youth, and the 4-H Monsanto Bee Challenge. The NRCS was present to talk to anyone interested in cost share programs. Approximately 200 people attended. Twenty-one people who attended “Planting for Pollinators” felt the information was helpful and they would use it in the future. The attendees of “Basic Beekeeping” had very little knowledge of the topic. Eleven participants said they would use this information in the future and attend another session on the topic. For “Early Spring Hive Management” the majority of attendees had very little knowledge on the topic.

Eleven participants felt the information was helpful, 10 said they would use the information in the future, and 14 said they would attend another presentation on this topic. The article written by the local paper about the event was picked up by the Associated Press and printed in other papers in Indiana and along the Eastern Seaboard. The success and public outreach that occurred during this event was more than expected. Pollinator Day is now an annual event.

### **CORN MYCOTOXINS: AN ON-LINE SUITE OF EAR ROT AND MYCOTOXIN RESOURCES FOR PRODUCERS AND EXTENSION EDUCATORS**

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Ear rots of corn annually reduce yield and grain quality in the United States. *Aspergillus*, *Gibberella*, and *Fusarium* ear rots can contain mycotoxins, which are toxic to humans and livestock. The presence of mycotoxins in commodities is highly regulated and proper identification of the ear rots by producers is the first critical point in management to reduce the risk of mycotoxin contamination of food and feeds.

In 2012, Purdue University formed a partnership with University of Arkansas, Michigan State University, North Carolina State University, and Texas A&M University (College Station and Kingsville). The goal of the project, which is funded by the USDA National Institute of Food and Agriculture, is to provide new resources to corn producers to aid in ear rot and mycotoxin management. Central to this effort is the user-friendly Internet site Corn Mycotoxins, [www.cornmycotoxins.com](http://www.cornmycotoxins.com). This on-line suite of resource material includes publications on ear rot identification, mycotoxins, ear rot management, and strategies for dealing with moldy grain. The Corn Mycotoxin App, available for both Android and Apple through Corn Mycotoxins, provides users with detailed information for identification, management, and storage from their phone while in the field.

Corn Mycotoxins will continue to produce new resources for producers and Extension educators. Factors affecting ear rot development, including weather patterns and cultural practices, vary among regions in the US. Resources are being developed to address unique conditions and management practices for these regions through current research.

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## **LIVESTOCK WATER QUALITY PRACTICES TRAINING FOR KANSAS COUNTY EXTENSION AGENTS**

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Kansas County Agents, many of whom provide education in multi-county districts, are charged with providing educational programming for livestock producers that is conducive to maintaining quality water in streams and lakes downslope from livestock management facilities.

Kansas Center for Agricultural Resources watershed specialists provided training to 26 county agent members of the natural resource program focus team. The topics they presented included «Managing Water Quality at Small Confinement Facilities,» «Is Non-Confined Feeding an Alternative?,» «Dollars Drive Decisions,» and «Considerations for New and Expanding Confinement Facilities.»

Watershed specialists work closely with cattle producers, Kansas State and the Kansas Department of Health and Environment to ensure cattle feeding facilities are designed in a water quality responsible manner. In 2016, these specialists assisted in the design and implementation of 78 «best management practices» affecting 5000 animal units and over 800 contributing acres. These practices accounted for a load reduction of 160,000 pounds of nitrogen and 80,000 pounds of phosphorus to the surface waters of Kansas.

This training addressed the major water quality concerns of Kansas, including sedimentation of federal reservoirs, and nutrient rich waters which promote algae growth. Agents in attendance learned the basics of water quality sensitive cattle management practices, and how to promote those practices to cattle producers.

## **THE IMPACT ON FUNDED ENERGY EFFICIENCY AND RENEWABLE ENERGY PROJECTS BY THE MICHIGAN FARM ENERGY PROGRAM.**

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From 2003-2009, the lack of auditors who understood agricultural operations and could conduct affordable audits resulted in Michigan being one of five states consistently

receiving the lowest amount of funding for USDA Rural Development Rural Energy for America Program (REAP) projects. During those seven years, 35 energy efficiency and 31 renewable energy projects were funded, resulting in a total investment of \$1,217,172 and \$3,814,868 respectively. In 2009, the Michigan Farm Energy Program (MFEP) was established to provide agribusinesses and farmers with certified auditors possessing the skills and knowledge to conduct audits that meet ASABE/ANSI S612 standards for Type 2 audits as required by Federal funding programs. From 2010-2013 there were 381 (988% increase) energy efficiency and 410 (1,223% increase) renewable energy projects funded amounting to investments of \$27,546,996 (2,163% increase) and \$31,888,872 (736% increase) respectively as compared to the previous 7 years. These results were achieved with less than 1% of Michigan's agricultural enterprises. Attaining such improvements is supported by continued investments in research, outreach, and the development of decision support tools to de-risk energy efficiency and renewable energy project implementation decisions. Examples of research, outreach and decision support tools include the long day lighting study at Wing Acres Dairy, the Powering Michigan Agriculture Conferences, and MSU online farm energy calculators.

## **MSU IRRIGATION SCHEDULER- AN AUTOMATED EXCEL TOOL FOR IMPROVED FIELD CROP WATER MANAGEMENT**

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~~Southwest Michigan has over 300,000 acres of irrigated production on well drained sandy loam to fine sand textured soils. The area is home to large acreages of hybrid seed corn production, chipping potatoes, and a wide range of other processing and fresh market vegetable and fruit crops. Most of these high value crops rely on irrigation to supply adequate moisture to maintain top production during brief but critical periods of drought stress that occur in an average growing season.

Michigan State University has a network of 80 weather stations that were established through joint investments by Michigan commodity groups, processors and the MSU Agricultural Experiment Station. A “checkbook” irrigation scheduler program was developed that utilizes data from this network to predict soil moisture levels based on soil water holding capacity for a field's soil series, evapotranspiration rate, crop grown, crop growth stage, effective rooting depth, rainfall and irrigation. The spreadsheet automatically downloads Et, rainfall, and projected Et levels for the next 7 days from the closest MSU enviro-weather station. The system allows growers to monitor their soil moisture levels by entering the irrigation water applied and rain gauge data. It also keeps track

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of drainage events, helping growers understand when applied nitrogen may have leached out of the root zone

### **EDUCATING GREENHOUSE GROWERS ON BIOLOGICAL CONTROL THROUGH AN INTERNATIONAL ONLINE COURSE**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1340.pdf>

Over two-thirds of greenhouse growers in Canada use biological control for insect and mite pest management, while only 20% of Michigan greenhouse growers currently use biological control. However, there is an increasing interest in using alternative pest management methods in Michigan and other U.S. greenhouses due to decreasing numbers of effective pesticides (insecticides and miticides) for common greenhouse insect pests. Heidi Lindberg, Michigan State University Extension, and Dr. Raymond Cloyd, Kansas State University Extension, developed a new, non-credit pre-recorded online course on biological control that was released in 2016. The course is intended for greenhouse growers and others interested in learning about the fundamental concepts of biological control and the challenges and opportunities associated with biological control programs. The course contains 4-hours of pre-recorded video content, which covers the following topics: commercially available natural enemies, banker plants, implementing a biological control program, interactions with pesticides, application strategies, and costs. The course is offered twice yearly (November-January and June-August). The Biological Control for Greenhouse Growers Course has reached 133 growers from 9 countries, 24 U.S. states, and 12 Michigan counties, representing 1.8 million square meters of greenhouse production. The average pre-test score was 67% and the average post-test score was 95% (n=114). Eighty-one percent of the respondents to the course evaluation reported that they would change their pest management practices as a result of the knowledge gained from the course (n=105). Eighty-six percent of the survey respondents reported that the online course will help protect their crop from pest damage (n=105).

### **STATEWIDE PARTNERING TO DETERMINE FARM FINANCE NEEDS**

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Agriculture in Missouri has experienced many changes the past two years. Grain and cattle prices have been volatile and affected the cash flow needs of agricultural producers. The extent of the change and the needs of the agricultural producers have been challenging to determine. University of Missouri Extension partnered with Missouri Department of Agriculture to plan and conduct a series of farm financial meetings in various locations throughout Missouri. Each workshop was conducted with core components including presentations about state agricultural programs and market outlooks. The workshops were designed to focus on the local panels to learn of concerns and encourage local input. The panels consisted of agricultural lenders, farmers and ranchers, farm service agency personnel and department of agriculture. University of Missouri Extension moderated the panels. Panel members were given a few standard questions to begin the discussion. The audiences of predominantly farmers and ranchers asked many difficult and challenging questions. The summaries and results from each meeting were gathered and used to produce a statewide report. The statewide report has been used for multiple purposes including working with surrounding states and also by the ag economics extension personnel. The data has been helpful in determining needed training for regional ag business specialists to prepare for working with financial situations with farmers and ranchers. Also, the data has also helpful in planning educational programs throughout the state. One unanticipated outcome was a stronger working relationship between Extension and the Missouri Department of Agriculture.

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## **MUSHROOM PRODUCTION GIVES GARDENERS AND PRODUCERS AN ALTERNATIVE CROP CHOICE**

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Growing mushrooms can be an attractive option for gardeners and local producers. The purpose of this educational program was to teach individuals how to grow mushrooms as an alternative horticulture crop for both personal and commercial use. I coordinated a workshop with Gregory Ormsby Mori in October 2015. Thirty-seven participants, including three youth, from 13 northeast Missouri counties attended the workshop. Participants learned how to grow shiitake, oyster and winecap mushrooms, and growing techniques for each on logs, totems, straw and woodchips. Sourcing of materials, costs, setup of the growing area, management and marketing were discussed. Participants gained hands-on experience preparing mushroom beds for growing winecaps, making totems for oyster mushrooms, and drilling holes and inoculating logs for shiitakes in which they took home. A 15 month follow-up survey was sent participants in January 2017. Twenty-six individuals returned the survey. Of those returned, 24 or 92% grew mushrooms. All but one family grew them for personal use. This family grew them for restaurant sales. Chefs used their mushrooms in soups, and one made a broiled root vegetable dish with chopped oyster mushroom. Participants faced challenges, with moisture being the hardest to manage. Spawn plugs falling out, insects and squirrel damage were also reported. Timing of fruiting to coincide with delivery days was a challenge for the restaurant producer. Sixteen individuals, or 67%, indicated they would continue to grow mushrooms, six indicated they would not continue, and two said maybe. Mushroom programming will be held in the region in the future.

## **FOCUS ON BOVINE REPRODUCTION**

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Newly developed technologies in bovine reproductive management and artificial insemination (AI) have resulted in increased interest in these technologies among dairy and beef cattle producers. New timed breeding protocols allow for the use of AI by producers who would not have considered the practice a few years ago. Success with timed AI, however is highly dependent upon executing these protocols precisely.

Focus on Bovine Reproduction is a two-session, six-hour workshop designed to teach cattle producers to utilize timed AI successfully. Workshop subject matter includes “Anatomy and Physiology of Reproduction”, “Understanding and Using Timed AI Protocols”, “Getting Started with AI”, and “Use of Genetic Evaluations of Dairy and Beef Cattle”. Instruction includes a hands-on “lab session” that utilizes bovine female reproductive tracts as teaching tools to help participants become more familiar with the anatomy and physiology of reproduction. The class also features a session that utilizes audience response technology in an interactive sire selection exercise. The full workshop has been offered six times since 2013; in Hartville, Ava, Mountain Grove, West Plains, Houston, and Alton, Missouri. Portions of the course were also offered on two other occasions. Over 100 producers have attended the workshops. A significant percentage have developed or enhanced AI programs subsequent to taking the training.

## **A COMPARISON OF PHOTOGRAPHIC METHODS FOR CLOSE-UP DIAGNOSTIC WORK IN HORTICULTURE**

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Sharp photographic images of horticultural specimens *in situ* are very useful when establishing plant disease. Good color and contrast are paramount when identifying diseases. Photographs are also excellent for teaching growers about diseases. With the profusion of smart phones and tablet computers, are traditional cameras still needed? Many iOS and Android devices claim megapixel resolution easily in excess of earlier digital cameras of only a few years ago. Close-up lenses also exist to allow macro photography on these devices. This poster compares several of these devices and add-on lens options with traditional digital cameras for diagnostic work. The poster also explores photo resolution in general, for landscape-scale photography. Resolution and quality are dependent on both the number of megapixels and the sensor size. Smaller sensors sometimes have high megapixel ratings, but usually do not have the quality of the same number of megapixels on a larger sensor. Photos from smart phones, tablet computers, and digital cameras will be compared.

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## **RETHINKING TEACHING AND LEARNING STORMWATER PRACTICES: A NATIONAL RESOURCE FOR PROFESSIONALS**

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Motivated by the need for clean water, a lack of unified information, and a regulatory driver, a collaborative group of stormwater educators, researchers and professionals from across the country have been leading the effort to develop a national educational stormwater education program: A Stormwater Practices and Maintenance Core Curriculum: Introduction to stormwater, stormwater management practices and maintenance. The collaboration's goal is to develop publicly available uniform research based stormwater core curriculum that can be readily used by educators, local governments and professionals. We defined stormwater core curriculum as a set of nationally peer reviewed standards defining the knowledge and skills that learners need to have about stormwater practices such as the fundamental (science) of these practices, along with their design, construction and maintenance.

The project received seed funding from the North Central Region Water Network to develop the first module with chapters focusing on Stormwater 101, stormwater practices fundamentals and maintenance. The remaining four modules have been developed in conjunction with a Technology grant from the University of Minnesota Extension. The full curriculum is anticipated to be available online in June 2017.

This poster showcases 1) the online curriculum development methods, 2) the final product 3) the results of the pilot program and stormwater professionals' responses and evaluations, and 4) how the national stormwater core curriculum may be accessed directly on the web as an online educational tool which can be tailored for local educational programing with private or public agencies.

## **KIDS, COMPOST, CROPS, & CONSUMPTION: INTRODUCING THE WHOLE FOOD CYCLE TO URBAN YOUTH**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1355.pdf>

The Kids, Compost, Crops and Consumption program goal is to increase youth involvement in the food cycle. The target audience are 3rd and 4th grade students from urban or rural areas. Hands-on activities, traditional white-board teaching and interactive physical exercises were used. Students learned the basics of livestock production, how to turn manure into compost, the value of compost as a fertilizer, how plants become food, how to make nutritious food choices and what influence they have in the food cycle. The lesson topics taught included: Livestock, Manure and Compost, Soils, Plants, and Food. Each lesson was taught by either an Extension Agent or an Area Extension Specialist.

Pre- and post-evaluations by the 80 participating students:

- 97 percent know livestock use plants as food.
- 78 percent know paper can be composted, compared with 41 percent previously.
- 68 percent defined photosynthesis as the life cycle that uses sunlight energy and carbon dioxide to make sugar and oxygen.
- 75 percent learned sand is the largest soil particle, compared with 20 previously.
- 91 percent know fruits and vegetables contain vitamins and minerals that help our brain, eyes, heart, skin and teeth.

Follow-up evaluations 63 of the 80 students three months after:

- 73 percent planted square-foot garden provided.
- 37 percent harvested the plant and consumed it.
- 57 percent planted another garden besides the one provided.

Educating students about food production and the nutritional requirements of a balanced diet may empower them to make healthy choices and begin to provide food security.

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## **TEACHING GRAIN MARKETING TOOLS AND STRATEGIES**

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Grain marketing is an important management decision, especially during periods of tight margins. A five week grain marketing class was offered in 2016 and 2017 to sixty-one farmers. The goal of the program was to increase each participant's knowledge on risk capacity and the different marketing tools available to price grain. The class was delivered during five two hour sessions each one week apart. In addition to the in class teaching, there was homework assigned and an on-line marketing game simulation that allowed participants to experiment with the different marketing tools. Program evaluations indicated the group marketed 6,888,450 bushels of grain annually. Measuring knowledge gain with a retrospective pre/post-test with a five point Likert scale, participants increased their knowledge on basis (0.94), market carry (0.95), hedging (1.02), options (1.21), and strategies to make storage pay (0.84). Eighty five percent of the participants reported they would change their marketing strategy based on information gained from the class. Common responses included: establishing downside price protection; examine more marketing tools to see which strategies might return a higher rate; using more basis and hedging contracts to reduce risk, and try buying some put options to protect downside price risk. Generalized farmer's responses indicated increased favorability towards using the grain marketing tools and strategies at the conclusion of the class.

## **OSU BEEF CATTLE ARTIFICIAL INSEMINATION SCHOOL**

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Ohio State University Extension and the OSU Eastern Agriculture Research Station (EARS) in Belle Valley are currently, and have been offering beef cattle artificial insemination (A.I.) school since the spring of 2002. The class has an approved Institutional Animal Care and Use Committee protocol. The school is three days with classes held from 9 a.m. to 2 p.m. at EARS. Producers are taught the basics of utilizing Expected Progeny Difference, techniques for artificial insemination, semen handling, reproductive anatomy & physiology and methods of estrous synchronization. On the third day, participants work with live cows to gain skills necessary to artificially inseminate cows. The cost of the class

is currently \$100 which covers all materials and lunch each day. The class size is limited to 20 participants. Three hundred beef cattle producers have completed A.I. school to date. Participants represent herd sizes from 1 to 900 head. At the conclusion of each school producers are asked to evaluate the class. One hundred percent of attendees have indicated they learned information that would help them implement A.I. on their farm. Follow up evaluations were conducted with randomly selected participants who anonymously stated the following concerning A.I. school: "The school helped me have more confidence when breeding", "My conception rates are improving", "I am better at heat detection", "I am now breeding my herd".

## **DEVELOPING A MASTER URBAN FARMER PROGRAM**

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The number of individuals and organizations producing food in an urban environment continues to rise in many urban and peri-urban areas of the country. What was once believed to be a fad is now an important part of many urban food systems. Many individuals who are interested in producing food in an urban setting lack the knowledge, skills, and experience to develop profitable and sustainable urban farms and food businesses. The Ohio Master Urban Farmer program is a ten week course designed to help urban farmers and food producers develop the needed skills to become successful business operators. The course features 30 hours of instruction over ten weeks, a day-long bus tour of urban farms, and an optional internship component. Since its development three years ago, the program has graduated nearly 250 Master Urban Farmers. Graduates report producing more food, increasing income, and improving food safety as a result of participating in the program. The number of urban farms operating in Columbus has tripled since the start of this educational program.

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## **OHIO'S PASSING ON THE FAMILY FARM INITIATIVE**

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<sup>13</sup>Extension Educator, The Ohio State University, London, OH, 43140

<sup>14</sup>Extension Educator, The Ohio State University, Circleville, OH, 43113

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The transfer of farms to the next generation is one of the most critical risk factors which many Ohio farm families will face over the next decade. OSU Extension Educators developed a teaching curriculum and hosted a series of "Passing on the Family Farm" workshops across Ohio during 2016-2017. The workshops were designed to help members of a family owned business answer nine critical farm transition planning questions. Participants learned how to develop a farm succession plan and how to increase the management skills of the next generation. The workshop sessions challenged family members to clearly communicate with one another when planning for the future. The course taught participants about: 1. business organization structures and strategies, 2. how to treat on-farm and off farm heirs, 3. how to equitably transfer assets, 4. how to plan for adequate retirement income, and 5.

how buy-sell agreements, trusts, LLCs and life insurance can be utilized in transition planning. To date, 1,738 Ohio producers have attended workshops at 35 different locations. Results for this workshop included: 1. 68.5% of attendees will update their will with an additional 28.8% considering an update; 2. 47.9% will hold an inter-generational meeting with an additional 33.8% considering a meeting; 3. 75.7% will update their balance sheet; and 4. 93% indicated they will begin work on summarizing their financial and estate materials into the OSU document for their heirs.

## **INCREASING CATTLE PRODUCERS KNOWLEDGE OF CURRENT ISSUES AND PRODUCTION INNOVATIONS**

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**Poster URL:** <http://www.nacaa.com/posters/uploads/1325.pdf>

Beef cattle production is a leading industry in The Ohio State University Extension's Ohio Valley Extension Education and Research Area (EERA). Educators have partnered with the Jackson Ohio Agricultural Research and Development Center (OARDC) since 2011 to deliver annual field night programs. Each year, the educators meet to plan the objectives that will improve farm profitability through a variety of management practices demonstrated on the research farm. These field night programs were designed using a variety of teaching and learning methods consisting of lectures, small group discussions, demonstrations, research plots, and a period for inquiry between participants and presenters. Participants are shuttled to stations on wagons where they can see first-hand the principles demonstrated. Incorporating several teaching methods provided participants, with different learning styles, an opportunity to find something that worked for them. Each year a program evaluation was conducted and participant

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feedback helps direct the subsequent year's program content. Learning objectives were identified and converted to statements used in a retrospective pre/post-test using a six point Likert scale. Knowledge gain averaged 28.3% in 2014, 23% in 2015, and 23.8% in 2016. Information was also collected on what participants thought they learned, what they would like to see improved, and some media and frequency questions. Over five years, the field night has grown from 38 to 200+ participants. Accommodations are made with the larger groups to keep an interactive learning environment rather than a field lecture. Topics initiated at the field night resulted in subsequent on-farm visits by the Educators.

### **IMPACT OF FACT PROGRAMS IN OHIO ON PRODUCER PERCEPTIONS AND PRACTICES**

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<sup>4</sup>Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Elyria, OH, 44035

Ohio State Extension educators delivered 48 three-hour Fertilizer Applicator Certification Trainings (FACT) in the years 2014-15, reaching an audience of 2,941 producers. This program is part of a state-wide initiative with Ohio Department of Agriculture, to reduce water quality problems such as harmful algae blooms. These programs will continue to be offered throughout the state, therefore it is critical to assess impacts of these programs and tailor programming for future needs. At the conclusion of many FACT programs, a voluntary survey was distributed to the participants. The response rate for this survey averaged 42.6% (N=1,253). Responses were analyzed based on several demographic factors: including farm size, region in the state, and farmer education level. Of the regions, respondents in southwestern Ohio tended to agree more that phosphorus loss from farm fields is a significant problem for water resources. Farmers in the northwest were most likely to utilize zone sampling, farmers in the southwest were most likely to utilize grid sampling, and farmers in the east were most likely to use a "traditional" soil sampling approach, if they were to soil test. Overall conclusions indicate that producers from smaller farms are more willing to change their nutrient management practices as a result of the FACT programs than producers from larger farms. Realizing different perceptions exist regarding soil health and water quality, Extension educators can help to effectively engage producers to drive changes in agronomic practices that can positively impact water quality across the state.

### **IDENTIFYING EMERGING ISSUES**

Beers, L.<sup>1</sup>; Adams, E.<sup>2</sup>; Hall, P.<sup>3</sup>; Griffith, M.<sup>4</sup>; Zoller, C.<sup>5</sup>; Shoemaker, D.<sup>6</sup>

<sup>1</sup>Extension Educator, Ohio State University, Cortland, OH, 44410

<sup>2</sup>Extension Educator, Ohio State University, Coshocton, OH, 43812

<sup>3</sup>Assistant Professor and Field Specialist, Agricultural & Resource Law, Ohio State University, Columbus, OH, 43210

<sup>4</sup>Extension Educator, Ohio State University, London, OH, 43140

<sup>5</sup>Extension Educator, Ohio State University, no city given, no state given,

<sup>6</sup>Field Specialist, Dairy Production Economics, Ohio State University, Canfield, OH, 44406

Emerging issues have a way of sneaking up on Extension professionals resulting in a reactionary approach to educating ourselves about an issue, developing curriculum, and informing clientele. In 2016, a team of Extension professionals with varying skillsets developed the OSU Extension Critical Issues Team in an effort to proactively address emerging issues. Issues can be highly controversial (GMOs), highly technical (biotech), government directed (Veterinary Feed Directive), or any topic that has the potential to elicit questions from a broad range of clientele. Identifying emerging issues in a timely manner is very important for the success of the team. Regular online seminars, survey of advisory groups, and survey of Educators from all program areas are used to identify and prioritize issues. Once an issue is identified, the team recruit professionals within the University that have expertise on the issue to develop curriculum, produce factsheets, and educate fellow county Educators to handle questions that may arise. Here we present our team successes, obstacles we encountered (and how we got over them), and lessons learned during our first year as we addressed the issue of GMOs in agriculture and the food system. Our model to address critical issues is highly adaptable to local and national issues, and is a system that could be easily mirrored by fellow Extension systems to provide proactive outreach on emerging issues.

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## **GROWING LOCAL FOODS: URBAN FARMS & GARDENS SUMMER TOUR SERIES**

Barrett, E.E.<sup>1</sup>

<sup>1</sup>Extension Educator, Agnr, Ohio State University Extension, Canfield, OH, 44406

Local Flavor is a urban fruit and vegetable production program. The program aims to improve fruit and vegetable production skills of city residents and to promote the growing of local foods. It is offered every Monday evening in the summer (June through August) at community gardens and urban farms in Youngstown, Ohio. The program started in 2012 and has grown each year since its inception. Extension personnel and trained Master Gardener Volunteers lead the weekly program. These local experts share advice on growing and caring for fruits, vegetables and herbs. A kit with curriculum and evaluation materials was developed for the program. The kit includes tools, samples and other props to conduct hands on demonstrations based on the weekly site. Growing practices, helpful tips, the importance of soils, weed control, insect identification and other tools for success are shared each week. To date, the program has attracted over 1,500 gardeners and aspiring urban farmers. Through the program evaluations, participants reported new skills and knowledge gained, including understanding the need for soil testing, improving crop yields, adopting practical weed control and sharing gardening skills with others. Just over 96% of participants in the Local Flavor Program marked an increase of at least one point on a ten point scale, shoring an increase in knowledge of vegetable gardening from before to after the program.

## **FORAGE EVALUATION & ANALYSIS**

Wiseman, T.<sup>1</sup>; Landefeld, M.<sup>2</sup>

<sup>1</sup>Extension Educator, The Ohio State University, Somerset, OH, 43783

<sup>2</sup>Extension Educator, The Ohio State University, Woodsfield, OH, 43793

Evaluating forages can be difficult by visual analysis for livestock producers, especially new producers. With increased interest in raising livestock on a small scale operation, many novel livestock producers do not realize the importance of quality harvested forages. The objective of this program was to illustrate the variances in visually evaluating forages and the importance of a forage analysis as a quality indicator. For the past three years, 6 to 9 samples have been collected and analyzed. Participants are given hands on opportunity to visually rank each of the forage samples during the activity. The visual indicators of what is typically examined to determine forage quality are then presented. Forage analysis reports from various labs for each sample are then reviewed and discussed. The results are used to illustrate the important

details of each report and sample. The program has been conducted at seven different events with and used by four other educators. Experienced and novice livestock producers have only been able to correctly select the highest quality forage sample 33%, the top two samples 17%, and the top 3 samples 9% of the time by visual analysis. The program reinforces the importance of forage analysis and result interpretation so that livestock producers can improve their operation.

## **EDIBLE INSECTS: DEVELOPMENT AND EVALUATION OF AN INTRODUCTORY ENTOMOPHAGY CURRICULUM**

Kulhanek, A.<sup>1</sup>; Jasinski, J.<sup>2</sup>; Shumaker, K.<sup>3</sup>; Cohen, J.<sup>4</sup>

<sup>1</sup>Extension Educator, OSU Extension, Medina, OH, 44256

<sup>2</sup>Extension Educator, OSU Extension, Urbana, OH, 43078

<sup>3</sup>Extension Educator, OSU Extension, Medina, OH, 44256

<sup>4</sup>Professor, Department of Anthropology, Columbus, OH, 43210

**Poster URL:** <http://www.nacaa.com/posters/uploads/1295.pdf>

The world population is estimated to exceed 9 billion people by 2050. Feeding this growing population will take agricultural innovations to improve productivity and efficiency, enhance nutrition, grow new foods in new places, or even explore new food options. Farming insects for human consumption is one such innovation that Western societies may consider as a possible source of low-cost protein for the future. We addressed a range of issues concerning insect agriculture and food security to Extension educators, teachers, and the public in a six hour workshop held in Columbus, OH. Presentations from Extension educators and industry experts discussed cultural, nutritional, culinary, and production aspects of humans eating insects as food. A 12 item sensory evaluation of insect based foods was also conducted at the workshop to introduce people to the flavors, textures, and tastes of insect fortified foods such as chips, cookies, and protein bars. New companies are rapidly forming to make use of these novel ingredients for human consumption, livestock and aquaculture feeds. By the end of the workshop people had increased knowledge about edible insects and seemed to favor the taste of cookies and chips over protein bars. Curriculum containing scripted presentations, handouts, recipes, and six edited YouTube videos were developed for other educators to use. Follow up with workshop participants showed informational activities and sensory evaluations being reported in classrooms. This workshop focused on introducing and advancing the acceptance of edible insects as a possible food source in the 21st century.

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## **DEVELOPING EXTENSION OUTREACH AND EDUCATION IMPACT IN OHIO WITH ON-FARM RESEARCH**

Martin, C.<sup>1</sup>; Clevenger, W.<sup>2</sup>; Griffith, M.<sup>3</sup>; Schoenhals, J.<sup>4</sup>

<sup>1</sup>Ext. Educ, ANR, The Ohio State University, Zanesville, OH, 43701

<sup>2</sup>Ext. Educ, ANR, The Ohio State University, Defiance, OH, 43512

<sup>3</sup>Ext. Educ, ANR, The Ohio State University, London, OH, 43140

<sup>4</sup>Ext. Educ, ANR, The Ohio State University, Elyria, OH, 44035

Ohio State University (OSU) Extension's Agronomic Crops Team has published 517 peer-reviewed on-farm research reports written by 48 different lead authors since 1997. The on-farm research effort allows the team to address issues relevant to county needs as identified by local stakeholders, while contributing to statewide research efforts. Ohio reports have included projects for manure use, pasture management, nitrogen use, phosphorus use, seeding rates and other agronomic variables in grain and forage crops. A rigorous peer review process, supported by the college department promotion committee, ensures quality reports with valid methods and findings that contribute to an Extension Educator portfolio. In 2017, on-farm research team leaders utilized a webinar format to allow dedicated sharing of successful research to exchange ideas and improve professional Extension research efforts. On-farm research improves Extension programming at the county and state level. At the county level, on-farm research creates opportunity for educators to build relationships with county stakeholders and develop research responding to local concerns. At the state level, on-farm research allows multidisciplinary teams within OSU to work together to generate large data sets that promote better on-farm management practices. On-farm research can also strengthen the organizational network between county extension educators, field specialists and state specialists who collaborate on design, data collection and data interpretation.

## **ASSESSING FUTURE DIRECTIONS OF SHALE ENERGY PROGRAMS IN OHIO**

Lyon, E.L.<sup>1</sup>; Lima, D.<sup>2</sup>; Landefeld, M.<sup>3</sup>

<sup>1</sup>Agriculture & Natural Resources Educator, Ohio State University Extension, Wintersville, OH, 43953

<sup>2</sup>Agriculture & Natural Resources Educator, Ohio State University Extension, St. Clairsville, OH, 43950

<sup>3</sup>Agriculture & Natural Resources Educator, Ohio State University Extension, Woodsfield, OH, 43793

Since 2011, the Marcellus and Utica shale plays in eastern Ohio experienced the beginning of a rapid boom in development that continues into today as new technologies

provided more cost effective methods for oil and natural gas extraction. Ohio landowners leased thousands of acres of their land to oil and gas companies for production of shale deposits, and more than 2,000 active, horizontal wells were produced in a six year time period. In response to growth in shale development and public interest, the Shale Energy Workgroup, a shale energy council representing Ohio regulatory, educational, and interest organizations, was founded to coordinate educational programs and develop resources to address emerging concerns related to landowner and community issues. The Workgroup currently includes members of the The Ohio State University (OSU), Ohio Farm Bureau, Ohio Department of Natural Resources, and OSU Extension. Early focus of the OSU Extension Educators in the impacted region centered on landowner leasing contracts and land usage but later progressed into easements, water quality issues, mineral values, and royalty checks as landowners began to consider additional aspects of shale production beyond original leasing agreements. Surveys, testimonials, and impact data were collected through years of programming to highlight current concerns and to determine future directions of Extension and the Shale Energy Workgroup programs. Preliminary results indicate that many landowners feel comfortable with agreements signed with oil and natural gas companies, but remain concerned with environmental impacts and use of vague language in agreements.

## **AG IN THE COMMUNITY**

Neal, N.L.<sup>1</sup>; Corboy, J.T.<sup>2</sup>

<sup>1</sup>Agriculture & Natural Resources Educator, The Ohio State University Extension, Owensville, OH, 45160

<sup>2</sup>Community Development Program Coordinator, Ohio State University Extension, Owensville, OH, 45160

With two faces in Clermont County, urban and rural, it is important to address the needs that are provided by agriculture and the community and how they work together to provide the necessary resources for everyday life. Clermont County has a diverse audience that attends the county fair: rural, urban and suburban. To educate the audience, posters (*Ag in the Community*) were created with facts from United States Department of Agriculture statistics, county statistics and various commodity organizations to educate the public on agriculture and community development. Each poster has a QR code linked to a blog page for data collection. The audience targeted were the public and exhibitors who attended the county fair July 24-July 30, 2016. The results included 376-viewed QR code. Fair attendance was approximately 65,000 people who could have viewed the educational materials, but not viewed the QR code. Posters were color printed on 11"x17" paper and laminated before displayed around the fairgrounds at designated locations. The results were twofold: to educate the public on types of agriculture and community development items in

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Clermont County and to gather contact data for our newsletter and blog page in conjunction to find out if participant knows about extension or have ever used extension services.

## **SDSU EXTENSION BEGINNING FARMER AND RANCHER SYMPOSIUM**

Gessner, H.<sup>1</sup>; Davis, J.<sup>2</sup>; Sand, S.<sup>3</sup>

<sup>1</sup>Livestock Business Management Field Specialist, SDSU Extension, Sioux Falls, SD, 57103

<sup>2</sup>Crops Business Management Field Specialist, SDSU Extension, Mitchell, SD, 57301

<sup>3</sup>Livestock Business Management Field Specialist, SDSU Extension, Aberdeen, SD, 57401

The SDSU Extension Beginning Farmer and Rancher Symposium is a half-day event on the South Dakota State University campus, and targets 18 to 21 year-old students. In 2016, more than 400 students from SDSU and two technical education schools attended the Symposium.

Family farm continuation is a goal for many South Dakota operations. However, how and when the transition will occur is not discussed. Thus, communication improvement is the main goal of the Symposium. The Symposium provides ideas on the topics they should be having conversations about, including:

Where are you going to live?

How are you going to get paid?

What kind of timeline are we going to work together?

The lender panel provides an understanding what the lender is expecting from them returning generation in a very open and frank manner and provides an opportunity for the students to ask direct questions.

The voices of experience panel brings in 2-4 individuals that have returned to the family operation. As 30-40 old's, they provide insight on what worked and what didn't work.

Sponsors of the Symposium bring booths and interact with the students. Through conversations with sponsors the students find financial, education, legal, and operation contacts.

Evaluation focuses on short-term knowledge changes, as reported via Turning Point ® and reviewing reports students may have submitted as a class requirement. Long-term follow up is difficult due to the nature of school contact information changing after graduation, thus long-term effects of the Symposium have been hard to evaluate.

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# **Award Winners**

**2017 NACAA**

**102nd**

**Annual Meeting**

**and**

**Professional Improvement Conference**

**Salt Lake City, Utah**

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# Agriculture Awareness and Appreciation Award

## National Winner

### THE LEON COUNTY SEED LIBRARY PROGRAM

Jameson, M.\*<sup>1</sup>

<sup>1</sup> Sustainable Agriculture and Community Food Systems, UF/IFAS, Tallahassee, FL, 32301

The Leon County Seed Library Program is a result of the partnership between UF/IFAS Leon County Extension and the Leon County Public Library. The objectives are to increase agriculture awareness, gardening skills, library support, and adoption of healthy behaviors by Leon County citizens. Now in its sixth season, the program has allowed patrons to use their library cards to “check out” over 50,000 seed packets at all seven library branches around Leon County, reaching a diversity of citizens. The Extension Agent collaborates with local farmers to select seeds, creates brochures and posters for library distribution, recruits volunteers to assemble seed packets, and partners with the Family Nutrition Program to deliver “Grow Healthy, Eat Healthy” workshops at multiple library branches. The workshops deliver sustainable gardening education, information on how to support local farmers, and healthy food demonstrations to participants. For spring, 2016, nearly 50% of the 9,000 seed packets were checked out in the first two weeks they were available, and in spring, 2017, this increased to 60%, with all seed packets eventually “selling out” each season. Post-survey responses from the Grow Healthy, Eat Healthy workshops documented that 166 of 212 participants (78.2%) surveyed said they intend to use gardening techniques that were presented and 71% of participants who had attended a workshop in the past reported the workshops had influenced their gardening techniques. The Seed Library Program’s success is an indication that many patrons are changing their behavior and will in turn have a better appreciation for agriculture.

## National Finalists

### HANCOCK COUNTY AG AWARENESS

Lentz, E.M.\*<sup>1</sup>

<sup>1</sup> Educator, The Ohio State University Extension, Findlay, OH, 45840

Hancock County is located in northwestern Ohio. Population is approximately 75,000. About two-thirds of the residents are urban and one third rural. Over half of population resides in Findlay. Manufacturing, distribution centers, and agriculture are its main industries. Eighty percent of the county is cropland. Corn, soybean, and wheat are the main crops. Most of the county residents are not aware of the day-to-day

activities in agriculture and are vulnerable to misinformation and misconceptions about agriculture production. A daily radio program, called *Ag Talk*, and a weekly newspaper column, called *County Agent*, delivered agricultural information to the community to increase awareness of the industry. In addition to media, the public participated in programs to observe the day-to-day operations of agriculture. Creation of a new pamphlet showed the economic importance of agriculture to the local community. Seventy thousand households heard *Ag Talk*. Twenty thousand homes in seven counties received the *County Agent* column. The Hancock County Farm Tour allowed 800 participants to see what agriculture was doing to be profitable, environmentally responsible, and insuring the health and well-being of livestock. Future leaders of the community learned about the importance of agriculture to the local economy by participating in Hancock Leadership’s *Ag Day*. In summary, residents of Hancock County have become more aware of agriculture by the use of media and programs that occurred throughout the year rather than relying on a one time big event.

### FOOD CAMP FOR KIDS!

Mccarty, N.\*<sup>1</sup>, Bittner, L. S.\*<sup>2</sup>, Hamlin, S.\*<sup>3</sup>

<sup>1</sup> County Extension Agent/Agriculture, New Mexico State University, Los Lunas, NM, 87031

<sup>2</sup> County Program Director/Family and Consumer Sciences Agent, New Mexico State University, Los Lunas, NM, 87031

<sup>3</sup> Summer Intern, New Mexico State University, Las Cruces, NM, 88003

Research suggests society is often disconnected with the source of their food. For youth, this disconnect is even greater. Food Camp for Kids is a six-day experiential program focused on providing youth ages 9 – 14 with an understanding of from where their food comes. During the two summer sessions, youth visit farms, suppliers, processors, dairies, bakeries, grocery stores, farmers’ markets, flourmills, locally owned restaurants, and value-added wholesalers and retailers learning first-hand the food production chain (planting, growing, raising, processing, selling, purchasing, handling, preparing, storing, and retailing). The Camp provides an understanding of agriculture as youth improve and build upon critical life skills (self-confidence, communication, writing, public speaking, teamwork, collaboration, negotiation, social and environmental responsibility, and personal accountability). Youth observe, listen, question, and are challenged to put observations in practice with individual and group work documenting experiences through pictures and video utilizing iPads. Group activities lead to understanding about the importance of nutrition, physical activity, meal planning, recipe selection, budgeting, and food preservation. Youth visit grocery stores and practice safe food handling and kitchen safety as they prepare recipes utilizing ingredients from the previous days’ tour. Following meal preparation, youth learn

and practice table etiquette. Through individual presentations, youth demonstrated an increase in understanding of the sources, nutritional value, and preparation of food and became aware of career opportunities in the areas of agriculture, retail, processing, technology, communication, nutrition, food service, and entrepreneurship. Furthermore, youth expressed greater appreciation for the invaluable role agricultural plays in our daily lives.

For more information on Food Camp for Kids visit <https://youtu.be/IExxR1I5rCM>

## State Winners

### IMPACTS OF AG LITERACY IN NORTH DAKOTA

Askim, C.\*<sup>1</sup>

<sup>1</sup> Extension Agent, NDSU Extension Service, Beulah, ND, 58523

The focus of this educational research was to increase awareness of the importance of agricultural education across the state of North Dakota and more specifically in Mercer County. Research shows that ninety percent of the current American population is at minimum two generations removed from production agriculture. I accomplished this research by working with my graduate studies advisor and the principals and agricultural education advisors of the Beulah and Hazen, North Dakota high schools. These are the only two schools located in Mercer County. A ninety-five-question survey was used to measure the junior and senior students within the two schools during the 2015-2016 school year. The goal of the research was two-fold. The first was to identify agricultural literacy levels of students that have taken agricultural education courses versus students that have not, and identify learning opportunities for students and agricultural educators. The students answered questions in the agricultural literacy areas of career, knowledge, policy, environmental, and natural resources. The second part of the research identified the student's personal perception towards agriculture. One hundred forty-three out of one hundred seventy-three students, took part in the survey (82.6%) one hundred and one stated they have taken at least one agricultural education class throughout high school and forty-two have not. The results expressed an overall agricultural knowledge level of 59.5 percent. The perception section of the survey, presented an overall rating as neutral. A t-test showed a significant change of .047 between the two populations studied. The results from the research provided educational opportunities to the public, school officials, and state agencies in determining course/resources management, and distributing financial resources towards agricultural education. The agricultural education budget for the 2015- 2016 school year for both districts was around \$50,000. The total dollar savings and upgrades in agricultural education offerings in both schools are still being evaluated.

### HOW TO PROPERLY (AND IMPROPERLY) EXTRACT STUCK FARM EQUIPMENT

Dame, C.L.\*<sup>1</sup>, Simpson, D.\*<sup>2</sup>

<sup>1</sup> ANR Agent, University of Kentucky, Madisonville, KY, 42431

<sup>2</sup> ANR Agent, University of Kentucky, Central City, KY, 42330

The Green River Region of Western Kentucky encompasses many acres of prime farmland that account for over 603 million dollars in agriculture sales. With that said, the hustle and bustle among each of the areas counties leads to situation where safety and proper techniques can both increase efficiency, but also ensure safety in the field and on the road.

Curtis Dame and Darrell Simpson, agriculture extension agents of the University of Kentucky, want producers to be safe during the fall, so they joined forces with UK's Agricultural Communications Department to make a video stressing the importance of safety.

The video breaks down the four zones where the equipment is stuck and objectives to address in regards to large equipment extraction.:

- 1.The stuck zone, where the equipment to be pulled is located.
- 2.The tow zone, where the truck or tractor is that will be doing the pulling.
- 3.The danger zone, which is the hookup between the stuck equipment and pulling vehicle where the stress is concentrated.
- 4.The clear zone, where no people or equipment are near in the event something breaks.

Farm safety and general safety overviews are important for farmers, but also for all those involved with large equipment operation and extraction. With coal mining, large scale poultry and grain operations all playing major parts in the local economy, the prevalence of large machinery and public contact with this machinery is ever increasing.

As of February 2017, the video series has been viewed a combined 1106 times not counting stints on RFDtv and other agriculture news media outlets. Public awareness was realized at follow-up meetings where producers highlighted the lack of equipment on their farms, but also question received from local citizens regarding equipment extraction on private property not related to direct agriculture production. Content covered in this video project was provided by Perdue University's Publication entitled "Extracting Stuck Equipment Safely".

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## **“FARMLAND”- AGRICULTURE TAKES CENTER STAGE IN LEE COUNTY**

Taylor, Z.\*<sup>1</sup>, Stone, W.\*<sup>2</sup>, Daughtry, M.\*<sup>3</sup>, Campeau, D.\*<sup>4</sup>

<sup>1</sup> Agriculture Agent, NC Cooperative Extension, Sanford, NC, 27332

<sup>2</sup> County Extension Director, NC Cooperative Extension, Sanford, NC, 27330

<sup>3</sup> Agriculture Agent, NC Cooperative Extension, Sanford, NC, 27332

<sup>4</sup> Area Poultry Agent, NC Cooperative Extension, Pittsboro, NC, 27312

In many areas throughout central North Carolina, agriculture is under increased pressure from population growth and economic development, and Lee County is no exception. This increased pressure causes farmland to be lost to development, and property values to increase. This results in higher rental rates, which cut into the farmer's bottom line. In some cases, rent becomes so high that a farmer cannot continue to turn a profit at all. In order to address this issue, the North Carolina Cooperative Extension team in Lee County decided to host an event to promote awareness and appreciation of agriculture among our non-farming community. We brought local farmers to downtown Sanford, and into the historic Temple Theater, put them face to face with individuals from the community. We sourced local foods to help bring people together around a gourmet meal, and screened the movie *Farmland* to highlight some of the issues that farmers across the county are facing. We put together a panel of farmers, foresters, agri-business representatives and local-policy makers and held a discussion highlighting some of the issues facing local agriculture, allowing all in attendance to hear directly from and ask question of those most closely tied to agriculture in our own community. As a result, we increased awareness of agriculture in our community and helped to strengthen ties with economic development partners. These partnerships will help give agriculture increased visibility to those unfamiliar with its value, a stronger and more powerful voice related to local policy-making and greater recognition as a powerful driver of our local economy.

### **WHERE YOUR FOOD COMES FROM**

Garrett, M.\*<sup>1</sup>

<sup>1</sup> CEA-AG, Texas A&M AgriLife Extension Service, Marshall, TX, 75670

As the County Extension Agent Ag/NR it is my duty to educate and advocate for the agricultural producers of Harrison County. I have made it a point in speeches to civic organizations, 4H members, and 4H camp attendees that it is extremely important to know where your food comes from. As our society has progressed we are losing touch with the origin of our food. It is becoming increasingly difficult to explain that it does not automatically appear in the grocery store. Every chance that I get I try to show the children how

butter is made and explain the differences between butter and margarine.

Recently I accompanied 4 producers from my community to the Beef 706 course at Texas A&M University. This course is designed to show how beef makes its journey from the pasture to the plate. This was one of the finest courses that I have ever attended. In addition to this we have held numerous meetings about animal health and welfare, marketing and management options and we went on a multi-county tour of the Noble Foundation to get updates on new management strategies and technology.

I close my weekly newspaper articles with, “if you have food on your table and clothes on your back thank a farmer or rancher”

### **AGRILIFE EXTENSION IN DENTON COUNTY**

Annis, D.\*<sup>1</sup>, Laminack, J.\*<sup>2</sup>

<sup>1</sup> CEA-Agriculture/Natural Resources, Texas A&M AgriLife Extension, Denton, TX, 76201

<sup>2</sup> CEA-HORT, Texas A&M AgriLife Extension, Denton, TX, 76201

Denton County is a mix of both urban and rural agricultural operations. The AgriLife Extension office's challenge is to educate both those who are exploring the sources of their food and those new to agriculture by providing education on best management practices. An effective promotional and educational campaign was designed to provide the people of Denton County with non-biased, research based information and education as well as making them aware of the services that the Extension Office can provide to them. The promotional campaigns focused on placing the Denton County AgriLife Extension Office in front of the media as much as possible. Television (interviews and programming), news articles, newsletters, social media and internet web pages were used to increase name and mission recognition. As a result, we saw an increase of 67% in social media posts with an increase of 123% in the number of followers; a 56% increase in the number of agriculture and horticulture contacts from the previous year; as well as a 33% increase in the number of news articles in newspapers with a 17% increase in the number of people exposed to these articles. The monthly television program reached an estimated 84,000 households in Denton County.

### **LIVESTOCK PRODUCTION PRACTICES**

Atkinson, K.\*<sup>1</sup>

<sup>1</sup> Agriculture & 4-H Youth Development, CSU Extension, Sterling, CO, 80751

The objective this program is to provide consumer education about livestock production practices. The program has three parts. First, I do a 15 minute monthly radio spot focused on an advocacy topic, which is aired on two radio stations in Northern Colorado. The second component of the program is to offer advocacy training to 4-H youth, so that they can

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learn how to engage in advocacy efforts on their own. The third part of the program was to offer a county contest for 4H clubs to develop educational displays on different topics to set up around our county fair, in order to reach consumers while they were there with some facts and information about agricultural practices.

#### *Target Audience*

The target audience was any consumer who has questions about the livestock industry and its practices in Northeastern Colorado.

#### *Current Population*

In the last census in 2013, Logan County has 22,540 people.

#### *Publisher's Requirement*

I was limited to a 15 minute spot by KPMX, the local radio station. There was no specific format, as the radio host was able to ask questions along the way.

#### *Methods Used*

I did the research, and put together an outline for the topic each month. In terms of the training for the youth, I did the research and put together program on why advocacy is needed, and how they could go about it. For the county contest, the youth were responsible for doing the research and putting together the displays.

#### *Production Costs*

There were no production costs to our extension program. KPMX got sponsors for each radio spot.

#### *Impact Results*

While no formal evaluation was done, I am constantly running into people in the county who have questions or comments about what they have heard or learned. The kids have come forward to talk about conversations they have been able to have. I heard comments from attendees at the county fair that they thought the displays were informative.

#### *Information on the role the applicant had on the entry*

I am solely responsible for the content of the entry.

## **Excellence in 4-H Programming**

### **National Winner**

#### **TEACHING AG SCIENCE AT "FOOD FIESTA!" - SOUTHWEST REGIONAL 4-H CAMP, AND "BE A FOOD DETECTIVE" - INDIANA COUNTY 4-H DAY CAMPS**

Schurman, C.\*<sup>1</sup>

<sup>1</sup> Extension Educator - 4-H/Youth, Penn State Extension, Indiana, PA, 15701

During the summer of 2016, 4-H staff from Indiana County Extension conducted agricultural science programming with 58 youth in three different settings. This included three three-day day camps sponsored by 4-H. The camp theme was "Be A Food Detective". The camp staff taught basic concepts about food science and safety. When asked if campers had learned more about food science during camp, 95% said "yes". Campers also indicated (96%) that they had learned more about food safety. 99% of the campers would return to day camp again. "Food Fiesta" was the theme of the 2016 Southwest Regional 4-H Camp. A camp population of 56 campers ages 7 -12 and 24 teen counselors from seven counties were involved with an educational program to teach youth about food science, food diversity, and healthy food choices. This camp population included urban audiences from the greater Pittsburgh area and rural agricultural and coal communities from the Ohio River Valley. This is an overnight resident camp, involving three nights and four days. 98% of the campers indicated they learned something about other cultures, foods, and healthy food choices. Campers also made new friends, met new goals, and felt they followed cabin rules. As a result of camp, most counselors strongly agree or agree that they have a plan for reaching personal goals, can make alternative plans, know who to go to for help, have adults in their lives who care about them, and like to work with others to solve problems. Funds of \$3,050 were obtained to support the camps.

### **National Finalists**

#### **EQUINE MEDICINE HIPPOLOGY TEAM CURRICULUM**

McDermott, T.\*<sup>1</sup>

<sup>1</sup> Agriculture and Natural Resources Extension Educator, Ohio State University Extension, Hocking County, Logan, OH 43138

This three-course equine medical curriculum was developed in response to a request for assistance from the Hocking County 4-H Horse Team to prepare for the state Hippology Contest

to achieve their goals for success. It was an opportunity to blend the animal sciences background of this educator with the goals of the STEM Pathways Initiative of 4-H and the land-grant mission statement of The Ohio State University. The three courses consisted of challenging lectures followed by either a workshop or a laboratory using hands on technique to reinforce the medical knowledge in a format designed to stimulate learning for competition success as well as provide utility and confidence on the farm. The Hippology Team achieved their goals with the Junior Team placing 2nd overall in the state and the Senior Team placing 10th overall in the state. Two junior students achieved individual success by placing 4th and 8th respectively in their age groups. The STEM centric job market is experiencing a boom without corresponding increases in students prepared to enter the science, technology, engineering and medical fields. Exposure with engagement of students at the 4-H level to STEM topics may stimulate learning that could lead to a lifetime of achievement.

### **WHITE COUNTY VETERINARY SCIENCE PROGRAM**

Heck, A.\*<sup>1</sup>, Heck, A. E.\*<sup>2</sup>

<sup>1</sup> CEA - 4-H/Agriculture, , Searcy, AR, 72143

<sup>2</sup> County Extension Agent - 4-H/Agriculture, , , ,

The White County Veterinary Science program is a comprehensive agriculture education program that deals with techniques and procedures involved in caring for animals. The goal is for 4-H members and adults to acquire life skills through project participation and gain knowledge and skills necessary to pursue a career in veterinary medicine or a related career. Members are given the opportunity to work with local veterinarians. The program was introduced in 2012 to local veterinarians and other potential collaborators and a kick off meeting was planned and conducted. I am especially proud of the way the club has evolved over the last three years. A vet science day camp was conducted at a local university that has a veterinary tech program. A county wide 4-H veterinary science club was formed in 2012 and continues to be one of the most popular clubs within the county. The White County 4-H Foundation collaborated with local vet clinics and other businesses and organizations in conducting a second veterinary science themed day camp in 2016. Members were given the opportunity to take part in hands on learning activities including blood draw, fetal pig dissection, animal bandaging, administering injections, artificial insemination demo, and much more. White County 4-H members have attended open house field days at 4 veterinary science colleges since the program was first established. Over 40 veterinary science club meetings, workshops, and community service projects have been conducted in White County in the last 3 years and continues to thrive today.

### **BENSON GRIST MILL LEARNING GARDEN**

Christley, H.\*<sup>1</sup>, Greenhalgh, L.\*<sup>2</sup>

<sup>1</sup> Agriculture/4-H Program Assistant, Utah State University, Tooele, Ut, 84074

<sup>2</sup> Extension Associate Professor, Utah State University Tooele County Extension, Tooele, UT, 84074

Youth projects directing healthy nutritional guidance and healthy lifestyle choices is a continuing process for Tooele County Extension 4-H programming. The Benson Grist Mill Learning Garden is a developing educational project with an adjustable curriculum that provides a 'learn-by-doing' outdoor classroom. The goal of the learning garden is to teach youth various methods of gardening, harvesting and multiple food preservation methods to provide themselves access to fresh, healthy produce and meaningful skills for self-reliance and sustainability. Participants plant multiple containers that stay in the garden and a matching container to take home. We met regularly and compare what was happening in the learning garden containers and their home garden. We addressed any problems and shared the excitement of the plants that were doing well. We included (STEM) Science (basic botany, entomology), T (drip irrigation system and water monitoring), E (drip irrigation design and installation), M (seed and transplant design) through mini workshops. The learning garden provides hardscape growing structures for vertical gardening and containers (pots and troughs). In spring 2017, a permanent planting of fruit trees, grapes and berries and a pergola as an additional growing surface will be added. Tooele County Extension kitchen is the site for preservation processes.

### **State Winners**

#### **ALABAMA 4-H CHICK CHAIN**

Miller, D.S.\*<sup>1</sup>, Burgess, A.P.\*<sup>2</sup>, Marks, M.L.\*<sup>3</sup>, Tucker, J.K.\*<sup>4</sup>, Kriese-Anderson, L.A.\*<sup>5</sup>, Stanford, M.K.\*<sup>6</sup>

<sup>1</sup> COUNTY EXTENSION COORDINATOR, ALABAMA COOPERATIVE EXTENSION SYSTEM, Centre, AL, 35960

<sup>2</sup> County Extension Coordinator, ACES, Gadsden, al, 35973

<sup>3</sup> Regional Extension Agent, ACES, Centre, AL, 35960

<sup>4</sup> County Extension Coordinator, ACES, Grove Hill, AL, 36451

<sup>5</sup> Extension Specialist/Associate Professor, ACES, Auburn, AL, 36849

<sup>6</sup> Extension Specialist, ACES, Crossville, AL, 35962

Poultry is an important industry in Alabama garnering \$15.1 Billion annually and 85,000 jobs. The Alabama 4-H Chick Chain was developed with clear objectives: To promote the state's largest agricultural enterprise; provide an opportunity for more youth to become participants in a 4-H animal production project; develop skills in management, record keeping and animal husbandry; foster a sense of accomplishment and belonging; provide an entertaining and enjoyable experience

for those involved; provide opportunities for youth to create friendships with youth from other areas through participation in this project; have a visible project that reminds the public of the importance of the 4-H home project experience; create an opportunity for youth and adults to bond by working together on a project; create a project that does not require large investment in stock or facilities; provide an opportunity for each participant to be visited at their home by an agent; create a project that may be developed into an ongoing enterprise. Interest in backyard poultry has grown nationally; therefore there is a need for educational resources to aid in the care and welfare of poultry. Chick Chain provides an opportunity for youth to become familiar with the practices of raising poultry and exposes them to opportunities in the poultry industry while teaching belonging, independence, generosity, and mastery through 4-H animal production projects. Agents were able to increase poultry adult education opportunities by collateral association with the project. Programmatic materials were developed including: production manual; home visit report; biosecurity signs; yard signs; PowerPoint presentations for trainings; promotional flyers and videos. The once, two county project in 2010 has continued to expand, increasing to 24 counties in 2013 and to all 67 Alabama counties in 2016 resulting in 1,208 4-H participants making it the largest 4-H animal production program in the state. This has created a vast number of opportunities for Extension to reconnect with the public.

### **FLORIDA 4-H TAILGATE CONTEST**

Crawford, S. C.\*<sup>1</sup>, Estevez, B.\*<sup>2</sup>, Carr, C.\*<sup>3</sup>, Maudlin, M.\*<sup>4</sup>, Jennings, E.\*<sup>5</sup>, Hink, J.\*<sup>6</sup>, Janney, H.\*<sup>7</sup>, Davis, P.\*<sup>8</sup>, Baker, G.\*<sup>9</sup>

<sup>1</sup> 4H/Livestock Agent, UF/IFAS Extension - Hendry County, LaBelle, FL, 33935

<sup>2</sup> 4H Extension Agent, UF/IFAS Extension - Escambia County, Cantonment, FL, 32533

<sup>3</sup> Associate Professor - Meat Specialist, University of Florida, Gainesville, FL, 32611

<sup>4</sup> Agriculture and Natural Resources Extension Agent, UF/IFAS Extension - Washington County, Chipley, FL, 32428

<sup>5</sup> County Extension Director, UF/IFAS Extension - Levy County, Bronson, FL, 32621

<sup>6</sup> 4H Extension Agent, UF/IFAS Extension - Pasco County, Dade City, FL, 33525

<sup>7</sup> 4H/FCS Extension Agent, UF/IFAS Extension - Hamilton County, Jasper, FL, 32052

<sup>8</sup> 4H Extension Agent, UF/IFAS Extension - Bay County, Panama City, FL, 32401

<sup>9</sup> Assistant Professor - Seafood Specialist, University of Florida, Gainesville, FL, 32611

The Florida 4-H Tailgate Contest was introduced in 2016 to teach the art and science of grilling animal protein in outdoor settings. Corporate sponsors provided \$25,000 for awards and college scholarships. A 4-H leader training series/youth curriculum approved by the state 4-H office and four educational videos introducing the contest and fire, food, and

grilling safety were developed. Counties complemented the program materials with workshops to enhance learning before four regional contests and state contest. Contestants had 2.5 hours to prepare beef, pork, poultry, or seafood on a provided 14" charcoal grill and answer judges' questions on food safety and protein preparation. Participant evaluations showed 63% knowledge gain about meat selection; food, grill, and fire safety; cross contamination prevention; and use of a meat thermometer. New educational opportunities were created to meet demand for future learning in 2017 after this popular, hands-on, and innovative new program for Florida 4-H youth.

### **OUR FUTURE FARM TOUR**

Bennett, C.R.\*<sup>1</sup>, Gordon, A.\*<sup>2</sup>, Jackson, J.\*<sup>3</sup>, Perry, K.I.\*<sup>4</sup>, Waldorf, R.C.\*<sup>5</sup>

<sup>1</sup> County Extension Agent, University of Georgia, Forsyth, GA, 31029

<sup>2</sup> Womens Committee Chairwoman, Banks County Farm Bureau, Homer, GA, 30547

<sup>3</sup> Office Manager, Banks County Farm Bureau, Homer, GA, 30547

<sup>4</sup> 4-H Program Assistant, Banks County 4-H, Homer, GA, 30547

<sup>5</sup> County Extension Coordinator/County Agent, University of Georgia, Homer, GA, 30547

The world population is expected to increase to 9.7 billion people by 2050; in order to keep up with demand, agricultural production will need to increase at least 70% worldwide. While there is an ever-growing demand for agriculture, the average age of the American farmer is over 60. The importance of young people receiving formal education and pursuing a career in the agricultural industry is imperative to keep up with the future strenuous demands on production. To better educate youth and generate interest on potential degrees and careers within the agricultural industry the Our Future Farm Tour was a solution. The four-day summer program gave middle and high school 4-H'ers the opportunity to explore diverse degrees and potential career paths within agriculture through formal instruction, farm and agribusiness tours, and discussions with local farmers about the importance of formal education in agricultural.

### **4-H HORTICULTURE CLUB**

Hildabrand, K.G.\*<sup>1</sup>

<sup>1</sup> Extension Agent for Horticulture, University of Kentucky Cooperative Extension Service, Bowling Green, KY, 42101

In 2009, a growing number of people inquired about home vegetable gardening due to the rising cost of food and the desire to save money at home by growing their own food. In response to this issue, the 4-H and Horticulture Extension agents worked collaboratively to form a 4-H Horticulture Club for the youth in Barren County. Our purpose in this

development was to give students an opportunity to learn basic practices related to home vegetable gardening and also focus on other horticulture skills and techniques.

Nightly meetings were held at the extension office to teach 4-H students characteristics on how to identify vegetables, fruit/nuts/berries, woody ornamentals, and flower/indoor plants which was listed on the 4-H Horticulture Judging Contest. Other 4-H Horticulture Club activities included trips to the local nursery and hands-on workshops to allow them an entry for county fair. The results of seven years of programming came to a culmination for four members of the Senior Barren County 4-H Horticulture Team as they represented Kentucky at the 2016 National Junior Horticulture Association (NJHA) Contest in Erie, PA.

A post evaluation after the competition revealed several praises due to the educational experiences received through the 4-H Horticulture program. The youth noted an increase in their communication skills, academic achievements, improvement of consumerism skills through the selection of better fruits and vegetables, self-confidence, critical thinking, leadership, teamwork and environmental awareness. One national champion 4-H'er stated "because of my involvement and participation in the 4-H Horticulture program through the years, I have realized this is a major interest of mine. Therefore, I am switching from my previously chosen career path of dentistry to horticulture with the hope of becoming an Extension Agent."

### **REGIONAL CHICKEN PROJECT**

Lahti, L.K.\*<sup>1</sup>, Brown, C.A.\*<sup>2</sup>, Chavis, T.B.\*<sup>3</sup>, Drake, J.K.\*<sup>4</sup>,  
Greene, P.C.\*<sup>5</sup>, Kinlaw, S.C.\*<sup>6</sup>, Spearman, R.L.K.\*<sup>7</sup>

<sup>1</sup> Extension Agent-Livestock, Cumberland and Hoke Counties, Fayetteville, NC, 28306

<sup>2</sup> Extension Agent-4-H and Youth Development, North Carolina State University, Hoke County, Raeford, NC, 28376

<sup>3</sup> Extension Agent-Livestock, North Carolina State University, Robeson County, Lumberton, NC, 28360

<sup>4</sup> Extension Agent-4-H and Youth Development, North Carolina State University, Cumberland County, Fayetteville, NC, 28306

<sup>5</sup> Extension Agent-Livestock, North Carolina State University, Columbus County, Whiteville, NC, 28472

<sup>6</sup> Extension Agent-4-H and Youth Development, North Carolina State University, Bladen County, Elizabethtown, NC, 28337

<sup>7</sup> Extension Agent-Livestock, North Carolina State University, Bladen County, Elizabethtown, NC, 28337

North Carolina Cooperative Extension in 7 Southeastern counties recognized a growing interest in youth to participate in small animal projects, which provide a more affordable livestock showing option compared to the larger species. Livestock agents, 4-H agents, and school agricultural education classes (FFA) collaborated to create the Regional Chicken

Project in 2015 that continued in 2016 with the 2017 project underway. Participants can choose between raising laying hens or broilers. The broilers are given back after the show to be processed and meat donated to a food bank. The goal is to provide lessons in raising and showing chickens and recordkeeping. Youth raise the hens from 3 days of age to 4 months of age and broilers from 3 days of age to 7 days of age along with completing a project recordbook. There is an organized showmanship contest, breed show, and recordbook contest. Youth attend 2 mandatory training sessions to help prepare for the project and the show. Cape Fear Farm Credit has provided financial support for the project.

Data is collected through an online evaluation prior to the show along with one after the show. Questions include did the youth learn new ideas on raising and showing chickens, recordkeeping, and budgeting time. We also ask if the youth improved their responsibility, work ethic, and communication skills. Furthermore, we ask what they liked best and least about the project and ideas on how the project can be improved for the future.

For the 2015 and 2016 projects, 45 and 89 youth, respectively, participated in the show and 75 and 85 people completed the evaluations. An average of the 2 years shows 95% of participants were very satisfied or satisfied with the overall experience of the show. 92% of youth improved on responsibility and work ethic with 85% improving their communication skills. 98% of participants learned new ideas on raising and showing chickens. An average of \$380 in prize money was given to participants who placed in the top 3 in recordbooks and the breed show and in the top 5 for showmanship.

### **RHEA COUNTY 4-H MARKET HOG PROJECT**

Greenlee, T.\*<sup>1</sup>

<sup>1</sup> Extension Agent, UT Extension, Dayton, TN, 37321

Rhea County, Tennessee has a very diverse clientele ranging widely in Agricultural experience and background. This county is deeply rooted in its rural heritage and prides itself in its hometown feel. Upon coming to Rhea County I was met with an audience of individuals who regularly recalled times past when they raised and exhibited hogs with the local FFA program. Due to this heritage, I felt a strong draw to revive a project that had dwindled to no exhibitors in the market hog program for almost 30 years. This program was one that, once it got started, has experienced a huge outpouring of community support. In 2016 a group of 15 exhibitors finished 20 market hogs which were then exhibited at the county fair and auctioned off for more than \$8,000.

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## **YOUTH AGRICULTURE LIFETIME LEADERSHIP TOUR**

Walston, R.\*<sup>1</sup>, Moyer, Dakota\*<sup>2</sup>, Walker, Micah\*<sup>3</sup>, Womble, Sam\*<sup>4</sup>, Silvers, Sam\*<sup>5</sup>, Osbourn, Taylor\*<sup>6</sup>

<sup>1</sup> CEA-AG/NR KERR CO., , Kerrville, TX, 78028

<sup>2</sup> CEA-4-H, Texas A&M AgriLife Extension - Kerr Co., Kerrville, TX, 78028

<sup>3</sup> CEA-Ag/NR, Texas A&M AgriLife Extension - Mason Co., Mason, TX, 76856

<sup>4</sup> CEA-Ag, Texas A&M AgriLife Extension - Bexar Co., San Antonio, TX, 78230

<sup>5</sup> CEA-Ag/NR, Texas A&M AgriLife Extension - Kimble Co., Junction, TX, 76849

<sup>6</sup> CEA-4-H, Texas A&M AgriLife Extension - Gillespie Co., Fredericksburg, TX, 78624

The purpose and goal of this program is to educate the youth about commercial agriculture production in Texas and what job opportunities are available as well as what environmental and animal welfare concerns producers are faced with. Advancements in agriculture technology have opened many doors for new careers in agriculture. These goals were met through the development of an agriculture youth leadership tour designed to expose 4-H members of the various industries related to the production of food and fiber in Texas. The targeted audience for this agriculture leadership program is 30 youth ages 15-18 in Texas A&M AgriLife Extension Districts 7, 10, 11 & 12. In an effort to meet the goals established in this program a six day tour was organized throughout the high plains of Texas with tour stops to provide participants with hands on experiences with the various agriculture industries. Ten tour stops over the 6 day period included stops on row crop production demonstrating the importance of technology to improve water efficiency as well as a stop by Bayer Plant breeding lab on Texas Tech University campus to learn about the use of GMO's in today's crop protection and breeding. Participants also toured animal agriculture stops related to new technology in animal breeding related to swine production as well as West Texas A&M University and their cloning research. Feedlot and dairy tours provided participants an opportunity to witness the technology utilized to manage effluent water runoff as well as antibiotic residues. Participants were then interviewed with each one defending a particular aspect of the industry from an environmental or animal welfare perspective. This is the second year for this program and based on personal comments received from last year's participants this is the single most impactful program they have participated in during their 9 years of 4-H.

## **4-H PIZZA CAMP**

Romelczyk, S.\*<sup>1</sup>, Herdman, W.\*<sup>2</sup>, Schoolfield, L.\*<sup>3</sup>

<sup>1</sup> Extension Agent, ANR, Virginia Cooperative Extension, Montross, VA, 22520

<sup>2</sup> Extension Agent, 4-H, Virginia Cooperative Extension, Montross, VA, 22520

<sup>3</sup> Program Assistant, FNP, Virginia Cooperative Extension, Montross, VA, 22520

Obesity is linked to health problems that cost Americans money and opportunity. Consistent with trends nationwide, obesity rates in Virginia have been steadily rising for the last decade and more. With the growing rate of obesity, it is critically important to expose youth to healthy food choices and eating habits, as well as to the benefits of increased activity levels. In Westmoreland County, over 1,700 acres are planted in fruits and vegetables. Most local produce is marketed to consumers at farmers' markets and roadside stands. Easy access to fresh produce can help families make food choices that benefit their health and the local economy. For the last five years, the Extension Staff in Westmoreland County offered a 4-H Pizza Camp for youth ages 9-13. Each year, the three day program included visits to a vegetable farm, a dairy farm and a shipping point market, exposing youth to local agriculture. A full course of Expanded Food and Nutrition Education Program (EFNEP) lessons included label reading, food safety, hand washing and physical activity. Participants picked veggies, canned tomatoes, ground wheat into flour and made personal, healthy pizzas for lunch. Over five years, 50 youth have participated in Pizza Camp. The evaluation summary showed that 96% recognized that agriculture is important in their everyday life, 66% realized that food in the grocery store is grown on farms, and 74% could correctly identify the food groups found in pizza. Parent surveys indicated that youth shared new ideas with their families and made an impact on family food choices.

## **FINANCIAL LITERACY FUN ON THE FORT PECK RESERVATION**

Becker, W.\*<sup>1</sup>

<sup>1</sup> Agent, Montana State University, Poplar, MT, 59255

Do you have bad credit, good credit, do you even know what credit is? How will that affect your future finance structure? The objective of the financial literacy workshops on the Fort Peck Reservation was to learn how and why we need to know about our individual credit, and how it can affect other decisions, and to learn in an exciting way. Many Native American's grew up with a different type of credit system such as the barter system, however, increasingly with fiscal management becoming more integrated, this system isn't as available to Native cultures. With an increased push on the Fort Peck Reservation to obtain jobs skills and become more financially secure, learning about credit and your financial worthiness has piqued interest for

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job-seekers as well. Individuals attending the Tribal Financial Literacy workshops, learned about credit structure, how to use it responsibly, and how to use it in everyday situations. Over 66 students and 45 adults participated in 10 different classroom settings learning to use computer programs and apps for the iPad, developed to improve credit savviness. Interaction with participants created an environment of sharing, fun, and education through the use of game-type skill. Others learned to write resumes, check background status, and prepare for potential interviews. Participants in the programs showed a 100% increase in knowledge of building good credit, and improved their ability to increase their credit score. Others indicated an ability to work to improve credit, teach others about credit, and yearly obtain their credit report.

### **WORTH COUNTY 4-H**

Johnson, D.A.\*<sup>1</sup>

<sup>1</sup> Worth County Extension Education Specialist, Worth County Extension Service, Northwood, IA, 50459

4-H has been a catalyst for positive youth development across the U.S. for more than a century. 4-H Youth develop leadership, citizenship and communication skills. 4-H members that get involved at the State 4-H level have a greater chance to improve their life skills. During the author's 33 year career Worth County 4-H has had a state record holding 86 Worth County 4-Hers selected to serve on the Iowa State 4-H Council, another state record 152 Worth County 4-H members have won State 4-H Project Awards and National Club Congress trips, with 16 Worth County 4-H members being chosen to represent Iowa (only 4 selected/year) at the very prestigious National 4-H Conference in Washington D.C. Worth County 4-H has had 10 4-Hers serve on the Iowa State 4-H Tech Team. The author organizes and leads dozens of leadership development workshops and is extremely instrumental in the recruitment of Worth County 4-H members to participate at the State 4-H level. Worth County 4-H annually leads the state in attendance at the annual Iowa State 4-H Conference with 1,026 Worth County 4-H members participating in the last 18 years even though Worth County would be in the bottom 10% of youth county population in Iowa. The author has secured more than \$10,000 of scholarships and grants for registration fees and expenses to participate in State 4-H events. Worth County 4-H has also led Iowa 4-H with youth participating in the Washington D.C. 4-H Citizenship program with the author initiating, organizing and leading a total of 750 Worth County 4-Hers on the 8 day trip since the author launched the Worth County 4-H Washington D.C. trip in 1992. The author has also focused on youth farm safety education and has spoken to 3,914 kids.

### **LIVESTOCK JUDGING TEAM**

Renner, J.W.\*<sup>1</sup>

<sup>1</sup> Extension Agent, Agriculture & Natural Resources, Kansas State University Research & Extension, Kingman, KS, 67068

Arriving in Kingman County in August of 2015 it was clear that there was interest on many levels to rebuild a Livestock Judging Team. Having judged collegiately I understood the benefits of participating in such a rewarding and challenging activity. Even with a few "veteran" 4-H members it was slow to take off, like most new endeavors for a county 4-H program. After a few practices with the support of two 4-H parents and countless community members putting together classes of swine, goats, heifers, bulls and even a few keep/cull classes our members grew in confidence and comfortability evaluating livestock. Within the first six months our team grew from four members to eight, reinforcing the idea that we truly are making the best better.

It has been our experience that majority of local contests being held are asking for teams from both 4-H as well as FFA organizations. The solution was simple; we would no longer judge as "4-H" or "FFA", but the "Kingman County 4-H Livestock Judging Team." Merging our organizations has given the 4-H experience to those that might not have had the chance as well as built a strong foundation for livestock evaluation within the grade school.

Our program continues to thrive now for almost two years. From four humble, shy and timid members sitting around the table at the first practice in 2015 to eighteen boisterous, confident and enthusiastic young adults. Our members range from age seven to eighteen and represent both rural and urban living arrangements. Of our current eighteen members, all are 4-H members with the exception of two that regularly show up on their own time to make themselves better. After all, doesn't every child deserve the opportunity to experience 4-H to some degree? We have seen members blossom as judges, 4-H members and mentors to the newer members. Our senior team placed 11<sup>th</sup> overall at the State contest in 2016, with multiple top five finishes throughout the year individually as well as a team within both Senior and Junior divisions.

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# Search for Excellence in Crop Production

## National Winner

### POST ROCK DISTRICT CROP PRODUCTION PROGRAM

Wick, S.\*<sup>1</sup>

<sup>1</sup> District Extension Agent, Crop Production, K-State Research & Extension, Smith Center, KS, 66967

Producers in the crop production enterprise need access to research-based information to operate an efficient and profitable operation. Crop producers deal with many decisions throughout the growing season and I am always looking for ways to help producers make more knowledgeable and sound decisions. My main emphasis is on the agronomic aspect of production agriculture. In the last three years, I have organized **20 research/demonstration plots** illustrating two different crops produced in the Post Rock Extension District which includes soybeans and wheat along with “on-farm” research studies. **Yield and research reports** are published annually and are distributed in the seven area newspapers, on our District website along with given to our walk-in clientele at each of the five District Offices. **Soil testing** has also saved producers 20% on their fertilizer costs. The rental arrangements between landowners and producers can have significant impacts on the risk and returns of those operations. For the last three years, I have implemented a **leasing arrangements survey** in the Post Rock Extension District that has provided leasing arrangements along with averages of rental rates. I have also organized and implemented **25 educational events** such as seminars, workshops, formal field days along with setting up educational displays within the district. In the last 3 years, I have had **916 personal contacts** with producers providing them with research-based information to help them make educational production decisions. I also provided Kansas State University’s research-based information through radio programs for two radio stations along with personal columns as well as on our District website.

## National Finalists

### DRAINAGE EDUCATION IMPACTS DESIGN DECISIONS FOR BETTER CROP PRODUCTIVITY

Arora, K.\*<sup>1</sup>, Breneman, Greg\*<sup>2</sup>, Helmers, Matt\*<sup>3</sup>

<sup>1</sup> Field Agricultural Engineer, Iowa State University Extension, Nevada, IA, 50201

<sup>2</sup> Field Agricultural Engineer, Iowa State University Extension, Iowa City, IA, 52246

<sup>3</sup> Deans Professor, Iowa State University, Ames, IA, 50011

Agricultural farm drainage is becoming increasingly important due to the critical role it plays for Iowa’s bio-economy. Sub-surface drainage systems are used in Iowa and upper Midwest to drain excess water from poorly drained soils. Approximately 35% of Iowa’s agricultural land is considered to be artificially drained. Several of these 100 year-old systems are in need of upgrading either with installation of a completely new system or by retro-fitting an older system. Drainage systems that are optimally designed and operating are essential to achieving excellent crop productivity. Farmland drainage educational efforts were launched with the objective to help stakeholders design drainage systems using scientifically proven knowledge. A three-tier knowledge enhancement approach was adopted to educate stakeholders on the drainage design concepts. This approach included an all-day workshop introductory workshop, a three-day school at an intermediate level, and a water quality practice design workshop at an advanced level. Contractors, engineers, drainage planners, land owners, farmers, agency staff, and drainage district supervisors have attended these events in the past three years. As a result of the knowledge gained, 47% of the participants indicated that they will perform their own designs where as 29% indicated that they will hire a contractor to do the work. To gauge behavior and condition changes, an evaluation was performed in 2016. Farmers, producers, service providers, consultants, and contractors participating in the evaluation indicated developing and implementing drainage designs on approximately 51,722 acres on an annual basis using the knowledge gained in the drainage events. These drainage improvements have the potential to improve corn crop productivity by about 10 bushels per acre in a wet year as an overall field average. Using current corn prices, it translates to \$1,551,660 of increased income in one year.

### IMPROVING IRRIGATION EFFICIENCY

Gordon, B.\*<sup>1</sup>

<sup>1</sup> CEA-Agri, , Searcy, AR, 72143

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. Coupled with depressed commodity prices, crop producers were in need of ways to reduce water consumption and lower input costs. Therefore, the two main objectives of this program were to 1) assist the row crop producers of White County decrease the amount of water used in irrigation and 2) reduce input costs associated with irrigation. Activities associated with the program included 41 on-farm visits, 75 one-on-one consultations, eight on-farm irrigation demonstrations, and an irrigation design workshop. On-farm visits were utilized to collect field information required to enter into a computer hole selection program called Pipe Planner. Pipe Planner is a web-based computer program that utilizes information collected from the producer’s field to maximize furrow irrigation uniformity and efficiency by 25%. The estimated pumping cost associated with irrigating

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10 acre-inches is \$37.44 per acre. Over the past three years, I have helped producers enroll 2,500 acres of furrow-irrigated corn and soybean in the Pipe Planner program. Based on a survey conducted at the irrigation workshop, growers that attended enrolled an additional 3,400 furrow irrigated acres in Pipe Planner. This equates to a cumulative cash savings of \$55,000 over 5,900 furrow-irrigated acres. Additionally, 14,750 acre-inches (over 400 million gallons of water) was saved by producers who adopted Pipe Planner on their operation. Thanks to on-farm demonstrations and promotion of irrigation efficiencies in crop newsletters and crop production meetings, 1,000 acres of rice are now being irrigated using multiple inlet irrigation for rice. Multiple-inlet irrigation has been documented to reduced irrigation by 25%. This equates to a \$29,000 reduction in pumping costs and 8,000 acre-inches (217 million gallons of water). Growers surveyed at meetings/workshops, water monitoring equipment, and grower testimonials were the main tools used in program evaluation. Since starting this program, a total of 17 growers have adopted practices on 6,900 acres that increase irrigation efficiency through Pipe Planner or multiple inlet irrigation for rice.

### **BIOENERGY PROGRAMMING IN TENNESSEE**

de Koff, J.\*<sup>1</sup>

<sup>1</sup> Specialist, Tennessee State University, Old Hickory, TN, 37138

The objectives of the bioenergy program are to increase stakeholders' knowledge, perceptions, interest and awareness of bioenergy production. To accomplish these objectives formal workshops/demonstrations were implemented which used a mobile biodiesel demonstration and a newly developed Biomass Energy Training Curriculum funded by a Southern SARE Professional Development Program grant. These materials were used to teach agents, farmers and students around Tennessee about bioenergy. Research was also engaged to support the extension activities with new data related to using winter canola for biodiesel production in Tennessee. Between 2014 and 2017, this program had around 1800 direct contacts and over 125,000 indirect contacts. The program was also featured in a Tennessee Department of Agriculture publication, a local Nashville news report, RFD-TV, and a student textbook published by the American Society of Agronomy. Increases in knowledge, positive perceptions, interest and awareness of biodiesel production were observed through analysis of participant evaluations. Agent training workshops indicated an increase in their knowledge of no-till winter canola and sunflower production, on-farm biodiesel production, the economics of growing biomass energy crops, and the Rural Energy for America Program. All agents also agreed or strongly agreed that they would recommend the program to others. The use of a stakeholder advisory group in curriculum planning and development was rewarding for the

insight it provided and will be helpful in the development of future programs.

## **State Winners**

### **WOMEN ON THE FARM**

Berg, L.L.\*<sup>1</sup>

<sup>1</sup> Towner County Extension Agent, ANR, North Dakota State University, Cando, ND, 58324

The purpose of this workshop is to educate women, give them the opportunity to expand their role on the farm, and help them gain a better understanding of the everyday problems and solutions within the business. This workshop originated from the trend on social media from women looking for additional experience to help them with the vital role they play on the farm. I answered this need by collaborating with the Soil Conservation District and the Precision Ag Center to create "Women on the Farm Workshop;" a safe interactive environment for women to collaborate and share their experiences. This two-part workshop comprised of Extension personnel and local educators/experts is designed to address many topics on the farm. These included, but were not limited to: equipment, tillage practices, soil temps and planting dates, trip to the parts store, chemical uses, precision ag, fertilizer, and weed identification. A total of 25 women from three counties attended one or both nights sessions for three and a half hours. Multiple teaching methods and activities such as hands on demonstrations, games, and a combine simulator were used to help different learning styles. Participants were given a binder with home study materials, online tools, and phone apps to organize and keep track of equipment/parts. Evaluations were used to assess impact. Evaluation respondents indicated the following impacts: 62% increased their knowledge level in tillage practices. 85% increased their knowledge level in weed identification. 90% said they are likely to adopt new practices. The participants stated: "I enjoyed the fact that I can have better conversations with the farmer in my house now!" "It was nice to go home and be knowledgeable with my fiancé. He was very impressed with what I had learned. I feel more confident. It's not always easy being a woman on the farm. We are eager learners." To continue servicing the need for women on the farm education, this has become an annual workshop. The evaluations will be used to help create/modify the learning objectives for the following years.

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## **HERBICIDE RESISTANCE MEETINGS**

Carutis, N.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Coudersport, PA, 16915

Herbicide resistance is not a new phenomenon to Pennsylvania, yet the introduction of herbicide resistant palmer amaranth and waterhemp have caused new challenges and concerns. This year, Penn State Extension Field & Forage Crops Team focused efforts in North Central Pennsylvania to increase awareness of risks and move farmers to implement preventative methods. In 2015 we piloted 2 applicator trainings highlighting herbicide resistant weeds for 27 producers. The initial results were promising with 100% (n=21) of farmers agreeing to change practices to prevent resistance. In 2016, Nicole Carutis, Field & Forage Educator for the region, coordinated and presented at 14 winter meetings across 11 counties in New York and Pennsylvania to more than 550 producers representing over 150,000 acres. 93% of farmers (n=322) responded they would change or continue current practices to prevent herbicide resistance from developing on their farms. 92% (n=216) of applicators reported they would use a new mode of action in 2017. 298 farmers pledged to change current practices to prevent herbicide resistant weeds, saving the region an average of \$33,000 in control measures. At each meeting, a PowerPoint on Herbicide Resistant Weeds was delivered, participants interacted by listing weeds they are having trouble managing. This led to discussion about how resistance occurs. Each farm left the workshop with a “Take Action” Herbicide Classification Poster or Booklet and were challenged to highlight herbicides they are currently using and pick a new herbicide in a different Site of Action Group in the coming growing season. Evaluations were conducted by paper survey at the end of each meeting.

## **THE SUWANNEE RIVER PARTNERSHIP EDUCATION TEAM IMPROVES COMMUNICATION, BUILDS RELATIONSHIPS AND IMPROVES ADOPTION OF BEST MANAGEMENT PRACTICES**

Bauer, M.\*<sup>1</sup>, Bartels, W.\*<sup>2</sup>, Wells, O.\*<sup>3</sup>, Hochmuth, R.\*<sup>4</sup>,  
Barrett, C.\*<sup>5</sup>, Troy, P.\*<sup>6</sup>, Rogers, E.\*<sup>7</sup>

<sup>1</sup> Extension Agent, UF/IFAS, Lake City, FL, 32055

<sup>2</sup> Assistant Professor, University of Florida, Forest Resources and Conservation, Gainesville, FL, 32611

<sup>3</sup> Research Assistant, University of Florida, School of Natural Resources and Environment, Gainesville, FL, 32611

<sup>4</sup> Regional Specialized Extension Agent, UF/IFAS Suwannee Valley Ag Extension Center, Live Oak, FL, 32060

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<sup>7</sup> Extension Associate, North Carolina State University, Horticultural Science, Raleigh, NC, 27695

The Suwannee River Partnership Education Team (SRP) has held regular monthly breakfast meetings since 2004. These meetings emerged from an inter-agency partnership agreement that was signed in January 1999, forming a group known as the Suwannee River Partnership. Although the SRP Education Team has held meetings open to anyone, primary participants include representatives from agencies that interact with production agriculture and/or focus on water issues. The SRP breakfast meetings were designed to provide a relaxed, informal atmosphere where participants could eat breakfast and share information without a formal agenda or assigned speakers. Meetings typically take up to an hour and a half and are facilitated by a designated coordinator. The primary themes of the group include: “communication,” followed by “cooperation,” “sharing,” and “awareness.” Participants also noted networking, working together, partners, and problem solving as benefits of involvement. The objective of this program is to build relationships and improve the adoption of Best Management Practices (BMPs). Between 2008 and 2015 71 people attended 1 or more of the 60 meetings held. Upon assessment of program participants, 75% will report the meetings are moderately useful, very useful, or extremely useful to their work on BMPs. Additionally, more than 50% of participants will report the meetings are moderately effective, very effective, or extremely effective to improve relationships between agencies and employees in the Suwannee River basin. There have been numerous perceived impacts of the group that show the value and importance of this enduring group: improved understanding and adoption of BMPs, expanded research and funding, collaborations with farmers, engaging farmers in new issues, and a raised profile for Extension.

## **UGA EXTENSION PROGRAMMING**

Price, T.\*<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University of Georgia, Adel, GA, 31620

Cook County, Georgia peanut production comprised almost 12 million of Cook County’s total 94 million dollar farm gate value in 2015. Peanut disease issues, especially white mold (*Sclerotium rolfsii*) remain the number one disease issue in peanut production in Georgia and Cook County. On farm peanut fungicide trials are conducted at several locations throughout Georgia and data generated is a valuable resource for Georgia peanut growers. This data is invaluable to Georgia peanut producers, however local peanut producers will give more relevance and credibility to data generated locally. Local on farm research and demonstrations that focus on peanut disease control is needed for Cook County peanut producers to base their disease management decisions. Information gathered from timely scouting of peanut pest issues needs to

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be disseminated to local peanut producers in order pro-actively manage the crop. Multiple programming and educational activities are needed to educate producers on peanut disease control that is centered on locally generated data, and regional peanut production data produced in collaboration with University of Georgia Peanut Specialists. From 2014 – 2016, Cook County Extension Agent, Tucker Price implemented 6 local on farm research and demonstrations to investigating peanut disease management strategies. Field growing condition information was gathered through field visits with growers, communication with consultants, and University of Georgia Specialists. Information gathered was disseminated to local peanut producers through 6 informal production meetings, 2 oral presentations, 2 fact sheets, 5 poster presentations, and 33 emailed Crop Updates/Newsletters. Peanut producers were exposed to timely, unbiased, research based information generated regionally and locally from which to base their peanut production decisions.

### **SOYBEAN WEED CONTROL WHEN PPO RESISTANCE IS ADDED**

Miller, T.\*<sup>1</sup>

<sup>1</sup> Extension Agent for Ag and Natural Resources, University of Kentucky, Lacerter, KY, 42056

\_\_\_In the summer of 2015, a field was discovered in Ballard County Kentucky, where the Palmer Amaranth and Waterhemp were not responding to Round-up herbicide. Both of these weeds were known to be Round-up resistant across the state, however the weeds in this field also failed to respond to treatments with PPO herbicides. Extension weed specialists with the University of Kentucky College of Agriculture were called in to investigate, plants were collected, seeds were collected and it was determined over the winter of 15/16 that the first location in Kentucky of PPO resistant pigweeds was discovered.

Tom Miller, Ballard County Agent for Ag and Natural Resources, worked with extension weed specialists in planning research and educational plots for the 2016 growing season. Almost every combination of pre-plant, residual and post applied products were evaluated. New technologies, including dicamba and 2,4-d products were demonstrated.

Instead of one big field day, weekly late afternoon discussions were held, where farmers could pull up, look at the plots, determine which products were working and more importantly which treatment protocols were not as effective. Meetings started with preplant treatments, carried through the season to even late season rescue treatments. After the year end data was compiled, attendees were provided with the data as well as newspaper and extension newsletter articles.

During the season it was determined that some of the weeds may also be resistant to atrazine and that is being evaluated in the greenhouse and lab this winter. The location has been

secured for even more intensive testing this next growing season with a focused evaluation on the newly approved technologies.

Ballard County farmers have been able to see and evaluate soybean weed control under some of the most challenging herbicide resistant conditions currently available. The best lesson is that several of the treatment protocols work but they have to be followed to the letter, even small variations in timing can lead to disastrous impacts on weed control.

### **ROW CROP MANAGEMENT**

Ott, J.\*<sup>1</sup>

<sup>1</sup> CEA-AG, Texas A&M AgriLife Extension Service, Robstown, TX, 78380

After meeting with the Nueces County Ag and Natural Resource Committee and the Row Crops Task Force in 2015 to review past programs and emerging issues, programming efforts were directed to weed, insect and fertility management by these advisory groups. Therefore, AgriLife Extension in Nueces County developed a series of activities to address these relevant issues. Programmatic results of this program were valued at \$2.3 million by the 91 individuals completing evaluations. Willingness to adopt best management practices and increase knowledge in the areas of weed and soil fertility management were measured in the evaluation instruments and reflected in the economic value participants placed on the program.

### **WASHINGTON STATE UNIVERSITY EXTENSION ALFALFA VARIETY TRIALS HAS A LARGE IMPACT ON WASHINGTON STATE HAY PRODUCTION**

Norberg, S.\*<sup>1</sup>

<sup>1</sup> Regional Forage Specialist, Washington State University, Pasco, WA, 99301

Hay production is the sixth largest economic agriculture commodity in the State of Washington. It is very difficult, without properly conducted alfalfa variety trials by a Land Grant University, for producers to make an informed alfalfa variety decision. This is the primary reason for alfalfa variety trials being the top research priority of the Washington State Hay Growers Association. The objective of this extension program is to develop research based information on performance of currently available alfalfa varieties and disseminate the results to growers in the Columbia Basin of Washington and extend it to growers and agribusiness. Over the last three years, research has been conducted at two locations which included 15 different alfalfa seed companies, cooperating with 99 entries into the experiments. The results were statistically analyzed every year and published in reports. The results of the reports were sent out in an e-mail list serve to over 449 subscribers, presented at the Northwest Hay Expo each year, published

in the proceedings, at which over 1,600 people attended as well as other meetings each year. At the meetings, education included the difference in yield and gross income by selecting the top winners as compared to the trial averages. Evaluation has been critical to the success of this program. Turning Point has allowed me to track the value of my presentations. One average, ninety-three percent of the participants increased their knowledge of alfalfa variety performance with the presentations. Also, eighty-six percent of those participants who attended the meeting planned on using the trials for their next alfalfa seed purchase. After the presentation, a forty-one percent increase in producers planned on using the trials next year as than did the previous year. From the data collected it is estimated that the impact of the alfalfa variety trials to Washington State is \$85.20 per acre per year from 2014 - 2016 resulting in an overall 3-year impact of \$27.7 million in Washington State. If the trials were stopped, this information would not be available to help producers make the important decision on variety selection and this impact would disappear.

## **Search for Excellence in Farm and Ranch Financial Management National Winner**

### **HELPING OHIO FARM FAMILIES PLAN FOR THEIR FARM SUCCESSION**

Marrison, D.L.\*<sup>1</sup>

<sup>1</sup> ASSOCIATE PROFESSOR, THE OHIO STATE UNIVERSITY, Jefferson, OH, 44047

This Search for Excellence in Farm and Ranch Financial Management application is for the efforts of David Marrison and Chris Bruynis for their leadership in helping Ohio farm families plan for the succession of their farm to the next generation. The transfer of farm's to the next generation is one of the most critical risk factors which many Ohio farm families will face over the next decade. Over the past three years, David Marrison and Chris Bruynis have developed teaching curriculum, lead the "Passing on the Family Farm" workshops, held kitchen table meetings with farm families, and have given "hot topic" presentations for commodity and civic groups across Ohio. All of these teaching efforts aimed at helping farm families answer the critical farm transition planning questions.

Participants learned how to develop a farm succession plan and how to increase the management skills of the next generation. The workshop sessions challenged family members to honestly communicate with one another when planning for the future. Participants also learned about business organization structures and strategies, how to treat

on-farm and off farm heirs, how to equitably transfer assets, how to plan for adequate retirement income, and how buy-sell agreements, trusts, LLCs and life insurance can be utilized in transition planning. To date, 1,738 Ohio producers have attended workshops at 35 different locations across Ohio. Additionally, the team gave 5 out of state presentations reaching an additional 236 persons and have facilitated 9 farm succession family meetings.

## **National Finalists**

### **ANNIE'S PROJECT SUCCESS ACROSS THE NATION IN 2016**

Schultz, M.M.\*<sup>1</sup>, Scarbrough, L.M.\*<sup>2</sup>

<sup>1</sup> Women in Ag Program Manager, Iowa State University Extension and Outreach, Ames, IA, 50011

<sup>2</sup> Women in Ag Communication Specialist, Iowa State University Extension and Outreach, Ames, IA, 50011

Educational Objectives: Women have significant employment, management and ownership on America's family farms. Yet, USDA identifies women as an underserved audience. There is a critical need to educate women farmers as well as a strong demand from women for agricultural education. Annie's Project courses help women become more knowledgeable about their agricultural businesses through a series of six weekly classes (18-hours total). Specific objectives are to increase risk management knowledge and empower women to implement new practices in five agricultural risk areas. Program Activities: Annie's Project educators across the country use a program development model to guide our programming. The framework includes assessing needs, developing curricula, planning programs, delivering education and evaluating impacts. During 2016, the Annie's Project educators delivered 43 local courses with an audience reach of 603 participants in 18 states. Teaching Methods: Annie's Project creates a comfortable and supportive learning environment through local small group courses. Best education practices include key principles, core values and essential risk management topics. Evaluation: The Annie's Project evaluation methods include third-party data collection. Pre- and post-course surveys contain knowledge and practice questions. Results: National survey results (2016) indicated 36% of respondents had been farming for 10 or fewer years. Analysis showed the courses were successful in significantly (p.001) improving the knowledge of women in all five constructs. Survey results indicated women implemented risk management practices in all five risk areas during the course. Financial management goals for applying what respondents learned ranked highly, followed by marketing goals. Respondents selected legal/estate topics as 'most valuable' more often than other topics. They selected human resource/communication styles topics as 'unexpected learning' more often. Respondents told us they 'wanted more' on marketing and production topics. More than 95% of survey respondents indicated educators encouraged

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them to learn from both classmates and speakers, and educators provided a safe and nurturing learning environment. Impact Statement: Annie's Project brings positive changes and creates public value. When we empower women in agriculture, they help create a more sustainable agriculture by improving economic resiliency, conserving natural resources, and taking on influential roles in their families and communities.

### **SDSU EXTENSION BEGINNING FARMER AND RANCHER SYMPOSIUM**

Gessner, H.\*<sup>1</sup>, Davis, J.\*<sup>2</sup>, Sand, S.\*<sup>3</sup>

<sup>1</sup> Livestock Business Management Field Specialist, SDSU Extension, Sioux Falls, SD, 57103

<sup>2</sup> Crops Business Management Field Specialist, SDSU Extension, Mitchell, SD, 57301

<sup>3</sup> Livestock Business Management Field Specialist, SDSU Extension, Aberdeen, SD, 57401

The Beginning Farmer and Rancher Symposium has provided post-secondary education students with succession planning information and communication tools and tips to over 400 students a year since 2014.

Symposium goals are:

- Provide communication tips and ideas to students returning to the family farm.
- Provide feedback from the banking industry on working with multi-generational operations.
- Provide real world experiences about the transition by inviting young producers to the program.
- Provide local contacts to the students that specialize in estate and transition planning.

An invited keynote speaker provides information that targeting communication methods, ideas and important topics that need to be covered within multi-generational farming operations.

Through the Industry and Returning Farmer panels, real-world expectations and realities are presented to the student audience. The Industry Panel allows lenders to explain their expectations for the returning generation. During the Returning Farmer Panel, the participants tell their stories about returning to the family operation.

Breaks provide the students with the opportunity to meet industry and organization contacts that can help implement estate and transition tools needed to accomplish the families' goals.

Sponsorships fund the program. Varying sponsor levels, with variation in the exposure they receive during the event are provided. Examples include speaker/ panel sponsorship, ad in the participant booklet, booth space and name recognition. The 2016 budget was \$10,000.

Changes in knowledge are determined through the use of TurningPoint ® clicker responses and by reading reports instructors collect following the symposium. Results from the 2016 responses indicate 86 percent of the participants learned one to four things. Forty-two percent responded they had learned four or more things.

As communication improvement is a large goal of the symposium additional questions asked about the current communication situation in their families. Eighty-one percent indicated there were topics they needed to talk to their parents about regarding farm transition and 72 percent indicated communication regarding transition within their families needed to improve. Written comments indicate they will or have already begun talking to family members about the transition of the operation, based on what they learned at the Symposium.

### **PLANNING FOR FAMILY FINANCIAL TRANSITIONS**

Harned, L.\*<sup>1</sup>, Campbell, M.\*<sup>2</sup>, Jenkins, C.\*<sup>3</sup>, Appleman, D.\*<sup>4</sup>

<sup>1</sup> County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Catlettsburg, KY, 41129

<sup>2</sup> County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Maysville, KY, 41056

<sup>3</sup> County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Salyersville, KY, 41465

<sup>4</sup> County Extension Agent for Agriculture and Natural Resources, University of Kentucky, Brooksville, KY, 41004

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, 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 and 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.

## State Winner

### LIVESTOCK DROUGHT MEETING

Kelley, W.K.\*<sup>1</sup>, Marks, M. L.\*<sup>2</sup>, Miller, D. S.\*<sup>3</sup>, Stanford, M. K.\*<sup>4</sup>, Dickinson, S. E.\*<sup>5</sup>, Dorough, H. D.\*<sup>6</sup>, Elmore, J. B.\*<sup>7</sup>, Hudson, R. G.\*<sup>8</sup>, McBrayer, H.\*<sup>9</sup>, Mullenix, M. K.\*<sup>10</sup>, Tigue, D. A.\*<sup>11</sup>

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<sup>2</sup> Regional Extension Agent, Alabama Cooperative Extension System, Centre, AL, 35960

<sup>3</sup> County Extension Coordinator, Alabama Cooperative Extension System, Centre, AL, 35960

<sup>4</sup> Extension Specialist, Alabama Cooperative Extension System, Crossville, AL, 35962

<sup>5</sup> Regional Extension Agent, Alabama Cooperative Extension System, Dadeville, AL, 36853

<sup>6</sup> County Extension Coordinator, Alabama Cooperative Extension System, Talladega, AL, 35160

<sup>7</sup> Regional Extension Agent, Alabama Cooperative Extension System, Clanton, AL, 35045

<sup>8</sup> Regional Extension Agent, Alabama Cooperative Extension System, Headland, AL, 36345

<sup>9</sup> Regional Extension Agent, Alabama Cooperative Extension System, Guntersville, AL, 35976

<sup>10</sup> Extension Beef Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

<sup>11</sup> Regional Extension Agent, Alabama Cooperative Extension System, Moulton, AL, 35650

Alabama experienced intense drought conditions in 2016, with the entire state designated at a minimum of stage D2 (severe drought) and the majority of the state declared as either D3 (extreme drought) or D4 (exceptional drought) by the US Drought Monitor. Professionals with the Alabama Cooperative Extension System (ACES) formed a drought task force that was asked to address risk management issues associated with this drought by proactively employing both conventional Extension methods and by using social and electronic media to push information to producers and others affected by the drought. Conventional methodology allowed for face-to-face interaction that touched a large portion of North Alabama (the most severely affected area both in intensity and in duration). Meetings were held in 18 Alabama counties, with a total attendance of over 1300 individuals. Social media (Facebook live) was used at 2 of these meetings

to reach an additional 1198 participants through live streaming of programming. Preliminary data from 7 of the 18 counties show significant numerical impacts from these meetings which include \$1.7 million dollars of economic impact among these producers (51,032 impacted acres and 21,830 impacted cattle). A stand-alone ACES website was designed and went live within weeks of the formation of the task force. Specialists from Extension and Auburn University contributed new publications, blogs, and recordings to help producers better understand the current situation and use risk management strategies to mitigate both current and potential losses. The website continues to be an extremely functional and used website, with new data scheduled to be uploaded frequently to address producer's needs as they attempt to recover from this devastating natural disaster. The drought of 2016 greatly affected producers in Alabama, with producers having to make decisions regarding farm management during a time of natural disaster coupled with commodity prices at their lowest point in the last 6 years. The drought taskforce (along with the entirety of ACES) were offered a unique opportunity to help producers make informed decisions about risk management strategies that will affect agriculture in Alabama now and into the future.

## Search for Excellence in Farm Health and Safety

### National Winner

#### THE RUTGERS ON-FARM FOOD SAFETY TEAM

Melendez, M.V.\*<sup>1</sup>, Kline, W.L.\*<sup>2</sup>, Kleingunther, C.\*<sup>3</sup>, Schaffner, D.\*<sup>4</sup>

<sup>1</sup> Agricultural Agent, RUTGERS COOPERATIVE EXTENSION, Trenton, NJ, 08648

<sup>2</sup> Agricultural Agent, Rutgers Cooperative Extension, Millville, NJ, 08332

<sup>3</sup> Bureau Chief, New Jersey Department of Agriculture, Bridgeton, NJ, 08302

<sup>4</sup> Extension Specialist, Rutgers Cooperative Extension, New Brunswick, NJ, 08901

The on-farm food safety team has trained over 6,000 individuals in the produce industry since 1999. This represents most New Jersey produce operations, including farms who grow for wholesale distribution, on-farm sales, direct market sales, new and beginning farmers, multi-generational farm families, and both organic and conventional producers. The teams' interaction with growers has raised the awareness of food safety from "it is not our problem" to one of the most important aspects in a produce operation. A minimum of eight one-day grower trainings on farm food safety are offered annually with additional single presentations offered at

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grower meetings throughout the state. Workshop participants are provided with hard copies of training materials as well as a USB drive with supplemental materials, sample record keeping forms and templates to write their own food safety plans. Additionally, the team offers walk through visits with farms to give guidance on current and proposed food safety practices at the farm. In 2016 over 30 farm walk throughs were conducted.

The team has developed over 40 slide show presentations, written training manuals and Extension fact sheets, produced articles for popular publications, distributes information through social media (Facebook and webinars), through the Rutgers Plant and Pest Advisory and the Rutgers Vegetable Online Resource Center website. Results of their Extension activities have been presented at the National Association County Agricultural Agents and American Society for Horticultural Science annual meetings and to various commodity groups. Team members serve on national educational committees for the Food Safety Modernization Act, including the On-Farm Readiness Review committee, the calibration committee for the FSMA Produce Rule curriculum development team and the Northeast Center to Advancement Food Safety. The team collaborates with the New Jersey Department of Agriculture, the National Association of State Departments of Agriculture and others. They have obtained over \$300,000 in external grants.

## **National Finalists**

### **FARM TRACTOR SAFETY TRAINING FOR YOUTH & ADULTS IN SOUTHERN MAINE**

Brzozowski, R.\*<sup>1</sup>

<sup>1</sup> Food System Program Administrator, University of Maine Cooperative Extension, Orono, ME, 04469

Farmers who employ youth in southern Maine have identified that a Farm Tractor Safety Course offered on an annual basis is very important. Because of this importance, Cooperative Extension has presented an effective 5-session course annually for over 25 years. The course includes classroom sessions, a shop session, assignments, self-study, and tractor operation. Over a ten-year period, participants were surveyed to determine impacts. Every participant reported gaining knowledge and skills in safe tractor operation. Ninety-six percent of the responding participants reported developing a positive safety attitude. Over 33% became employed or maintained employment as a result of their participation. Not one participant reported being injured since their training. When asked if they would recommend the safety course to others, over 96% replied “yes”.

### **PESTICIDE APPLICATOR SCHOOLS PROTECT PEOPLE, PROPERTY, THE FOOD SUPPLY, AND THE ENVIRONMENT**

Bauer, M.\*<sup>1</sup>, Fenneman, D.\*<sup>2</sup>, Rogers, E.\*<sup>3</sup>

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Proper pesticide use is critical to the agricultural industry in the Suwannee Valley. With an estimated 600 farms in Suwannee, Columbia and Madison Counties in North Florida, pesticide education and training is in great demand by the 277 licensed restricted use pesticide (RUP) applicators in the area. Pesticide training provides instruction on proper pesticide use and handling to individuals who want to obtain or retain certification to apply restricted use pesticides. In Florida, UF/IFAS Extension primarily conducts education and the Florida Department of Agriculture and Consumer Services (FDACS) administers the pesticide certification process. Objectives: 1) Develop an educational program to enhance pesticide stewardship and safety for those seeking certification to apply restricted use pesticides (RUP) and 2) Develop educational programs and resources that provide continuing education units for RUP License holders that focus on pesticide stewardship, minimizing pesticide exposure and improved safety for applicators and their families, and minimizing environmental impacts from agro-chemicals. Methods: The Agents work together to provide workshops, field days and magazine articles that increase knowledge of pesticide use, prepare individuals to pass exams, and deliver continuing education units (CEUs). Classes include lectures, use of multimedia presentation, case studies, videos, and hands-on experiential learning. Results: A total of 324 individuals have attended the 25 classes offered since 2009. An estimated 195 individuals received seven CEUs at each training. The passing rate for those taking exams at the conclusion of training is ninety-two percent. Conclusions: Certification and training programs protect people, property, the food supply, and the environment from both pests and pesticide exposure by ensuring the competence of pesticide applicators. Innovative programs developed by Extension agents in Columbia, Madison, and Suwannee counties in Florida, have prepared pesticide applicators for certification, and provided continuing education for recertification. This Extension program offers a significant economic, environmental, and community return to program participants and area residents.

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## FARM SAFETY TRAINING SESSIONS

Chase, Ben\*<sup>1</sup>, Holmes, K.\*<sup>2</sup>, Strader, William\*<sup>3</sup>

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In the last ten years, there have been a number of farm-related accidents in Rockingham County, NC and surrounding counties. The majority of the accidents have occurred during the harvest season and have ranged from severe lacerations and broken bones, to crushed extremities and equipment-related deaths. Farmers receive minimal first aid training, but are often the first to arrive on scene at a medical or injury event on the farm. For this reason, there is a need to provide farmers with basic first aid training in case of an emergency. In rural areas, like Rockingham County, where farms are isolated and difficult to access, farmers can experience delays in emergency personnel arriving at a farm-related accident. Because of these problems, Rockingham County Agricultural Extension Agents were concerned about the safety of farmers, farm workers, and farm family members.

Agents responded by offering two training sessions related to providing first aid in the farm setting; 1. For EMS and Fire personnel and 2. For farmers, farm workers, and family members. The training was farm-based and identified the most frequent agricultural injuries and causes of fatalities, discussed proper First on the Scene response, and how to conduct victim assessment. Many types of injuries and illnesses were described in detail with correct first aid decisions. The last part of the program, for farmers, dealt with unsafe farm practices. The NC Agromedicine Institute and Rockingham County Farm Bureau partnered on the program. Forty-nine people received training including one youth.

Each farmer that attended received a free first-aid kit and fire extinguisher that was picked up at a later date. Survey evaluations were conducted following each session, and also by word of mouth when they returned. This gave them time to make some safety changes. Two changes the farmers mentioned were the importance of NOT moving injured patients prior to an assessment and how important it is to properly exit a tractor. As an added benefit, farmers were able to apply for \$250 cost-share related to farm safety items and EMS/Fire personnel could also apply for \$1,250 cost-share for rescue-related tools.

## State Winners

### AGRITOURISM EMERGENCY PREPAREDNESS: OHIO'S AGRITOURISMREADY PROGRAM

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Agritourism is a growing sector of the agricultural economy, including everything from farmers' markets to large agritourism operations with thousands of guests per day. Emergency preparedness plans are relatively new to both current operators and new adopters. Farmers markets have large crowds in a very short period of time. Many agritourism operations attract even larger crowds of customers on busy weekends during the fall season. All of these businesses can benefit from the adoption of emergency preparedness plans.

This program was designed to help minimize risks and enhance business sustainability, viability, and resilience of agritourism enterprises using emergency planning and preparedness education. Curriculum was developed, including scripted PowerPoint presentations, 15 videos, workbooks, activities, scenarios and other materials for farm business owners and employees. These resources were pilot tested with Extension educators and producers. An electronic flipbook was developed for participants to write their own emergency plan. This allowed participants to write their plans during the workshops.

The final result of the programs, training sessions and overall project was the completion of the website <http://u.osu.edu/agritourismready>. This AgritourismReady site walks producers through the process of developing a plan at their own pace. It is accessible to all agritourism farms in North America. The website continues to be promoted through training programs at state and national conferences.

To date, the program has reached over 2,400 agritourism operators at in person sessions, including programs in Ohio, Tennessee, Mississippi, West Virginia, Indiana, and Canada. These formats range from 1-hour sessions to full day workshops. Evaluations indicated participants had a better understanding of how to keep customers and employees safe, had a better understanding of how to prepare for and respond

to an emergency, and participants planned to implement or change at least one practice to improve farm safety. Participants evaluated the course using a 6-point scale, whereby numeric scores ranged from 5.72 for “I have a better understanding of how to prepare for and respond to an emergency on the farm,” to 5.84 for “I would recommend this workshop to others.”

### **ATV SAFETY**

Bocksnick, J.\*<sup>1</sup>

<sup>1</sup> 4-H Outdoor Skills Coordinator, UACES, Little Rock, AR, 72204

In response to popularity of ATVs in Arkansas and youth ATV accident rates, the Arkansas 4-H program established an ATV safety training program in 2008. The program has educated 1,500 youth in Arkansas about basic concepts of safe ATV operation in response to youth accident rates. The course covered proper equipment, laws, proper riding, and handling techniques. The program has not been evaluated. The study was to evaluate participants’ knowledge levels prior to participation in the program and after receiving instruction and hands-on ATV operation training, and to determine if Standard Course and S-Course participants’ knowledge scores were different. The effectiveness of the program as a tool to teach participants basic concepts of safe ATV operation. The course covered proper equipment, laws, proper riding, and handling techniques. The study also compared the results of two different versions of the ATV Safety program, the Standard Course and the S-Course in order to determine which course was most effective at teaching the concepts previously listed. ATV Safety Course participants who completed the training between December 2015 and April 2016 participated in this study. A significant difference was seen in test scores for both the Standard Course and S-Course, while no significant difference was found when Standard Course and S-Course participant scores were compared. The study found that participant ATV knowledge increased regardless of which version of the course was completed.

### **OWLS FOR LIFE FARM SAFETY DAY**

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According to the Centers for Disease Control, unintentional injury is the leading cause of death in children and young adults. In response to the community’s concern for safety, the Owsley County Cooperative Extension Service collaborated with the Kentucky Department of Agriculture, Owsley County Schools, FFA, 4-H and 14 local and state agencies as well as local businesses to host the Owls For Life Ag Safety Day. This event was held at the Owsley County Middle and High School and reached 352 youth and 50 adults. The planning committee consisted of 12 youth obtained sponsorship of more than

\$1500.00, produced a skit about an ATV Accident and presented the skit on safety day to their peers, and recruited and organized other student groups to be part of the days’ event.

## **Search for Excellence in Forestry and Natural Resources National Winner**

### **THE LOUISIANA MASTER FARMER PROGRAM (LMFP)**

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The Louisiana Master Farmer Program (LMFP) was initiated in 2001 through a cooperative effort between the LSU Agricultural Center, Louisiana Department of Agriculture and Forestry (LDAF), Louisiana Cattlemen’s Association, USDA’s Natural Resource Conservation Service (NRCS), and the Louisiana Farm Bureau Federation. This voluntary environmental stewardship program was developed for agricultural producers to focus on addressing sustainability, conservation, and improved water quality through education, demonstration, and ultimately implementation of Best Management Practices (BMPs). A producer must complete three phases to be awarded certification. These include: 1.) attendance of six hours of environmental education through classroom instruction 2.) attendance at a field day, field tour, soil quality workshop, or other function where conservation, soil health, or water quality is discussed and demonstrated 3.) development and implementation of a comprehensive conservation plan with technical assistance available from the Soil and Water Conservation District and NRCS.

Louisiana has over 10,000 named waterbodies that are critical to the state’s recreation, economy, wildlife diversity, and agriculture. Many of these waterbodies are listed on La. Dept. of Environmental Quality’s list of impaired waters, with agriculture listed as one of the leading sources of suspected impairments. With the LSU AgCenter leading the program, the creation of the LMFP became a tremendous educational opportunity to offer commodity-specific, environmental information to all agricultural producers, regardless of commodity.

Since 2001, 239 producers have completed certification, with just over 3300 participating in one or more phases of the program. This represents over two million acres of farm

and rangeland in the state of Louisiana, forestry, cattle, poultry, sugarcane, soybean, corn, cotton, rice, grain sorghum, crawfish, and wheat commodities represented. Producers have participated in over 100 Phase 1 trainings and 125 Phase 2 field tours throughout rural areas of Louisiana. The program continues to be successful mainly due to the support and cooperative effort from state and federal agencies, as well as all major commodity groups and industry. Through awareness, education, demonstration, and NRCS' cost-share incentives, producers have been able to positively address many of the soil and water quality challenges that agriculture is faced with.

## National Finalists

### RUTGERS ENVIRONMENTAL STEWARDS PROGRAM

Rector, P.\*<sup>1</sup>, Bakacs, M.\*<sup>2</sup>, Rowe, A., Ph.D.\*<sup>3</sup>, Cook-Menzel, A.\*<sup>4</sup>

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Although New Jersey is a small state it is the most densely populated state in the nation and this exacerbates most environmental problems. Based on over 95 years of experience in agricultural extension, it was clear that a well-designed environment-based extension program could provide access to environmental knowledge to New Jersey residents. The program participants. The Rutgers Environmental Steward Program provides grounding in environmentally related science and leadership for citizens interested in environmental issues without formal scientific education. Graduates are knowledgeable in basic processes of earth, air, water and biological systems. They will be aware of techniques and tools used to monitor and assess the health of the environment. The class consists of 20 sessions of lectures followed by a 60-hour internship. Lecturers include experts from Rutgers University, NJ Department of Environmental Protection, Association of New Jersey Environmental Commissions and NJ Conservation Foundation. The Program has been operating since 2005. Since 2014 several new faculty are involved in the program, the program includes evening hours and urban areas to reach a greater diversity of residents. Implementation of the internship component of the program has been upgraded based on an in-depth evaluation and includes an on-line planning document, one class devoted to planning, and ready-made internships. From 2014-2016 the internship program has provided NJ with 6,543 volunteer hours valued at \$154,153 and interns have conducted 37 projects from 2014-2016. Ninety-five percent of Stewards feel the lecture series was

very successful in increasing their environmental knowledge. Impacts vary from recycling of 2,919 tons of food waste to creation of a "Roots and Shoots" NJ program that as of 2015 educated 111 children. The in-depth evaluation allowed us to update our implementation of the 10-year old program.

### ForestHER

Bradley, S.E.\*<sup>1</sup>, Haley, Norman\*<sup>2</sup>, Becky Barlow\*<sup>3</sup>

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<sup>3</sup> Forestry and Wildlife Extension Specialist, Alabama Cooperative Extension System, Auburn, AL, 36849

ForestHER was a two-day workshop that provided a unique opportunity for women landowners to learn about forest management topics that are important to them. Hosted on September 19th and 20th at Riverwood Farms, in Cullman County, Alabama, this workshop was created to help women become more involved and comfortable with the management of their land.

Thirty-one women and one "brave" man attended the ForestHer workshop. Participants came from across Alabama and as far away as Michigan, Ohio, Tennessee, and Mississippi. Day one included information on goal setting, forest measurements, and management for wildlife, timber and non-timber forest products such as pine straw. The second day was a hands-on field tour that included tree identification, tree diameter and height measurements, forest inventory plot establishment, basal area, and a visit to sites that demonstrated management techniques for wildlife and native pollinators. This project was viewed as very successful by the planning team, as it was hosted in a region where forestry related workshops are often poorly attended.

In an exit survey participants stated that they would use the information presented to better manage their collective 14,300 acres. Some quotes from participants:

"Wow, what a valuable workshop"

"20th was my B'day – was very worth spending it here learning"

"Come south – we are ready for you"

"The field trip was fabulous"

"Loved the way everybody worked together"

Plans are already underway to host similar workshops in other regions of Alabama in 2017. A second ForestHer is planned for March 6<sup>th</sup> and 7<sup>th</sup> in New Brockton, and space is almost full. "ForestHer: On Fire" is also planned in Auburn on March 13<sup>th</sup> and 14<sup>th</sup>. This will be a hands-on prescribed fire workshop, where participants will have the opportunity to conduct prescribed burns. Other plans include a wildlife

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workshop, and working with other State Extension Systems to host a workshop in neighboring states.

## State Winners

### FORESTRY CONTEST DRAWS RECORD CROWD

Rushing, J.L.\*<sup>1</sup>

<sup>1</sup> CEA-AGRI, UACES, Hampton, AR, 71744

Youth forestry competition and general knowledge assessment has become a popular area of youth agriculture education in Arkansas over the past several years. Youth gather to test general knowledge skills in the areas of: tree identification (identifying ~60 different tree species by bark, leaves, site, fruit, etc.), volume determination (determining a volume of a tree by taking two general measurements and extrapolating the value to per acre basis), forest equipment identification (identifying over 50 pieces of general forestry equipment), forest disorder identification (identifying over 30 types of forest pests, diseases and general disorders that local trees/forests possess), map interpretation (interpreting the likes of topographic, aerial and ownership maps), compass and pacing (students use a mirror sighted compass and walking technique to determine azimuth and distances between two points), chainsaw parts identification and FAQ quizzes, forest product determination, and many other areas. In 2011, I hosted the first ever Hogskin Forestry Contest in Calhoun County, AR comprised of 52 competitors from 8 different schools across the state. Over time, this contest has been deemed as the “kick off” to the Arkansas agriculture competition season. This year (2017) the Hogskin Forestry Contest became the largest forestry contest in Arkansas beating out the likes of all contest areas including FFA, 4-H, Conservation Districts and all other Invitational contests. Participants of the Hogskin Forestry Contest traveled from all reaches of Arkansas including a 239 mile trek for Mountain Home High School in the northern part of the state. Collectively, 157 youth competitors from 24 different schools attended the event. Between general registration and sponsorships from organizations like Farm Bureau, Farm Credit Services of Western Arkansas and the Arkansas Forestry Association, Calhoun County 4-H net enough money to aid in day camps, registrations and general 4-H events throughout the 2017 fiscal year.

### WOODS AND WILDLIFE FOR YOUR WALLET

Hieneman, L.\*<sup>1</sup>

<sup>1</sup> CEA FOR AG & NATURAL RESOURCES, , Greenup, KY, 41144

More than half the state of Kentucky is forested and of that land 78 percent is owned by private land owners. According to Billy Thomas UK Forester, Kentucky Woodlands are some of the most productive woodlands in the world if

managed properly. Most landowners are unaware of all the programs that are available. These services can help develop management plans to ensure proper care and management to carry our woodlands to the next generations.

In Greenup County both the Cooperative Extension and Soil and Water Conservation Services want to encourage landowners to become connected with services that can help them. It is also our goal to educate landowners about Timber and Wildlife Management and Non-Timber Forest Products. In 2016 and 2017 Greenup County Extension and Soil and Water Conservation held Woods and Wildlife for Your Wallet in conjunction with Kentucky Department of Forestry, University of Kentucky Forestry, KY Department of Fish and Wildlife, KY Woodland Owners Association and many local volunteers. Woods and Wildlife for Your Wallet is a program that offers concurrent sessions such as: Beekeeping, wildlife management, growing shitake mushrooms, Master Logger Program, encouraging and managing a healthy forest. It is a great opportunity for landowners to interact with the organizations and individuals who can help them the most.

In 2016 the program reached one hundred participants and this year in 2017 there was a large increase in participation reaching nearly two hundred. Follow up interviews resulted in landowners increasing their knowledge of sources of assistance both technical and financial for woodland management and practices. The interviews also revealed that landowners that attended the non-timber forest product session plan on implementing those practices this year.

### FOREST LANDOWNER EDUCATION

Mckenzie, P. G.\*<sup>1</sup>

<sup>1</sup> Agricultural Extension Agent, NC Cooperative Extension, Vance/Warren Counties, Henderson, NC, 27536

The objective of the program is to educate forest landowners in Vance and Warren Counties about managing their land and marketing the timber in a manner that optimizes economic, ecological and recreational benefits. The program consists of a comprehensive slate of educational efforts, including on-line videos, seminars, lumber mill tours, personal consultations, and electronic newsletters. Two major events are usually held each year, such as a mill tour in the spring and a seminar in the fall, with an average audience of about 30 participants. Forestry professionals such as Forest Service personnel, Extension Forestry Specialists, wildlife biologists, other agency personnel and consulting foresters serve as speakers. Sample topics include cost-share opportunities, best management practices, wildlife management and effective marketing. In the interim, individual consultations are provided upon request, either via phone, e-mail, or in-person at the office or at the landowner's property. Occasional updates are provided via e-mail to a landowner database of approximately 180 people.

Evaluations of each individual program are conducted, which routinely indicate positive outcomes in terms of new knowledge gained. In addition, year-end evaluations are conducted via on-line survey, which indicate positive economic benefits in terms of cost-share received and management practices implemented. [This link](#) provides an overview of a forestry field day held in 2015, in collaboration with the Franklin County Extension Center:

### **WASHINGTON STATE UNIVERSITY WATER IRRIGATION SYSTEMS EFFICIENCY (WSU WISE)**

McMoran, D.W.\*<sup>1</sup>

<sup>1</sup> Agriculture and Natural Resources Extension Educator-Director, Washington State University, Burlington, WA, 98233

As with many parts of the country, Washington state farmers have been adversely impacted by insufficient water, drought conditions and water use curtailments that have left fields under irrigated. Washington State University Water Irrigation Systems Efficiency (WSU WISE) aims to increase irrigation efficiency in the state by encouraging adoption of proven irrigation monitoring technology, irrigation efficient equipment and conservation practices through education and consultation. WSU WISE partners have been carefully chosen to incorporate the historically underserved populations of Veterans, (Growing Veterans) Latino farmers, (Viva Farms) and Native American farmers (WSU Colville Reservation Extension). Furthermore, WSU WISE has enlisted Extension support in hubs throughout the state to ensure all farmers have access to the program benefits: Western Washington (WSU Skagit County Extension), Northeast Washington (WSU Ferry County Extension and WSU Colville Reservation Extension), Central Washington (Irrigated Agriculture Research and Extension Center, WSU Prosser), Southeast Washington (WSU Spokane County Extension) and Southwest Washington (WSU Lewis County Extension). WSU WISE has received a USDA CIG grant for \$455,915 over the course of 3 years (2016 to 2019) to educate and enroll farmers in the Irrigation Scheduler Mobile (ISM) system. WSU WISE will increase water-use efficiency by providing voluntary irrigation assessments, deliver a tailored compilation of recommendations for irrigation system improvements and quantify changes in water-use efficiency rates of participants. This program will facilitate the adoption of irrigation equipment upgrades by providing consultations and technical assistance for EQIP grant proposals. WSU WISE intends to be the catalyst for efficient irrigation upgrades by an averaged measure of 20% for those participating in assessments and consultations. With an average farm participant size of 50 acres, this will result in a water savings of approximately 300 million gallons over the duration of the program and continued water savings into the future.

## **Search for Excellence in Consumer or Commercial Horticulture National Winner**

### **THE COLLEGE OF KNOWLEDGE ONLINE COURSES**

Lindberg, H.M.\*<sup>1</sup>, Runkle, E.\*<sup>2</sup>, Cloyd, R.\*<sup>3</sup>

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<sup>2</sup> Professor of Horticulture, Michigan State University, East Lansing, MI, 48824

<sup>3</sup> Professor of Entomology, Kansas State University, Manhattan, KS, 66506

The College of Knowledge Online courses are pre-recorded, non-credit courses intended for greenhouse growers as professional development. The courses include approximately 4-hours of videos and voice-over PowerPoint presentations, supplemental reading, quizzes, and tests. There are currently two courses in the Series, College of Knowledge Online: “[Greenhouse and Horticultural Lighting](#)” and “[Biological Control for Greenhouse Growers](#).” Students in each of the courses take a pre- and post-test to determine knowledge gain and take a post-course evaluation upon completing the course. Long-term impacts are evaluated using a 6-month post-course online survey using SurveyMonkey. “Greenhouse and Horticultural Lighting” was released in September 2015 and has had three sessions (Fall 2015, Summer 2016, Fall 2016). A total of 140 greenhouse growers who represented 35.5 million square feet of greenhouse production took the course. The students were from 20 countries, 28 U.S. states, and 14 Michigan counties. Ninety-six students finished the course with an average pre-course grade of 73% and an average post-course grade of 92%. According to the long-term impacts survey, 57% of growers made a change in their facility, which encompasses 1.8 million square feet of production space (n=18). In addition, 71% of growers were more confident in their lighting strategy (n=18). “Biological Control for Greenhouse Growers” was released in Fall of 2016 and has been offered for one session (Fall 2016). A total of 133 growers from 9 countries, 24 U.S. states, and 12 Michigan counties, who represented 52.5 million square feet of greenhouse production, enrolled in the course. The average pre-test score was 67% and the average post-test score was 93% (n=114). According to the post-course survey, eighty-one percent of the respondents to the course evaluation reported that they would make a change in their pest management practices as a result of the knowledge gained from the course and 86% reported that it would help protect the crop from pest damage (n=105). Long-term impacts of “Biological Control for Greenhouse Growers” will be evaluated in the summer of 2017.

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## National Finalists

### A PLANNED APPROACH TO TACKLING FOOD INSECURITY IN HANCOCK COUNTY, MAINE

Peronto, M.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Ellsworth, ME, 04605

The goals of this program were threefold: 1) raise community awareness about food insecurity, 2) motivate and empower Master Gardener Volunteers to grow and glean fresh produce for distribution at local food pantries, and 3) increase food-self-sufficiency skills of people relying on emergency food assistance. I employed multiple program activities and teaching methods over the past three years to achieve these goals. Between 2014 and 2016 I led three 17-week Master Gardener Volunteer (MGV) trainings with an emphasis on food production and local hunger issues, training 75 volunteers. I coordinated fifteen MGV community gardening projects with the goal of producing fresh vegetables specifically for hunger relief. MGVs grew and donated 21,000 pounds of vegetables valued at \$35,490 to ten food pantries. I coordinated farm gleaning events, including an annual orchard gleaning that drew 100 volunteers, recovering 30,000 pounds of apples for emergency food assistance. I initiated a youth gardening education program in which MGVs worked with 45 children and their parents to build raised beds at home and grow food for their families. I coordinated three month-long countywide food drives & fundraising campaigns, heightening public awareness about food insecurity and raising 37,000 nonperishable food items and \$39,000 in matching funds for hunger relief. With colleagues, I trained volunteer nutrition educators to teach basic cooking skills at food pantries while distributing fresh produce grown by MGVs, reaching 400 low-income clients per year. As a result of this initiative, 95% of MGV trainees surveyed said that they were more aware of food insecurity issues in Maine and the US., and 70% reported having taken action in their community to address food insecurity. All ten Hancock County food pantries increased the amount of fresh produce distributed to their clients. After interacting with volunteer nutrition educators, 97% of food pantry clients surveyed had greater confidence in their ability to include fresh produce in their meals, 80% said they had more fresh food to eat, and 63% said they were likely to make healthier food choices when planning meals.

### EDUCATION ABOUT A NEW INVASIVE INSECT: THE SPOTTED LANTERNFLY

Swackhamer, E.\*<sup>1</sup>

<sup>1</sup> Horticulture Educator, Penn State Cooperative Extension, Collegetown, PA, 19426

A new invasive insect, *Lycorma delicatula*, commonly known as the spotted lanternfly (SLF), was discovered in southeastern

Pennsylvania in September 2014. SLF has a wide host range and is a potential pest of hardwood trees, grapes, and peaches. Pennsylvania ranks first nationally for hardwood production, and fifth for grape and peach production. An eradication effort is underway in the affected area. The Pennsylvania Department of Agriculture (PDA) has issued a quarantine order for 75 municipalities that prohibits movement of any living life stage of this insect to areas outside of the quarantined area. The author is working with the PDA to provide residents with information about the biology and management of SLF and how to comply with the quarantine order. She responded to at least 232 questions at the office, presented at 22 sessions to 1,359 participants, organized or presented at 10 meetings for horticulture professionals and currently oversees the Extension website. She partnered with the PDA to recruit and train volunteers to destroy SLF eggs and use sticky bands on trees to capture nymphs. Almost 2 million SLF have been eliminated by volunteers and 18 summer workers hired by the PDA. Four tree care companies have completed the process to be eligible to bid on eradication tree treatment jobs offered by the PDA. Thirty two businesses have arranged compliance agreements with the PDA to avoid spreading SLF through their activities, including 12 green industry businesses. A PDA official commented “The efforts of extension and outreach have led to an extremely high rate of detection in new, unknown areas, allowing for rapid response to smaller populations. The accuracy percentage of public reports is over 50% which is a testament to the work done by local educators. The messaging and training provided by extension has helped to keep spotted lanternfly relatively contained by showing residents and businesses who operate in the infested area how to minimize the potential spread when going about everyday activities. This component of the cooperative response is crucial, as it gives time for the long term control solutions to be implemented and evaluated.”

### IMPROVING NURSERY IPM IN THE FOOTHILLS

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<sup>1</sup> Area Specialized Agent - Nursery and Greenhouse, NC COOPERATIVE EXTENSION, Morganton, NC, 28655

The goal of the Nursery IPM program was to increase the use of IPM in nurseries and landscapes in the Foothills region of North Carolina. To reach this goal, I held a series of trainings and diagnostic consultations for nursery and landscape professionals. Needs of clientele were identified through surveys, farm visits, one-on-one conversations, and the guidance of a regional grower organization. Trainings consisted of field days, workshops, meetings, and consultations. Most growers learn best through hands-on activities; therefore, I used field days to incorporate interactive exercises and demonstrations. Educational activities were cross-disciplinary and included specialists in the areas of weed science, pathology, entomology, and nursery management. In the last three years,

I have conducted 28 group activities and 61 consultations as part of this program. A total of 1,964 green industry professionals have received training. As a result of the Nursery IPM Program, 67 nursery professionals participated in an IPM program resulting in total savings of more than \$1.8 million on input costs on 3,200 acres over this 3-year period. Evaluation strategies included formal surveys of clientele, as well as one-on-one conversations with stakeholders. The success of the Nursery IPM program was measured by its economic impact, the number of clients reached, and their changes in knowledge, skills, and attitudes.

## State Winners

### KIDS, COMPOST, CROPS AND CONSUMPTION: INTRODUCING THE WHOLE FOOD CYCLE TO URBAN YOUTH

Berg, M.A.\*<sup>1</sup>, Harstad, A. E.\*<sup>2</sup>, Hoffmann, K. A.\*<sup>3</sup>, Johnson, N. A.\*<sup>4</sup>, Schuster, L. K.\*<sup>5</sup>, Wang, S. L.\*<sup>6</sup>, Weinmann, T. J.\*<sup>7</sup>

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<sup>3</sup> Extension Agent, Cass County, NDSU Extension Service, Fargo, ND, 58108

<sup>4</sup> Area Extension Specialist Community Health and Nutrition, NDSU Extension Service, Fargo, ND, 58108

<sup>5</sup> Administrative Secretary, Carrington Research Extension Center, Carrington, ND, 58421

<sup>6</sup> Extension Associate, Health, Nutrition and Exercise Sciences, NDSU Extension Service, Fargo, ND, 58108

<sup>7</sup> Extension Agent, Cass County, NDSU Extension Service, Fargo, ND, 58108

The Kids, Compost, Crops and Consumption (KCCC) program began as a way to make an agriculture connection with urban youth while demonstrating the food cycle.

The program consisted of six lessons taught once a month throughout the school year. Each lesson focused on a different part of the food cycle:

- Livestock production and what animals provide to the food cycle
- How compost recycles plant and livestock manure into a valuable resource for crop production
- How soil supports livestock and crop production
- Root development, required nutrients for plant growth and photosynthesis
- Health benefits of vegetables and how to incorporate vegetables into their diet

The final lesson was a review of the previous lessons. Each student was provided with a square foot garden and all of the necessary supplies and information to grow spinach during the summer. Physical activity was incorporated into each lesson.

This program was piloted during the 2016 school year to 80 third- and fourth graders in the Fargo School District. Success of this program was measured with pre and post evaluations. Students improved their knowledge of nutrition, composting and agriculture by participating in this program.

Follow-up evaluations were completed by 63 students three months after the last lesson and indicated students applied the knowledge they gained:

- 73 percent planted the square-foot garden that was provided by the program.
- 37 percent harvested the plant and the majority ate it as a salad.
- 29 percent consumed 2 serving of vegetables per day during the summer break months.

During the 2017 school year, the program is being piloted more widely in three very different situations; an after-school 4-H program, a six week (vs. six month) in-school program, and a rural in-school setting similar to the original format. Feedback will be obtained in the summer of 2017 and suggested changes will be incorporated. The program will then be offered through the NDSU Agriculture Distribution Center for Extension agents, teachers and agency personnel to use.

Educating students about food production and the nutritional requirements of a balanced diet may empower them to make healthy choices and begin to provide food security.

### DIAGNOSTIC WALK-ABOUTS FOR THE GREEN INDUSTRY

Kowalski, J.\*<sup>1</sup>, Malinich, Tim\*<sup>2</sup>

<sup>1</sup> Extension Educator, Ohio State University, Stow, OH, 44224

<sup>2</sup> Extension Educator and Assistant Professor, Ohio State University Extension, Sandusky, OH, 44870

In recent years, more attention is being paid to surface water run-off, pesticide use in residential areas, and pollinator protection. As these concerns are translating into national, state, and local law, there is a need to educate those in the green industry of Best Management Practices, changing laws, and the most up-to-date research in these areas. The purpose of this program is to offer landscapers and other green industry professionals interactive, real-time insect and pest scouting events in order to help them make better informed pesticide applications, increase profit margins, and improve their diagnostic skills. To accomplish this Ohio State University Extension Educators via a strong partnership with the Ohio

Nursery and Landscape Association provided six yearly diagnostic walk-about at various locations through the State. Multiple teaching strategies were employed including in-depth discussions, demonstrations, and interactive diagnostics. These activities were supported by written materials such as Fact Sheets and identification cards regarding timely issues in the landscape. Over the past three years, eighteen walk-outs have been attended by over 200 participants. Participants indicated that the program would help them in the areas of customer service (76%), environmental protection (76%), and cost savings (52%). Participants stated that the economic impact of the program on their business or professional career ranged from \$50 to \$10,000 and some answered that the programs were “priceless” and the value “infinite”. Ninety-six percent indicated that their knowledge-base increased which translates into improved practices and increased profits.

## **HIGH TUNNEL COURSE**

Bailey, D.F.\*<sup>1</sup>

<sup>1</sup> Extension Agent, West Virginia University Extension Service, Glenville, WV, 26351

Buy local or local food is a hot topic and many people are trying to start businesses or capture some of this fast growing market. Many areas of West Virginia are considered a food desert that lacks options when purchasing food. Gilmer and Calhoun Counties as well as many surrounding counties are considered food deserts due to only having one main grocery store that limits the availability of “fresh” vegetables and fruit. Although these areas have active farmers that produce fresh fruits and vegetables it is only plentiful for four to six weeks out of the growing season.

High Tunnels are of interested to many producers in central West Virginia to extend the growing season and expand their market. A four series high tunnel course was developed and taught in February and March of 2016 for farmers and other individuals to learn about construction, financing/assistance, planning and scheduling, and an onsite farm tour. Due to the success of 2016 program an Advance High Tunnel Course was offered in February and March of 2017 that cover soil health and nutrition, pest management, and scheduling and maximize profit.

2016 course had 46 individuals attend. Post course evaluations indicated that 10 operations were interested in building a high tunnel in 2016, and 3 operations were already operating with a high tunnel. Other post course evaluations indicated that over 59% of the participants increased their knowledge of construction and design of a high tunnel. 54% indicated that they increase their knowledge of marketing high tunnel produce. Many of the participants indicated that they were going to seek funding for a high tunnel through NRCS EQUIP program. A follow up evaluation was conducted in November

of 2016, and 13 individuals participated. The results of the follow up survey indicated that three individuals had either constructed a high tunnel or had the high tunnel kit in hand to assemble. The 2017 course had 32 individuals in attendance and post course evaluations are positive with additional growth indicate in adding high tunnels to central WV farming operations. Other finds are forthcoming as evaluations are being received.

## **ARC GARDENS’ REACHING A NEW CLIENTELE**

McBrayer, R.H.\*<sup>1</sup>, Wheeler, L.L.\*<sup>2</sup>, Schavey, E.T.\*<sup>3</sup>

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<sup>2</sup> County Extension Coordinator, Alabama Cooperative Extension System, Fort Payne, AL, 35967

<sup>3</sup> Regional Extension Agent, Alabama Cooperative Extension System, Gadsden, AL, 35904

Extension’s mission on a national scale is to reach the people of our communities, providing excellence in educational programming while delivering research-based information to help people help themselves. While many program areas meet the needs of farmers, ranchers and homeowners, it is common for Extension to miss large audiences- often failing to reach those that are underserved, not just by Extension, but in the community as a whole. Together with many volunteers, Hunter McBrayer-Regional Extension Agent, Lori Wheeler-County Extension Coordinator and Eric Schavey-Regional Extension Agent were able to reach such a crowd. Beginning in Spring 2016, the DeKalb County , AL Extension office approached the DeKalb County ARC (Adult Retarded Citizens), hoping to develop a program or series that would reach these underserved clients-adults with severe limiting mental disabilities. What the Extension team was unaware of was how their hearts would be touched by these individuals with very unique and special abilities. The developing program resulted in 11 raised beds at 6 group homes, more than 25 ARC clients impacted, over 200 volunteer hours and a lifetime of memories; proving that team work can make things happen, particularly when the team encompasses a diverse group of individuals with many talents. This program has allowed ARC clients, those whom live full time in one of six group homes across the city of Fort Payne, AL to raise their own vegetables. With the guidance of Extension Professionals, Master Gardener Volunteers, and cooperation from the “home parents”, over 25 ARC clients learned the importance of exercise, healthy eating and the healing effects of getting their hands dirty. This project was made available by community partners in the area who supplied over \$2,000 worth of materials. Moreover, the lives of the Extension staff in Alabama have been touched-highlighting the benefits of from helping our fellow man. This project won the Governor’s Award for Service and Partnership.

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## **LEARNING LANDSCAPES: A VALUABLE TOOL FOR DEVELOPING SKILL SETS AND ADOPTING FLORIDA-FRIENDLY LANDSCAPING PRACTICES IN BAKER COUNTY**

Lamborn, A.R.\*<sup>1</sup>

<sup>1</sup> Extension Agent II, Horticulture, Florida Cooperative Extension, , Macclenny, FL, 32063

In rural Baker County, the lack of opportunities for outdoor education coupled with relatively high homeownership and acreage home sites have increased the demand for hands-on, experiential horticultural programming that helps individuals identify plants, make informed plant selection decisions, and develop skills needed to perform landscape maintenance tasks. After discovering the need for educational opportunities in the garden, I secured grant funding to establish the Baker County Arboretum and Gardens in 2011 which has continued development. The goal of my Learning Landscapes Program has been to provide education to home gardeners, Florida Master Gardeners, small farmers, and youth involved in 4-H and FFA by replacing classroom lessons with outdoor activities that aide in the adoption of Florida-Friendly Landscaping practices and development of plant identification and pruning skills. In the past three years, I have led garden tours, conducted demonstrations on proper planting, pruning, fertilizing and irrigation practices, guided hands-on activities involving pruning, drip irrigation, and landscape design, and taught plant identification. Program materials include presentations, study materials, and a dichotomous key which I developed. Of the 294 individuals utilizing the learning landscapes during this time, 175 reported learning Florida-Friendly Landscaping practices which they planned to adopt for their own home garden, 54 reported developing their tree identification skills, and 62 reported developing their pruning skills as a result of the respective program attended. Of the 52 individuals who responded to an online Florida-Friendly Landscaping survey emailed six months after the program, 86% (n=45) reported changing their landscape to make it more Florida-Friendly, many of which also reported reduced water use (67%), reduced fertilizer use (35%) and reduced pesticide use (31%) as a result of practices adopted. Individuals adopting efficient irrigation practices in Baker County (n=30) are now collectively saving an estimated 260,820 gallons per 1000 square feet of irrigated landscape or garden per year. For modest sized irrigated landscapes (~1/4 acre or 11,000 square feet), this potentially equates to 2,869,020 gallons valued annually at \$21,750 in local water bill savings, and is enough to supply water for an entire year to 32 households.

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## **WATERMELON PRODUCTION INFORMATION**

Price, T.\*<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University of Georgia, Adel, GA, 31620

Cook County, Georgia watermelon production comprised almost 8 million of Cook County's total 94 million dollar farm gate value in 2015. As is the case with most vegetable production, watermelon production is intense. Watermelon disease management is a major component of production and producers are bombarded by new fungicides each year; in addition to other products to enhance production and quality. On farm watermelon research and demonstrations are conducted at several locations throughout Georgia and data generated is a valuable resource to growers. This data is invaluable to Georgia watermelon producers, however local watermelon producers will give more relevance and credibility to data generated locally. Local on farm research and demonstrations that focus on watermelon disease suppression and fruit quality is needed for Cook County watermelon producers to base their management decisions. Information gathered from timely scouting of watermelon pest issues needs to be disseminated to local producers in order pro-actively manage the crop. Multiple programming and educational activities are needed to educate producers updated watermelon production practices. Information disseminated is to be generated by UGA Specialists and complimented by locally generated data. From 2014 – 2016, Cook County Extension Agent, Tucker Price implemented 9 local on farm research and demonstrations to investigating watermelon disease management strategies and fruit quality issues. Field growing condition information was gathered through field visits with growers, communication with consultants, and University of Georgia Specialists. Information gathered was disseminated to watermelon producers through 8 informal production meetings, 1 watermelon fungicide comparison field tour, 14 newsletters, 4 publications, 7 poster presentations, and 14 emailed Crop Updates/Newsletters. Watermelon producers were exposed to timely, unbiased, research based information generated regionally and locally from which to base their watermelon production decisions.

## **FRUIT AND VEGETABLE PRODUCTION SHORT COURSES**

Bell, Brandon\*<sup>1</sup>, Hildabrand, K.G.\*<sup>2</sup>

<sup>1</sup> Extension Agent for Agriculture and Natural Resources, University of Kentucky Cooperative Extension Service, Edmonton, KY, 42129

<sup>2</sup> Extension Agent for Horticulture, University of Kentucky Cooperative Extension Service, Bowling Green, KY, 42101

A five-session vegetable production short course was offered as a tri-county effort between Barren, Metcalfe, and Monroe

counties to assist farmers and market gardeners in growing a desirable product for local markets. Topics covered in the series included drip irrigation, fertility, structures, vegetable production practices, disease control, insects, marketing, food safety, and nutrition. The information presented at each session was based on extension research trials at the University of Kentucky Extension Horticulture unit, in the field, and on local farms. Sessions were taught by UK Extension Specialists, NRCS personnel or extension agents.

While most participants enrolled in this course were identified as beginning producers, input was collected from other more experienced growers. This opportunity allowed for future networking between growers in the three counties. Written surveys, following each session, revealed that growers gained new knowledge and skills on how to produce a higher quality product with increased yields. This improved bumper crop enabled them to stay in business and expand into other possible markets such as farmers markets, roadside stands, CSA's, restaurants, and direct sales from the farm. Due to the success of this course and the willingness of all participants to enroll in future programs, the Southern KY Vegetable Production series will serve as a base to build on in the future.

### **JACKSON COUNTY MASTER GARDENERS**

Hiller, M.R.\*<sup>1</sup>

<sup>1</sup> CEA-AG/NR JACKSON CO., , Edna, TX, 77957

Home landscapes, turfgrass, and fruit & vegetable gardening are important to the quality of life of citizens of Jackson County. Many people enjoy managing home gardens and landscapes. These outdoor activities not only add to the quality of life but also maintain and improve property values. The Jackson County AgriLife Extension Master Gardeners work together to conduct educational programs and demonstrations. They show the people of the county their Texana Educational Gardens how to benefit with gardening.

### **WSU OUTREACH PROGRAMS ON INSECT PESTS**

Murray, T.\*<sup>1</sup>

<sup>1</sup> , Washington State University Extension, Pullman, WA, 98648

Yearly economic impact of invasive species in the United States is estimated at \$133.6 billion. In a time of world trade and global movement of people and products, hitchhiking pests are becoming more and more common. There is an estimated 32% risk that a wood-boring insect more damaging than the Emerald Ash Borer will be introduced into the U.S. in the next ten years. Early detection of newly introduced pests is paramount for reducing impact and costs to Washington's agricultural and natural resources. I have developed, delivered and evaluated the effectiveness of WSU Extension clientele

base as function of detecting newly introduced insect pests. I have leveraged key partnerships with Washington State and Federal Agencies to guide WSU Extension's outreach efforts.

Key outputs that I have recently established, include: the development of the "Pest Watch" factsheet series with six completed extension bulletins and ten additional products in queue, four professional journal articles, an annual conference of on invasive species and exotic pests, curricula for WSU's Pesticide Education Program and Master Gardener Program, a listserv to disseminate alerts and news to over 400 pest managers, and content regularly delivered to agriculture, natural resource professional and green industry conferences. I provide organizational and content leadership to the Exotic Pest/First Detector Team, a team consisting of twelve professionals from three academic departments and two state agencies. I have secured over \$88,000 from USDA APHIS to deliver first detector outreach in the past three years. I have measured knowledge gain and intent to submit suspicious pests from WSU clientele. In a recent coauthored publication, I have revealed that 23% of all new insect records in Washington State from the past 20 years have been initiated by WSU Extension clientele because of our outreach programs.

## **Search for Excellence in Livestock Production National Winner**

### **TEACHING CATTLE PRODUCERS CURRENT ISSUES AND PRODUCTION PRACTICES**

Fisher, Jeff\*<sup>1</sup>, Moore, Jeff\*<sup>2</sup>, Dugan, David\*<sup>3</sup>, Grimes, John\*<sup>4</sup>, Bergefurd, Brad\*<sup>5</sup>, Apsley, Dave\*<sup>6</sup>, Bowen, Jess\*<sup>7</sup>

<sup>1</sup> Extension Educator, Ohio State University Extension, Piketon, OH, 45661

<sup>2</sup> Extension Agent, OSU Extension, Gallipolis, Oh, 45631

<sup>3</sup> Extension Educator, Ohio State University Extension, West Union, OH, 45693

<sup>4</sup> Extension Beef Programs Coordinator, Ohio State University Extension, Piketon, OH, 45661

<sup>5</sup> Extension Educator, Ohio State University Extension, Portsmouth, OH, 45662

<sup>6</sup> Natural Resources Specialist, Ohio State University Extension, Jackson, OH, 45640

<sup>7</sup> Extension Educator, Ohio State University Extension, McArthur, OH, 45651

Beef cattle production in the Ohio State University Extension's Ohio Valley Extension Education and Research Area (EERA) is one of the leading agricultural industries. OSU Extension Educators have partnered with the Ohio Agricultural Research and Development Center (OARDC) in

Jackson, Ohio since 2011 to delivery annual educational field night programs. Evaluation data and participant feedback helps direct the subsequent year's program content. This application focuses on the most recent three programs. Each year the educators meet to plan the annual event. The educational objectives are to provide information that will improve farm profitability through a variety of management practices. These field night programs were designed using a variety of teaching and learning methods. Each annual program consisted of lectures, small group discussions, demonstrations, walking research plots, and a period for question and answers with the participants and presenters. Participants were shuttled to 3 or 4 stations on open wagons where they could disembark and see first-hand the principles demonstrated. Incorporating several teaching methods provided participants, with different learning styles, an opportunity to find something that worked for them. Each year a program evaluation was conducted. The learning objectives were identified and converted to learning statements used in a retrospective pre/post-test using a six point Likert scale. Knowledge gain averaged 1.70 in 2014, 1.68 in 2015, and 1.43 in 2016. Information was also collected on what participants thought they learned, what they would like to see improved, what topics they could identify for future years, and some media and frequency questions. After five years of continued growth, we experienced some challenges in 2016 in terms of group size. We are planning on finding ways to better accommodate the size of the group. Because of the open field and barn locations, larger groups are reducing the presenter interaction with the participants and the learning environment shifted from a demonstration to a field lecture.

## National Finalists

### HELPING THE SWINE INDUSTRY IMPROVE ANIMAL WELLBEING AND FOOD SAFETY

Stender, D.\*<sup>1</sup>

<sup>1</sup> Swine Field Specialist, Iowa State University, Cherokee, IA, 51012

Swine producers are now required to document their animal's wellbeing to prepare for coming packer audits. The new audit tool, Common Swine Industry audit (CSIA) was developed because independent packer audit systems were duplicative, costly, and inefficient. A uniform, credible audit tool is an affordable solution for improving animal well-being and food safety. The primary concern Iowa producers have with the new audit platform is their ability to address the comprehensive audit platform's requirements (i.e. 92 questions covering 27 areas, 10 customizable Standard Operating Procedures (SOPs), a welfare policy statement, and reporting mechanism). A workshop was developed, the potential audience identified, publicity materials written and invitations to the workshops delivered. Collaboration with the Iowa Pork Producers Association (IPPA) helped fund the workshops. Thirty-seven workshops were held in Northwest Iowa for 752

producers. Several pork producers told me they were going to quit producing swine without this workshop, because they didn't have the knowledge or ability to meet the demands of developing this CSIA without the help. This program enabled Iowa pork producers to have an improved confidence in successfully passing a common swine audit. Collectively, 99.7 % of respondents reported new knowledge gained from the workshop and 86% are at least somewhat confident they can now pass the audit with minimal non-compliance issues. Common audit compliance is critical for the prevention of disruptions to the marketing of pig flows for producers and integrated production systems. This program also provided industry relevant animal welfare knowledge that is being utilized by producers to continue strengthening their commitment to animal welfare and well-being. Additionally, food safety areas in the audit help assure a continued safe pork supply. Handling livestock humanely and ensuring safe quality of food starting at the farm level are concerns important to consumers as well as to livestock producers. The common swine industry audit workshops are improving producers' ability to comply with the new audit platform which helps work toward addressing consumers' wishes for safe food and quality animal welfare.

### WESTERN MARYLAND PASTURE-BASED MEAT GOAT PERFORMANCE TEST

Schoenian, S.\*<sup>1</sup>, Gordon, D.\*<sup>2</sup>, Semler, J.\*<sup>3</sup>, Bennett, M.\*<sup>4</sup>, Dahlia O'Brien\*<sup>5</sup>

<sup>1</sup> Sheep & Goat Specialist, University of Maryland Extension, Keedysville, MD, 21756

<sup>2</sup> Extension Educator-Montgomery County, University of Maryland Extension, Derwood, MD,

<sup>3</sup> Extension Educator-Washington County, University of Maryland, Boonsboro, MD,

<sup>4</sup> Extension Agent-Berkeley County, West Virginia University Extension, Martinsburg, WV,

<sup>5</sup> Small Ruminant Specialist, Virginia State University, Petersburg, VA,

The US meat goat industry has grown significantly in recent decades, but lags behind other livestock industries in the use of performance testing. The Western Maryland Pasture-Based Meat Goat Performance Test was initiated in 2006 at the University of Maryland's Western Maryland Research & Education Center in Keedysville. The purpose of the test was to identify genetically-superior meat goat bucks, especially those which exhibited resistance and resilience to internal parasites. Since 2006, 736 bucklings, of various breeds and crosses, have been evaluated. One hundred producers from 20 states have consigned. Participation was highest in the last three years, with 48 consigners from 20 states nominating 337 bucks. Bi-weekly progress reports, summaries, and other information and data were shared via a blog (<https://mdgoatstest.blogspot.com>), which has 190,451 cumulative page views; 118,031 in the past three years. Many other programs were held in conjunction

with the test, including sales, field days, skillathons, and carcass evaluation. Each year, top-performing bucks were identified and sold or retained for breeding, with 86% of consigners using the genetics from top-performing bucks in their breeding programs. Many more producers used the genetics from top-performing bucks by purchasing breeding stock and/or semen from consigners. Per survey data, consigning to the Maryland test improves the reputation of participating herds (80%), increases the demand and selling price for breeding stock (66-72%), and enables the sale of semen from top-performers (38%). The test enabled participating producers to develop more parasite resistant herds (76%), improve the health and performance of their herds (73%), and improve their knowledge of parasite control (80%). The Western Maryland Pasture-Based Meat Goat Performance Test has provided economic value to producers (71%), while contributing to the genetic improvement of the meat goat industry and serving as a valuable resource to producers.

### **DELIVERING A FALL CATTLE PRODUCTION SERIES IN RURAL LOCATIONS IN NORTHEAST ALABAMA**

Marks, M.L.\*<sup>1</sup>, Gladney, J. B.\*<sup>2</sup>, Kriese-Anderson, L. A.\*<sup>3</sup>, Miller, D. S.\*<sup>4</sup>, Mullenix, M. K.\*<sup>5</sup>, Stanford, M. K.\*<sup>6</sup>

<sup>1</sup> Regional Extension Agent, Alabama Cooperative Extension System, Centre, AL, 35960

<sup>2</sup> Regional Extension Agent, Alabama Cooperative Extension System, Tuscaloosa, AL, 35401

<sup>3</sup> Extension Beef Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

<sup>4</sup> County Extension Coordinator, Alabama Cooperative Extension System, Centre, AL, 35960

<sup>5</sup> Extension Beef Specialist, Alabama Cooperative Extension System, Auburn University, AL, 36849

<sup>6</sup> Extension Specialist, Alabama Cooperative Extension System, Crossville, AL, 35962

The purpose of this beef cattle production series was to deliver specific management topics in rural communities where Extension programs are not typically held in Northeast, AL. Meeting locations were identified by working with County Extension Coordinators, town and city mayors, county cattlemen's associations, and community centers. The series was delivered in the fall 2015 in four counties (n =3 programs per county for a total of 12 programs) from August to December. Topics included heifer development; crossbreeding; bull selection; winter feeding; baleage and haylage; reproduction; alfalfa production; and assessing pasture persistence. In order to deliver 12 programs in 4 months, most of the programs were delivered by the lead Animal Science and Forage Regional Extension agent in this area. Extension specialists were brought in to cover Winter Feeding and Crossbreeding. Additionally, a fellow Animal Science and Forage Regional agent was brought in to deliver the Baleage and Haylage program.

Multiple educational methods were employed knowing producers learn in different ways. These activities included: PowerPoint presentations, group activities, electronic clicker devices, producer panel discussions, reference publications, and demonstrations through video and hands-on approaches. The objective of this series was not to generate large crowds of producers at each event, but to deliver very specific topics in historically unreached rural communities. Results from survey data from this series indicate that this objective was achieved and information was well received by stakeholders. Total participation in the series was 143 producers, averaging 12 attendees per meeting. The total economic impact assigned by producers based on knowledge gained totaled \$642,825.00 with an average impact per producer of \$4,495.28. Producers were asked how many acres and cattle would be impacted by the knowledge gained in each program which totaled 39,765 acres and 11,352 cattle. Producers were also asked to indicate their knowledge before and after the program and an average of 1.56 (1-5 scale) increase was noted across all 12 programs. The increase in knowledge by producers is a valuable indicator of program success and effectiveness.

## **State Winners**

### **ARTIFICIAL INSEMINATION PROGRAM HOSTED BY MARATHON AND TAYLOR COUNTY UW-EXTENSION**

Schlesser, H.\*<sup>1</sup>, Stuttgen\*<sup>2</sup>

<sup>1</sup> Agriculture Agent, UW-Extension, Wausau, WI, 54403

<sup>2</sup> Agriculture Agent, UW-Extension, Med, ,

The program that I would like to have considered for a search for excellence award is the artificial insemination program that has been hosted by Marathon and Taylor County UW-Extension offices. This program is offered to beef and dairy producers with the goal of teaching them how to breed their own cattle. Two classes were held in 2015 and two classes in 2016, with a total of 60 participants so far. Participants of this course are evaluated on their ability to pass an insemination gun through the cervix of an excised reproductive tract, their ability to remove semen from the semen tank, and their ability to properly place the insemination gun in the reproductive tract of a live animal. Long-term evaluation of both 2015 classes and the first 2016 class show that participants have been able to reduce their bull ownership numbers and to breed their own cattle. To date 107 animals have been bred by past participants of these courses.

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## **PERRY COUNTY'S PERCEPTION OF A GRAZING SEASON**

Bocksnick, J.\*<sup>1</sup>, Kenny Simon\*<sup>2</sup>

<sup>1</sup> 4-H Outdoor Skills Coordinator, UACES, Little Rock, AR, 72204

<sup>2</sup> Program Associate - Forages, UACES, Little Rock, AR, 72204

Perry County's perception of a grazing season was to graze warm season grasses while trying to also use them to feed cattle all winter long via bales of hay. This project focused on changing that perception while demonstrating that cool season forages could be used to extend the grazing season, reduce feeding costs, reduce equipment costs, and most importantly save the producer time which allowed those producers to utilize that time more efficiently. This program also helped re-establish the importance of the extension service in the county to the clientele. Social Media was extensively used throughout the process as well and recognized statewide by not only clientele but peers as well helping reach never reached audiences.

Not only has the perception changed of grazing seasons but also of the relevance of extension to the agriculture community in Perry County. The on-farm demonstrations have served their purpose of showing local producers that extension recommended practices are not only relevant but successful as another option in their livestock programs. Local producers have adopted the methods demonstrated, shown saved hours, saved money, and even increased the quality of feed that their animals are consuming.

This program used multiple varieties of forages, electric fencing options and technology, herbicide programs, spray technology, hay programs, and fully automated feeders. These programs were delivered via field days, consultations, and advertised programs while partnering with other agriculture organizations such as NRCS, ANRC, Conservation District, Cattlemen's, and Farm Bureau. This also help rebuild and repair non-existent or poor relationships with these organizations.

## **LUNCH & LEARN CATTLEMEN'S SERIES**

Fenneman, D.K.\*<sup>1</sup>

<sup>1</sup> Extension Agent II - Agriculture, , Madison, FL, 32340

With the current trend in downward prices, livestock producers need current research-based information to increase their chances of maintaining sustainability. In Madison County, Florida and the surrounding counties there are approximately 135,000 head of cattle. Many of these producers buy and sell cattle at the local livestock market in Madison. These same livestock producers may or may not attend educational events hosted by local Extension agents. To reach a broader cliental group, this agent teamed with the local livestock market

to provide Educational trainings during lunch on sale days during the last sale of the month. The Agent consulted with the market owners and various other livestock producers to develop a seasonally related topic agenda for these meetings. Extension Specialists from the University of Florida and industry representatives were invited to share their knowledge through a venue of open-discussion and question & answer sessions. Topics included: pasture fertilization, forage varieties, weed control, livestock nutrition, bull selection/genetics herd health and economics. A sponsored lunch was provided for all participants free of charge and was served in the sale arena, where the program is held. In 2015, the first five-part/monthly series, was attended by a total of 217 producers. 2016 saw 231 producers attend the six-part series. This year's (2017) program will be six sessions again, three in the spring and three in the fall. Post session interview surveys were conducted after the program due to the time constraints of the sale. Seventy-two participants (n=72) were interviewed during the past two years. Respondents indicated 86% (n=63) increase in knowledge gained from the various sessions, 78% (n=57) plan to make changes to their operations. Overall, 100% (n=72) indicated the open-discussion/question & answer format was a valuable learning experience.

## **SOUTHERN WOMEN IN AGRICULTURE: A HANDS-ON BASIC TRAINING**

Knight, C.\*<sup>1</sup>, Butcher, S.R.\*<sup>2</sup>, Cheely, T.W.\*<sup>3</sup>, Hammond, K.\*<sup>4</sup>, Ray, L.\*<sup>5</sup>, Sapp, P.\*<sup>6</sup>

<sup>1</sup> County Extension Agent, University of Georgia, Statesboro, GA, 30458

<sup>2</sup> County Extension Agent, University of Georgia, Newnan, GA, 30263

<sup>3</sup> County Extension Agent, University of Georgia, Warrenton, GA, 30828

<sup>4</sup> County Extension Agent, University of Georgia, Trenton, GA, 30752

<sup>5</sup> County Extension Agent, University of Georgia, Madison, GA, 30605

<sup>6</sup> 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 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. It is designed to give females interested or involved in ag an opportunity to gain hands-on experience in agriculture, more specifically cattle production. Two workshops have been held one in Athens,

which is in northeast Georgia, and one in Calhoun, which is in northwest Georgia. Participants were charged a \$30 registration fee, which covered the workshop, lunch, and a goodie bag. During the workshop participants rotated to six sessions including fencing (temporary and permanent), tractors (safety, driving and servicing), farm implements (no-till drill, calibrating a sprayer), trucks and trailers (gooseneck and bumper pulls), cattle handling (low-stress handling, chutes), and animal health (injections, needle selection). Each of these sessions were planned and taught by female UGA Extension Agents from all over the state of Georgia. Thirty-three women representing 15 counties in Georgia and South Carolina attended the Athens workshop. Thirty-eight women representing 17 counties in Georgia, North Carolina and Tennessee attended the Calhoun workshop. Participation was limited in order to maintain 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, participants increased their comfort level in all subject areas. Participants expressed their enjoyment and comfort of having a class that was only women. Six month follow up evaluations indicated that the participants' ag operations had saved money due to their increased labor contributions on the farm.

### **CAPE FEAR REGIONAL CATTLE CONFERENCE**

Spearman, B.\*<sup>1</sup>, Chavis, T. B.\*<sup>2</sup>, Greene, P.C.\*<sup>3</sup>, Lahti, L.K.\*<sup>4</sup>, Wood, R.B.\*<sup>5</sup>

<sup>1</sup> Extension Livestock Agent, NC Cooperative Extension, Elizabethtown, NC, 28337

<sup>2</sup> Extension Agent-Livestock, Robeson County, Lumberton, NC, 28360

<sup>3</sup> Extension Agent-Livestock, Columbus County, Whiteville, NC, 28472

<sup>4</sup> Extension Agent-Livestock, Cumberland and Hoke Counties, Fayetteville, NC, 28306

<sup>5</sup> Extension Agent-Livestock, Scotland County, Laurinburg, NC, 28352

North Carolina Cooperative Extension in six Southeastern counties recognized a need for an annual regional cattle conference. The cattle industry is widely recognized as a profit sector in eastern North Carolina. Realizing the need to stay abreast of current topics and to hear from industry experts, the Cape Fear Cattle Conference was created in 2010. 2017 was our eighth annual conference. The program starts at 4pm usually on a Tuesday in mid to late January. We have expert speakers on a variety of topics each year, vendors set up booths so producers can interact with the sponsors, and there is time for farmers to talk with each other. Door prizes are given out at each conference. Topics are based on the previous evaluations.

Evaluations are given at the end of the conference. Questions include did you learn new ideas, will you make changes on your farm and will the things you learned make your farm more profitable. We also ask if they attended the previous year and if they made changes and/or increased profit. Evaluations also ask what did you like best about the conference, what did you like least about the conference, topics you would like to hear in the future and other comments.

For the 2015, 2016, and 2017 conferences, an average of 66 farmers attended and 48 of those turned in evaluations. 96% said they were satisfied or very satisfied with the overall quality of the conference, 93% learned new ideas, 95% said they will use the knowledge obtained to make decisions or changes on their farm, and 92% said the sessions will make their operation more profitable. On average, 18 participants attended the year before and said they had made changes on their farm and it resulted in a total of \$17,450 profit or savings due to implementing the changes.

### **MEAT GOAT BOOT CAMP 2.0**

Jones, J.\*<sup>1</sup>, McDaniel, J.T.\*<sup>2</sup>, Freking, B.M.\*<sup>3</sup>, Whitworth, B.D.\*<sup>4</sup>

<sup>1</sup> Area Agricultural Economics Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>2</sup> Pontotoc County Ag Educator, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>3</sup> Area Animal Science Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>4</sup> Area Food Animal Quality and Health Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

Meat goat production has been a very rapidly rising agricultural enterprise in Oklahoma and the U.S. This increased popularity was the cause for the creation of the Oklahoma Meat Goat Boot Camp in 2007. After 10 years, 12 camps and numerous requests from camp participants, OSU created an advanced meat goat boot camp called Meat Goat Boot Camp 2.0.

Camp 2.0 was designed using the same principles that made the original camp such a huge success. It is a 3-day workshop that combines hands-on demonstrations with live goats, computer programs for goat producers using a computer lab, classroom style presentations and group exercises. Examples of topics covered during the camp are: how to assist with birthing, how to disbud, corral setup and working demonstration, risk management, keeping financial records with Quicken, keeping production records with spreadsheets, keep/cull class, using web soil survey, artificial insemination basics, synchronization protocols, laparoscopic artificial insemination, transvaginal artificial insemination, buck collection and testing, fencing options, warm and cool season forages, determining nutritional needs using OSU ration balancing program and a working dog demonstration.

Forty-one producers from 8 states attended the camp. Results from the pre-test, posttest and evaluations showed that there was an increase in knowledge gained of 14.3% with the largest increase coming in the areas of financial risk management (54.5%), general herd management (47.5%) and record keeping (26.2%). Planned adoption rates were positive for each subject area taught during the camp with an average adoption rate of 37.2%. The largest planned adoption rates were in the areas of ration balancing (43.9%), production record keeping (42.2%), and using different forages (39.3%). Producers also indicated that the education received has a perceived value of \$347,222.

Overall the first Meat Goat Boot Camp 2.0 was a large success. Several participants asked to have a level three camp. Intentions are to continue this camp into the future.

### **SOUTH TEXAS BEEF CATTLE PROFITABILITY**

Mercado, R.\*

County Extension Agent-ANR, Jim Wells County, Alice, Texas 78332

In 2014, Jim Wells County beef cattle producers were recovering from a severe, multiyear drought that had caused excessive financial losses, loss of forage, reduced wildlife populations and destocking of beef cattle herds. In consulting with producers and other groups, eight areas were identified for education and training. These were selection of replacements, rangeland recovery, grazing management, herd health, reproductive efficiency, cattle selection and development, wildlife management, and improving the value of calves and culls. A three-year program of nine major activities to address each of these topics in-depth was begun and attended by 371 participants. A variety of traditional teaching methods including email, newsletters, field days, seminars and result demonstrations were used. Hands on activities in calf working, pregnancy determination, cull/keep classes, range plant identification, weed and brush control, wildlife habitat, quail anatomy, feeder and fed cattle grading and carcass fabrication were also included. Social media such as Facebook and development of a version of the Texas Beef Quality Assurance video in which I described BQA principles and practices in Spanish were used. Evaluation results from all events indicated a very high level of knowledge acquired and a high potential for adoption. The Quail Appreciation Day attendees increased their knowledge by 49% while in the Ranch Clinics and Field Days, 100% were completely satisfied with the educational event. 80-89% planned on adopting one or more practices. Attendees of the Beef 706 program had a 260% increase in knowledge and 90% planned on adopting one or more recommended practices. Economic impact was measured in three programs. Attendees at the Quail Training represented over 250,000 acres and indicated a \$1,750,000 economic impact. Attendees at the BQA training estimated a onetime impact of \$20,000 while the Beef 706 attendees

reported a \$1,090,000 impact. At the end of three years, the economic impact of these programs totaled over \$2.8 million.

### **INNOVATIVE PROGRAMMING WITH A PRACTICAL TWIST-THE BOVINE CONNECTION**

Becker, W.\*<sup>1</sup>, Buck, C.\*<sup>2</sup>, Chilson, J.\*<sup>3</sup>, Fine, T.\*<sup>4</sup>, Steinhoff, D.\*<sup>5</sup>

<sup>1</sup> Agent, Montana State University, Poplar, MT, 59255

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<sup>3</sup> Extension Agent, Montana State University, Culbertson, MT, 59218

<sup>4</sup> Extension Agent, Montana State University, Sidney, MT, 59270

<sup>5</sup> Extension Agent, North Dakota State University, Williston, ND, 58802

Innovative Programming with a Practical Twist-The Bovine Connection was offered as an educational program for area producers to inform them of upcoming changes and challenges in the livestock industry that will help them increase profitability of their operations. The focus of this well-rounded program also allowed agri-businesses to engage with producers. Producers learned how to make strategic culling decisions and improve their cowherd genetics, and about how the impending veterinary feed directive will impact their needs and veterinary-client relationship. Emphasis was also given on reading feed and medicine labels and record keeping to be good stewards of the cowherd. New value-added cuts showcased what is on the forefront of the meat industry. The new "bonanza cut" was discussed and demonstrated. Participants also learned about production efficiency with fetal programming and the importance of keeping mineral nutrition consistent. Finally, ranchers learned about the strategies to increase profitability-the three secrets to increasing profit: decrease overhead, increase gross margin, and increase turnover. Over 70 people participated and were mainly cow/calf operators with 150-500 head. Evaluation indicated that they would like to see this program continue. All participants will likely use some information provided for future decision making on their ranchers to decrease the bottom line and increase profitability. Finally, all of the programs provided at the Bovine Connection appealed to all of the participants, so all of the subjects touched on were useful and timely. With the deadline fast approaching for the Veterinary Feed Directive-being well informed is crucial. An increase in the value-added cuts showcase also showed what beef check-off dollars has pursued in terms of turning education and research dollars into higher dollar meat cuts. This can highly impact the rancher's bottom line.

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# Search for Excellence in Young, Beginning, or Small Farmers/Ranchers

## National Winner

### APPLIED RESEARCH PROJECTS AND MULTIFACETED EXTENSION PROGRAMS OFFERED TO HELP SMALL-SCALE “SUPER FRUIT” PRODUCERS TURN “SUPER BIG PROFITS” IN OHIO

Gao, G.Y.\*<sup>1</sup>

<sup>1</sup> Extension Specialist and Associate Professor, Ohio State University South Centers, Piketon, OH, 45661

There is a strong demand for information on small-scale production of “super fruits” such as Aronia, blueberries, brambles (blackberries and raspberries), elderberries, goji berries, and wine grapes in Ohio. Key educational programs offered were “Ohio Super Berry and Wine Grape Workshop” “Southern Ohio Super Berry and Wine Grape Field Night,” “Ohio Grape and Wine Conference,” “Ohio Grape and Wine Analysis Workshop” and multiple research field days at OSU South Centers. We focused on many aspects of fruit production, such as site and cultivar selection, nutrient management, pest identification management, and nuisance wildlife management. The combined attendance for these educational programs and field days was at least 950. Our educational programs have reached growers with a collective acreage of at least 1,200 acres, and potentially 200 acres in new plantings. Our Ohio Fruit and Vegetable News delivered up-to-date fruit production information to more than 1,000 growers. My Super berry Facebook page reached more than 300 people. Our press releases reached at least 500,000. My statewide presentations reached more than 1,000 during the last three years. I edited and co-authored a Midwest Home Fruit Production Guide. More than 5,000 copies have been sold. Our third printing will be released in March, 2017. I also helped with the revision of the Midwest Fruit Pest Management Guide. At least 2,000 copies of this bulletin were sold in 2016. I am also a regular contributor to the American Fruit Growers magazine and had 9 articles published on various issues that young, beginning and small-scale farmers face. My 65 farm visits have helped farmers save at least \$400,000 through frost prevention, pest diagnostics, fertilizer recommendation, water management, and prevention of nuisance wildlife damage. The economic impact of the new blackberry planting of 50 acres using rotatable cross arm trellis system in Ohio is estimated to be \$2,225,000. My Aronia, blueberry, brambles, elderberry, goji berry and wine grape research and extension programs were funded by Ohio Grape Industries Program, Ohio Department of Agriculture and USDA in the amount of \$570,000.

## National Finalists

### FARMING: PENCIL TO PLOW

Flores, J.L.\*<sup>1</sup>, Giordano, J.\*<sup>2</sup>

<sup>1</sup> Senior Agent Associate, Agriculture, University of Maryland Extension, Snow Hill, MD, 21863

<sup>2</sup> NxLevel Instructor, Consulting, Training, and Development Services, Salisbury, MD, 21801

Farming: Pencil to Plow is an eight (8) week entrepreneurial training course designed for aspiring small farmers and those producers interested in diversifying their operation. This course is designed for aspiring agriculture entrepreneurs, providing guidance those individuals to start and continue a successful farm business.

Course material includes:

- Learning components of a business plan
- Learning why, how, and where to do agricultural market research
- Becoming aware of government regulations facing small farmers and identifying compliance resources.
- Understanding the importance of budgeting
- Discussing cash flow projections
- Reviewing content and purpose of Income Statements and Balance Sheets

Course curriculum is supplemented by presentations given by experts in the agriculture field, representatives of the University of Maryland Extension and other local agencies on specific agriculture components that are key to enhancing successful farming. Small class sizes are maintained as discussion, interaction, and active participation is encouraged. Many participants have farm production experience but little to no business experience.

Through the 2016 class, upon completing the course business knowledge gained from graduates included:

- Of farm regulations and policies, 50% gained a lot of new knowledge with 40% gained an average amount of new knowledge,
- Pertaining to marketing a farm business, 80% gained a lot of new knowledge with 20% gaining an average amount of new knowledge.
- 95% of graduates gain a lot of new knowledge in writing a farm business plan.

With new knowledge gained, the participants intended business actions include:

- 90% very likely to start their farm business,
- 85% very likely to develop farm financial statements and enterprise budgets, with an additional 10% somewhat likely to do so.

Since its beginning, 40 participants have graduated Farming: Pencil to Plow. Class participants have attended from 9 counties in Maryland and 3 states!

Participants who complete this training course will have a prepared business plan to present to potential lending sources and a certificate of completion issued by NxLevel a nationally recognized entrepreneurship training provider.

## **NC FARM SCHOOL**

Cutting, D.M.\*<sup>1</sup>, Albertson, A.\*<sup>2</sup>, Brennan, M.\*<sup>3</sup>, Worden, L.\*<sup>4</sup>, Taylor, A.\*<sup>5</sup>, Jones, P.\*<sup>6</sup>, Bullen, G.\*<sup>7</sup>, Birdsell, T.\*<sup>8</sup>, Kelly, S.\*<sup>9</sup>, Mitchell, C.\*<sup>10</sup>, Duncan, L.\*<sup>11</sup>

<sup>1</sup> Extension Agent, NC Cooperative Extension, Salisbury, NC, 28146

<sup>2</sup> Rowan County Extension Director, NC Cooperative Extension, Salisbury, NC, 28146

<sup>3</sup> Horticulture Agent, NC Cooperative Extension, Winston Salem, NC, 27105

<sup>4</sup> Area Agent, NC Cooperative Extension, Dallas, NC, 28034

<sup>5</sup> Area Greenhouse Agent, NC Cooperative Extension, Morganton, NC, 28655

<sup>6</sup> Horticulture Agent, NC Cooperative Extension, Mocksville, NC, 27028

<sup>7</sup> Agriculture Business Specialist, NC State University, Raleigh, NC, 27695

<sup>8</sup> Horticulture Agent, NC Cooperative Extension, Jefferson, NC, 28640

<sup>9</sup> Extension Director- Richmond, NC Cooperative Extension, Rockingham, NC, 28379

<sup>10</sup> Extension Director- Franklin, NC Cooperative Extension, Louisburg, NC, 27549

<sup>11</sup> Horticulture Agent, NC Cooperative Extension, Concord, NC, 28027

North Carolina Agriculture is an \$84 billion dollar industry, but with the rising age of farmers, a new generation of farmers will need to take their place to sustain the industry. To assist in the creation of farm stewards, the NC Farm School was created. The NC Farm School program is a seven-month course that teaches new and transitioning farmers, business tools to make their farms sustainably profitable. Sustainably profitable defined by the NC Farm School team means: “that the participants can farm, keep their lights on and pay themselves a decent wage.” The program is now in its sixth year and has had over 300 participants complete the program in seven different locations across the state.

Classes are taught by Extension agents, specialists, and experienced farmers. There are two classes per month, one business class and a farm field day visit with profitable growers who share their business knowledge. For NC Farm School participants to graduate, they must attend 80% of the business classes and finish 50% of their business plan including financial budgets. The business courses guide students through taking inventory, enterprise budgets, financial management, record keeping, marketing, and risk management. To help participants understand the information example scenarios are given to the students to work through in groups. Also, one on one consultation is provided by the specialists and their local agents. At the beginning and the end of every session, surveys are collected to evaluate pre and post knowledge of the class topics. The next sessions are structured to aid students in better understanding areas that were confusing in the previous session. Evaluations of the NC Farm School program showed 97% of participants were able to avoid financial mistakes, 70% found new markets to sell their products, and 45% stated they would start a farm within three years.

The success and demand for NC Farm School have led to new locations starting every year. To continue progress past graduates have become farm mentors, and the NC Farm School teams have provided advanced classes such as farm tax updates, production workshops, and estate planning.

## **OKLAHOMA MEAT GOAT BOOT CAMP**

Jones, J.\*<sup>1</sup>, McDaniel, J.T.\*<sup>2</sup>, Freking, B.M.\*<sup>3</sup>, Pugh, B.C.\*<sup>4</sup>, Whitworth, B.D.\*<sup>5</sup>

<sup>1</sup> Area Agricultural Economics Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>2</sup> Pontotoc County Extension Educator, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>3</sup> Area Animal Science Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

<sup>4</sup> Area Agronomy Specialist, Oklahoma Cooperative Extension Service, Muskogee, OK, 74401

<sup>5</sup> Area Food Animal Quality and Health Specialist, Oklahoma Cooperative Extension Service, Ada, OK, 74820

Meat goat production has become a rapidly expanding livestock enterprise in Oklahoma and the U.S. Oklahoma now ranks third in total number of meat goats for the U.S. With this growth in meat goat operations have come new educational opportunities. Many producers interested in meat goat production have had little or no experience in agricultural production. The average goat operation is around 50 goats with annual sales of less than \$100,000. Even those producers with general livestock production skills have found it difficult to adapt to the differing production needs of a meat goat operation. Therefore, the Oklahoma Meat Goat Boot Camp was created. This program is a three-day camp that combines hands-on activities, class room presentations and exercises,

and traditional power point presentations. Producers attending not only have the opportunity to learn how to perform certain production practices, but also have the opportunity to practice these production practices demonstrated on live goats as many times as they feel necessary. Production methods taught and demonstrated include ear tagging, hoof trimming, castrating, herd health practices, kidding, neonatal care, FAMACHA, fecal egg counts, forage management, ration balancing, forage testing, reproduction, pregnancy detection and business management.

The response to the workshops has been outstanding, not only in Oklahoma but across the U.S. In 2014, 2015 and 2016 one hundred and fifty-six producers from ten states have completed the boot camp. Evaluations have showed a favorable response to the workshop with producers wanting more education. Pre and Post tests have shown an overall increase in knowledge of 32.6%. Producers have also indicated that the education received has a perceived value of \$425,408 per boot camp.

## State Winners

### UF/IFAS EXTENSION ANNUAL SMALL RUMINANT PRODUCTION CONFERENCE

Bosques, J.\*<sup>1</sup>, Bosques, J.\*<sup>2</sup>

<sup>1</sup> County Extension Agent, Agriculture, UF/IFAS, Wauchula, FL, 33873

<sup>2</sup> County Extension Agriculture Agent, UF/IFAS Extension Hardee County, Wauchula, FL, 33873

The annual Small Ruminant Production conference is an ongoing program conducted by the Central Florida Livestock Agent's Group. This program has been offered by the CFLAG for five years and has positively impacted more than 245 sheep and goat producers in Florida and other States. Topics from this meeting are chosen based on needs identified by the agents as well as program evaluation results from previous conferences. Every year the program offers a broad range of lectures and demonstrations related to sheep and goat production in Florida. Some of the topics discussed in these conferences include basic nutrition for sheep and goats, marketing options, common diseases, parasite management strategies, predator control, forage options, multi-species grazing alternatives and financial decision making. Hands-on demonstrations are part of the program as well. Participants experienced appropriate fence construction, small ruminant carcass preparation, corrective and maintenance hoof trimming and the use of the FAMACHA® card to evaluate parasite loads in their herds and flocks. Video recordings have extended the reach to many more producers in Florida and throughout the world. These recordings are available on the web at: <http://cflag.ifas.ufl.edu/SmRuminantProdConf.shtml>. There are 25 videos

recorded in three years equaling 756:06 minutes of educational time. Past programs have been accompanied by field visits, fence-building exercises and producer roundtables. Some of these experiences have been recorded as well. Results from these program have benefited sheep and goat producers in Florida saving them considerable amounts of money and increasing production efficiency by correctly allocating resources. Sixty nine (n=169 of 245) program participants stated that they would incorporate sound management practices learned after attending the Small Ruminant Production conferences such as the routine use of FAMACHA® cards to assess parasite loads and anemia in their herds, culling problem animals and appropriate stocking rates, pasture rotation considerations, and many other practices. These changes have positively impacted the finances of sheep and goat producers while at the same time reducing their environmental impact, and contributing to the security of their local economies.

### HIGH TUNNEL VEGETABLE PRODUCTION FIELD DAY

Sheffield, M.\*<sup>1</sup>

<sup>1</sup> County Extension Agent, University of Georgia, Dallas, GA, 30132

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. Small and beginning farmers are looking for farming practices that will help increase their yield on small acreage and allow them to increase their growing season. The agent organized a field day to help farmers and prospective farmers learn more about the use of High Tunnels for growing vegetables. Participants learned about topics ranging from farm business planning, cover crop usage, high tunnel growing practices, micro-irrigation and Natural Resource Conservation programs for small and beginning farmers.

### SKAGIT YOUNG FARMER GROUP

McMoran, D.W.\*<sup>1</sup>

<sup>1</sup> Agriculture and Natural Resources Extension Educator-Director, Washington State University, Burlington, WA, 98233

The Skagit Young Farmer group begin in 2008 under the leadership of Extension Faculty, Don McMoran. The Skagit Young Farmer group hosted monthly breakfasts and invited keynote speakers for each meeting including local elected officials. Several members from the group were nominated for the OYF National Young Farmer of the Year award culminating in the first ever finalist from Skagit County, Nate Youngquist. Nate received a cash award and a free trip to Washington D.C. and will serve in the OYF fraternity in perpetuity.

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# Search for Excellence in Sustainable Agriculture

## National Winner

### GULF COAST SMALL FARMS: CONNECTING SPECIALTY CROP PRODUCERS WITH CONSUMERS AND MAXIMIZING PRODUCTION PRACTICES

Thaxton, B.\*<sup>1</sup>, Johnson, L.\*<sup>2</sup>, Unruh, B.\*<sup>3</sup>

<sup>1</sup> Commercial Horticulture Agent, UF/IFAS, Milton, FL, 32570

<sup>2</sup> Agriculture Agent, UF/IFAS Extension Escambia County, Cantonment, FL, 32533

<sup>3</sup> Professor of Environmental Horticulture and Associate Center Director, UF/IFAS West Florida Research and Education Center, Milton, FL, 32572

**Situation:** Consumer demand for locally grown food is rapidly increasing. During the last decade, the number of small farmers marketing directly to consumers has also grown. Despite high interest in locally produced food, farmers are faced with challenges limiting their ability to meet increased demand. Challenges include farmers' access to new markets and maximizing production through various cropping systems. The Gulf Coast Small Farms team is comprised of state and county faculty from UF/IFAS working together to provide hands-on training programs for farms and small agribusinesses. **Objectives:** (1) The team will expand marketing opportunities for local specialty crop farmers and (2) will identify management practices that increase productivity in protected agriculture production systems. **Methods:** This project was funded by a Florida Department of Agriculture Specialty Crop Block grant that ran from 2014-2016. To accomplish the objectives, the team offered four field days and one workshop to showcase the trials and marketing materials developed from the project. Marketing materials include six checklist style publications to guide producers entering various markets and regional planting and harvesting calendars housed on the [Gulf Coast Small Farms Team website](#). **Evaluation:** An initial comprehensive online Qualtrics survey was sent to gather baseline data for the project; two similar surveys were sent out at the end of each year of the project to determine practice changes. At production field days and networking events, post reflective evaluations were given to determine knowledge gain. **Results:** Thirty-two participants of project activities have taken steps to sell at new markets. Eighty percent (80%) of participants indicated improving knowledge of cropping systems and protected agriculture. Ten participants made the investment and established protected agriculture structures on their farms, leading to opportunities for an expanded season and increased revenues. **Conclusions:** The marketing toolkit provided a streamlined and standardized

approach for producers seeking to enter new markets. The established yields and quality of fresh produce grown in protected agriculture systems have helped growers utilizing these systems to maximize their production. Though the grant has ended, the work will continue to help growers enter new and emerging markets and increase their profit margins.

## National Finalists

### REACHING NON-TRADITIONAL AUDIENCES THROUGH THE WV URBAN AG CONFERENCE

Porter, J.\*<sup>1</sup>

<sup>1</sup> Extension Educator/Assistant Professor, Nebraska Extension, Omaha, NE, 68124

The West Virginia Urban Ag Conference is an educational program I developed four years ago to serve the needs of local small-scale producers and promote sustainable agriculture practices amongst home gardeners and urban farmers. To ensure the sustainability of the conference, I developed a partnership of organizations including my institution, our other land grant (WV State University), the local conservation district, the state SARE coordinators, and the department of agriculture.

A testament to this sustainability is the fact that the conference will continue this year, despite my move away from West Virginia to take a position with Nebraska Extension. In my absence, the other partnership members have assumed the leadership responsibilities I held and have already opened registration for the fourth annual West Virginia Urban Ag Conference.

The conference has a goal of educating attendees on multiple aspects of sustainable agriculture, including horticulture, livestock, farm management, entrepreneurial development, and sustainable environmental practices. Workshops are selected to meet the needs of the various types of audiences that attend.

The conference successfully attracts 200 or more individuals who are home producers, urban farmers, small-scale farmers, and those interested in beginning production and farming. Each year of the conference, a great majority of attendees indicate through follow-up survey that they gain knowledge and learn practices they will incorporate into their own work.

The conference serves as a conduit to provide sustainable agriculture education to individuals who have traditionally fallen outside of ag extension programming audiences in the state. This conference bridges the gap between home gardeners and small farmers and provides the means for people to grow food to reduce food budgets and for sale to local markets.

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## **INCREASING AWARENESS OF CLIMATE CHANGE IN WISCONSIN AGRICULTURE**

Clark, J.\*<sup>1</sup>

<sup>1</sup> Agriculture Agent, UW-Extension, Chippewa Falls, WI, 54729

Farmers invest millions of dollars every year in crops and livestock in the hope being successful and raising and selling commodities, crops, and livestock. The one input they cannot control is the weather. Farmers can manage the weather and make decisions because of it. Climate on the other hand is not managed. Climate is what farmers expect outdoor conditions to be like, weather is what they get. Increasing awareness of climate change and awareness of climate change resources was the objective of this program. Surveys of extension colleagues across the North Central Region, development of a tutorial, and local presentations were used to deliver the program. Over seventy-five percent of extension colleagues feel climate change should be a medium, high, or very high priority in educational programming. This program was delivered to over 160 participants.

## **ELIMINATING THE EFFECTS OF FOOTROT ON SHEEP FLOCKS IN THE NORTHEAST**

Brzozowski, R.\*<sup>1</sup>

<sup>1</sup> Food System Program Administrator, University of Maine Cooperative Extension, Orono, ME, 04469

Foot rot in sheep was studied over a four-year period in an effort to eliminate the disease from flocks and in anticipation of identifying genetic resistance to the disease. The research team developed a 4-week protocol for implementation in flocks with lameness. The team and participating farmers actively implemented this protocol which included inspection, trimming, evaluation, segregation of sheep groups and weekly foot bathing. Twenty-two sheep farms in the northeast participated in this applied research project by providing their sheep for evaluation via farm visits. These farmers worked with the research team in handling the sheep, trimming feet and recording scores. Nearly 1,300 sheep were evaluated over the life of the project.

In addition, blood was sampled from each sheep and sent for analysis in an effort to possibly identify a genetic marker for sheep showing resistance and/or susceptibility to the disease.

Participating farmers were surveyed each year to determine foot health conditions. Results from an end-of-project survey of these farms in December 2014 showed that the protocol was effective in over 61% of the flocks and possibly up to 77% of the flocks.

Resistance and/or susceptibility to foot rot appears to be genetically controlled in sheep based on evidence of differences among breeds for resistance versus susceptibility,

the ability to genetically select for resistance to foot rot, and a reported association between the incidence of foot rot and variation in MHC class II genes.

Initial genotyping was completed on approximately 240 animals using the Ovine SNP50 marker set that includes over 50,000+ single nucleotide markers. The results appear promising for additional genotyping and further genetic analysis. A more refined analysis is needed to determine a possible marker.

## **State Winners**

### **MANAGING SOIL: MAXIMIZING PROFIT**

Sara Berg\*<sup>1</sup>, Anthony Bly\*<sup>2</sup>

<sup>1</sup> Agronomy Field Specialist, SDSU Extension, Baltic, SD, 57003

<sup>2</sup> Soils Field Specialist, SDSU Extension, Garretson, SD, 57030

Our objective was to change the way producers and agriculture professionals view conservation agriculture by encouraging basic changes like adapting practices such as no-till, cover crops, or lengthening crop rotations. This day-long extension program was advertised through web, print, and radio media for ag professionals and farmers to consider and discuss profitable and environmentally sustainable benefits resulting from conservation farming practices. These practices were connected with profitability by hosting discussions and speakers from the banking/business management industry, crop consulting, livestock extension staff, soils research personnel, and a local farmer panel. An optional round table discussion was held following the program to continue meaningful conversations. Information was disseminated through verbal presentation, PowerPoint, fact sheets, informational pamphlets, direct discussion, and question and answer sessions. There were 62 attendees, consisting primarily of farmers, agriculture professionals, or agency personnel. Because of the program, 18 people noted that they would make changes to their operation or business, such as implementing no-till, cover crops, more complex rotations, or grazing cover crops. In addition, 12 attendees said they would consider making changes such as implementing no-till, cover crops, or changing herbicide selections. Other outcomes of the program include a related "iGrow" article, 5 new direct contacts, 5 new programming ideas, 16 client questions directly answered, and the potential for making this a new annual program. The tools provided at this program allowed farmers and agriculture professionals to connect conservation and sustainable agriculture techniques with economic efficiencies, which can save producer dollars, slow soil erosion, reduce cropping inputs, break pest cycles, and improve water quality. Public benefits include improvement of soil health and increased sustainable farming practices resulting in a more resilient food

production system. In addition, attendees will spread new and improved farming techniques across eastern South Dakota. A survey was conducted at the conclusion of the program; direct discussions with attendees were recorded. A 6-month follow-up with attendees will provide the hard impact of this program. As a result, when repeating the program, more focus on direct application of research data to farm economics, and more conservation and sustainable systems planning information will be provided.

## **PASTURE WALKS**

Carutis, N.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Coudersport, PA, 16915

In an effort to improve farm resilience and local water quality in North Central Pennsylvania, a variety of field days tied together practices from a whole farm perspective that assist producers in meeting state and federal water quality standards, retaining nutrients on the farm and improving crop yields. Potter County, Pennsylvania and the surrounding area is rich in water resources with 25 more days of precipitation than Harrisburg, PA. More rain, steep slopes and lack of agriculture service providers presents many opportunities and complications with farming in the region. Nitrogen, phosphorus and sediment loads are of great concern in all watersheds flowing from this area, including the Chesapeake Bay Watershed, Genesee Watershed and Ohio River Basin.

In an effort to increase use of nutrient retaining, soil stabilizing and organic matter building cover crops, the Penn State Interseeder planted cover crops in between the rows of standing corn on 5 farms across Potter and McKean Counties. The project was funded in-part by the Potter & McKean County Conservation Districts. 33 farmers attended a cover crop tour showcasing the locations. As a result of the field days, 330 acres of cover crops were planted by three producers in a “PA DEP 303d Ag-impaired Watershed” following corn using a no-til drill for the first time. The total acreage of cover crops to be planted in this watershed is expected to increase by 25% in 2017.

It is no secret that most of North Central Pennsylvania is best suited for permanent grass, with more than 100,000 acres in the 5-county area harvested for grass hay or pasture. With an increased interest by both consumers and producers to maximize livestock’s time on grass, the program assists producers with this transition. More than 60 producers across 5 counties attended 1 of 4 seminars or pasture walks offered by Penn State Extension in conjunction with USDA Natural Resource Conservation Service and Potter & Elk County Conservation Districts in 2016. One farmer commented “this is the best workshop I have been to” adding “the content was worth more” than a state regional conference.

## **ENVIRONMENTAL SUSTAINABILITY WITH THE USE OF ESN-SMART NITROGEN**

Runsick, S.\*<sup>1</sup>, Lawson, K.\*<sup>2</sup>

<sup>1</sup> County Extension Agent - Staff Chair, University of Arkansas Cooperative Extension Service, Corning, AR, 72422

<sup>2</sup> Area Agronomist, University of Arkansas System, Division of Agriculture, Little Rock, AR, 72204

Clay County had 30,812 acres of corn in 2016. According to data obtained from the Corn Research Verification Program, fertilizer accounts for 36% of the total operating costs at \$211.32 per acre. The University of Arkansas recommended amount of nitrogen (N) on silt loam soils in Clay County is 220 units per acre, so nitrogen is a significant amount of the total fertilizer cost. Many producers are using more than the recommended rate, 300 or more units, and making multiple applications of urea, 3 to 5, in order to compensate for 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 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. Often the only data producers have, comes from company promotional materials and small plot research. While this provides insight, many questions remain about the use of this new product. To assist corn producers with their concerns with using ESN, an on farm large plot replicated demonstration was established in a producer’s corn field in 2016 to compare a preplant application of ESN to the producer’s standards of urea and 32% UAN for nitrogen sources. If yield can be maintained producers could reduce application costs by \$15.00 or more per acre while lessening environmental impact from excess N. A field day was conducted with over 50 producers and industry representatives present. Yield and an economic summary of treatments were obtained. The results were shared at three producer meetings and on my web page. In 2017, 25% of producers are planning to incorporate ESN. Many questions were answered and my confidence with this new product has increased. I plan to continue to find ways to use this sustainable product.

## **JACKSON COUNTY FIELD CROPS**

Hiller, M.R.\*<sup>1</sup>

<sup>1</sup> CEA-AG/NR JACKSON CO., , Edna, TX, 77957

Row Crop production accounts for over 100 million dollars annually in Jackson County. Producers are forced to pay close attention to all production decisions - from farm program alternatives to fertilizer and pesticide choices. Jackson County AgriLife Extension has strived to educate producers with demonstrations and educational programs directed to sustainability of the farm.

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# Sustainable Agriculture Research Education (SARE) Seminar USDA SARE/NACAA Fellows Program

## National Winners

Anthony Bly, South Dakota State University Extension

It is with great interest that I would like the opportunity to participate in the SARE/NACAA Fellows program to broaden my understanding of the concepts and methodologies of sustainable and alternative food production systems. Sustainable food production practices are paramount to enhance and protect food security. The resources and inputs used in our current food production systems are finite and therefore it is critically urgent to adopt sustainable methods. My current understanding and training in sustainable food production has been mostly from self-study, professional development, and daily interaction with crop and livestock producers in South Dakota. An increased creative thinking experience would help me gain extremely valuable information concerning nationwide sustainability, which would help me identify knowledge gaps more closely and apply them to SDSU Extension local educational efforts.

A large portion of my programming as SDSU Extension Soils Field Specialist involves soil health. There are currently no Field Specialists specifically dedicated to soil health or sustainable agriculture within SDSU Extension. In partnership with USDA-NRCS, SARE, the South Dakota No-till association and the South Dakota Soil Health Coalition, I have worked with others colleagues in planning and hosting nine “South Dakota Soil Health Challenge” meetings, 10 soil health and cover crop field events, a cover crop conference, and a soil health school. The large attendance at these events has been an example of the dire need for cutting-edge soil health information. As part of SDSU Extension I have been the instructor of the soil health session component of the Integrated Pest Management Field Schools and Short courses. As the only Soils Field Specialist in SDSU Extension, I answer many questions concerning soil health. In addition, I design and conduct on-farm research experiments, write articles to divulge our findings that bring awareness to soil health issues, and participate on radio programming. Crop nutrient recommendations based on these results contribute to sustainability since they use optimum fertilizer amounts compared to the higher rates currently recommended by most agronomists and producers. Over-application of nutrients leads to luxury consumption by crops and the unsustainable export of these critical plant nutrients in commodities which are not recuperated.

The SARE Fellows Program will enrich the programs SDSU Extension conducts with experiences and knowledge that lead to new practices in sustainable food production systems. The ability to recognize sustainable food production practices and

sharing this knowledge with Extension partners will allow for greater enhancement of local food security. At the present time I am intensely involved with soil health education programs in South Dakota. While SDSU Extension currently holds annual soil health and cover crop informational meetings and field events for crop producers, future plans are to gain funding that will enable us to reach out with these activities to consulting professionals as well. From surveys obtained at our meetings, we have found that forty one percent of South Dakota crop producers want to know more about introducing cover crops into their crop rotations. We recognize that agricultural professionals who advise producers need training. Soil health and cover crop programs will result in greater understanding and adoption of sustainable practices. These sustainable programs will enable and equip consultants with cutting edge information that will help producers adopt sustainability practices. They will also assist SDSU Extension colleagues to measure soil health short and medium term program impacts through the use of effective survey instruments administered to producers and professionals. Another positive benefit received through my participation of the SARE Fellows Program will be the ability to recognize and include sustainable aspects of the topics that I write about, and contribute to South Dakota State University’s iGrow website. Readership and page views of the iGrow website have increased greatly since its inception and during the last year we had nearly 1 million page views and more than half a million users. This will ensure that the knowledge and message of sustainability is widely disseminated.

Empowering crop producers and the professionals that assist them with the abilities to recognize sustainability issues in their cropping systems will challenge them to further pursue additional positive changes. From interactions with crop producers I have learned they want and will embrace change, it just takes someone to show them how. Crop production system changes for improved sustainability will have positive impacts on reducing soil erosion, improve water quality and conservation, preserve natural resources, and improve soil health that will increase and sustain food production.

Opportunities like the SARE Fellows Program bring participants to a higher level of knowledge to be able to recognize sustainability issues among the cropping systems in their state. Working side by side with fellow colleagues will encourage them to understand the importance of soil health and cover crop educational programs. The experiences gained from the SARE Fellows Program will be shared with colleagues and stakeholders in all appropriate venues. When huge amounts of commodities that contain large amounts of nutrients such as phosphorus are exported from the farm/country, we trade wealth for natural resources. This concept is always present and discussed in the soil fertility programs conducted through SDSU Extension. Over application of phosphorus along with elevated soil test levels leads to luxury consumption of nutrients by crops in excess of what is needed for optimal productivity. Since phosphorus is a finite resource and it is shipped in commodities overseas never to return, this has a huge negative impact on the sustainability of our cropping systems in the short and medium term. Therefore, SDSU Extension recommends that soil testing to maintain optimum nutrient levels is important to reduce

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luxury consumption and un-needed removal of soil nutrients. In summary, I believe the experiences gained in the SARE Fellows Program will give me knowledge and capabilities to recognize and discover new ways to lead cropping systems in South Dakota and the region for a greater sustainability and food security.

### **Fnu Naveen Kumar**

Assistant Professor  
University of Maryland Eastern Shore  
Maryland Eastern Shore

#### **1: Why you wish to attend.**

I recently joined the University of Maryland Eastern Shore (UMES) as an Assistant Professor of Horticulture and Extension Specialist. I am working on multiple aspects of green agriculture including phosphorus phytoremediation, nanotechnology for sustainable agriculture, promotion of local food for local people, and rejuvenation of the lost fruit industry on the Eastern Shore of Maryland (MD). This program will help me to understand the grass root problems inherent to this region and facilitate direct communication with regional growers, farmers, and educators to further strengthen my research and extension program throughout the state.

#### **2: Details of your experience and past activities that would demonstrate the understanding of and interest in sustainable agriculture and alternative farming strategies.**

I got my MS, PhD, and Post Doc. in stress physiology. My academic excellence trained me to cultivate plants using limited resources. I worked on multiple crops (wheat, rose, citrus, soybean, and apple) and evaluated their survival during abiotic (drought, chilling, and high temperature) and biotic (citrus canker, citrus greening) stresses to provide sustainable and environmental friendly solutions to address these farming challenges. At UMES, I established an apple orchard for demonstration, training, and teaching. I am also promoting the cultivation of strawberries to diversify crop cultivation beyond dominant row crops (corn and soybean), which are mostly cultivated for animals and birds on the Eastern Shore of MD. My work will provide more economic returns to farmers. Moreover, I am planning to introduce leguminous cover crops in orchards to supply nitrogen naturally and consequently prevent or reduce nitrogen leaching to water bodies.

#### **3: A plan on how you intend to use the Fellows program information in your local Extension programs and the evaluation methods you will implement.**

I am responsible for the organization of multiple extension and outreach events through the UMES extension program. These events will provide a platform to share and communicate sustainable agriculture knowledge gained through the SARE/NACCA Fellow Program to growers, farmers, extension

educators, and agriculture service providers. In addition, all of my research grants includes an extension component, which will be utilized for the dissemination of sustainable farming benefits to the farmers. Following is the list of scheduled events;

I: Soybean Day (July)

II: Agriculture Day (Sep.)

III: Apple Day (Oct.)

IV: Strawberry Day (Nov.)

V: Small Farm Conference (Nov.)

VI: Tri-county Cluster Extension Meeting (Apr.)

VII: UMES Extension Retreat (May)

All these events will be attended by the farmers, growers, stakeholders, farm managers, and extension educators. Sustainable agriculture practices in selected fields of farming will be disseminated through a variety of tools

A: A brief question/answer survey and feedback forms pertaining to sustainable farming technology will be collected after each presentation/training/workshop/field program to evaluate the learning outcomes. Suggestions and recommendations from service providers and farmers will be incorporated in the successive extension events. In addition, a pre-/post knowledge gain test will also be conducted

B: Printed material, webinars, and teaching classes for further dissemination of knowledge to the farmers will be provided.

C: Information gained through this fellowship will be disseminated through popular media sources such as bulletins/pictures/videos/face-book page will be created for the easy access of information. Successful cases will also be presented in the form of posters at selected academic and trade meetings.

D: Detailed fact sheets of recent developments in sustainable agriculture research will be published through the University of Maryland Eastern Shore Extension website.

#### **4: The potential impacts and expected results that your participation could have on your local Extension sustainable agriculture program.**

The main theme of my research program (phytoremediation to reclaim phosphorus enriched soil, nanotechnology and laser technology for smart delivery of agrichemicals, crop diversification, and local produce to reduce carbon footprint) is to develop eco-friendly technology to promote sustainable agriculture. My active participation in SARE/NACCA Fellow Program will help me to strengthen communication between farmer to farmer and educator to educator across the state. In

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addition, this program will provide live learning experiences, which would be an asset to transform my current extension program to better promote our national sustainable agriculture program. I will be acquainted with grower's vision and potential challenges while practicing sustainable agriculture technology. These outcomes will lead to the development of a more effective extension program.

**5: The potential benefits to other professionals and clientele in their geographic area. Preference will be given to applicants who plan to train others (extension agents, other professionals and clientele) upon completion of the program.**

All the above mentioned extension events will be attended by the several extension educators, farmers, growers, farm managers, and small farm conference coordinators in the tri-county area. A session on sustainable agriculture will be incorporated in these events to enrich the knowledge of agriculture service providers. This approach will generate knowledge based human resources to conserve the ecologically fragile lower shore of the MD.

**Amanda Sears**

County Agent for Horticulture  
UNIVERSITY OF KENTUCKY  
Madison

I have been with the Kentucky Extension Service for over 11 years, two years as an extension associate working on a University of Kentucky research farm and nine years as the Horticulture Agent at the Madison County Cooperative Extension Office in Richmond, Kentucky. As the Horticulture Agent, I serve a diverse population. Located in central Kentucky with a population of 85,000, Madison County is home to Eastern Kentucky University (a state university) and Berea College (a private college that serves limited resource audiences). Madison County has a strong tradition of agriculture. Over the last 100 years, the number of farms has decreased from nearly 3700 to just under 1200. While 83% of the county's land is considered agricultural, only 7% of the population has a job in this field. The type of agriculture has also changed. Farmers have transitioned away from tobacco. Cattle and vegetable production has increased. The county has three separate farmer's markets and several Community Supported Agriculture (CSA) operations. One reason I have enjoyed my job so much is because of the learning opportunities it has provided for me. Learning about farming practices in other parts of the country, as well as interacting with other participants in the SARE/NACAA Fellows Program would be very beneficial. I think it is easy to become short sighted and only view issues from our own familiar perspective. This program would broaden my scope. Communication is crucial. I hope that through this program I

learn how to better communicate about the principles and ideas associated with sustainability. There are many misconceptions about this topic. People think that to be sustainable you have to be organic, be a vegetarian, recycle, etc. I want to be able to show how broad the scope of this topic really is. After all, what is sustainable for one person may not be for someone else.

I currently utilize the principles of sustainability in many aspects of my job. My areas of interest include fruit and vegetable production as well as entomology, although I also assist my clients with information and help with lawns, trees and shrubs, flowers, and animal control. For commercial producers I offer primarily diagnostic assistance and trainings. With both home owner and commercial producers I have approached education from a best management perspective. Below are a few examples of my programs and projects:

- I had trouble finding a beginning gardening publication to share with our Hispanic population. So after receiving a mini SARE grant I developed a simple garden publication for beginners and paid a Spanish translator to interpret it.

This publication has been shared with the migrant education advocate for the Madison County Kentucky School District. She works with 62 Hispanic families. I have also shared the publication with other agents in the state of Kentucky.

- Our office offers free soil testing to county residents. I average around 400 samples a year. These tests are for several different types of plants, including fruit, vegetable, lawn, tree and flower. I work with clients on choosing the best fertilizers and soil amendments for each individual site and encourage them to contact me with questions.

- The Madison County Agriculture Agent and I worked with the University of Kentucky Agricultural Economics Department to offer a program called Farm Start. The objective of this twelve-week program was to provide beginning farmers (or those interested in farming) with the education and experience to help them develop sustainable farm plans.

There were many successes through the program. One participant said, "Because of the class about law, we realized we were under a great deal of liability making our cakes at home and instead will use a commercial kitchen from now on." Several members of the class realized that farming was not a viable option for them.

- In order to increase consumer awareness about local agriculture, I organized an event called the "Meet Your Farmer Tour". This event was a self-guided driving tour of the three farmer's markets and several farms in Madison County. Participants were encouraged to go to as many stops on the tour as possible and to interact with producers. One participant said, "I saw blueberry bushes for the first time."

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After surveying county residents while updating our four year plan of work, residents identified the following as the top priorities in the horticulture program:

- Strengthening local food systems
- Home vegetable and fruit production
- Sustainability and stewardship of our natural resources

The SARE/NACAA program will be beneficial for meeting the needs of Madison County, Kentucky. Our plan of work includes:

- Consumers: Horticulture agent will work with Agriculture, 4-H and Family and Consumer Science Agents to conduct community, workplace and school programs as well as farm tours, local media (print and broadcast) and social media, as well as maintain a list of where to find local foods. Through evaluations, we hope to see the following:

- o Recognize the importance of agriculture to the community
- o Identify and purchase a wide variety of locally produced agricultural products from farmer's markets, CSAs and local businesses.

- o At risk audiences will report improved dietary quality, food safety and practices, and increased access to foods.

- Home Gardener and Home Owners: Horticulture agent will conduct programs and workshops on horticultural topics such as gardening, lawns, orchards and trees and disseminate information and promote services through newsletters, newspaper articles, and local and social media. The agent will also train Master Gardeners in order to strengthen and enlarge her program. It is hoped that clients will show the following changes:

- o Design gardens and orchards with plants that are tolerant of our local conditions and resistant to diseases

- o Promote storm water management

- o Increase quality and yields in gardens

- o Decrease the use of chemicals used in the landscape, garden, and home

- o Show an increase in confidence about how to properly use fertilizer and other soil amendments

- Commercial Growers: Conduct programs and workshops on sustainable production practices, provide diagnostic services, and distribute research based educational resources. Evaluations will show:

- o Growers develop sustainable agriculture practices

- o Use research based information to make decisions

- o Improve yield and/or quality

- o Report reduced expenses or increased yields.

Upon completion of this program I hope to become an advocate for sustainability in the state of Kentucky. I would like to work with the Kentucky Association of County Agriculture Agents (KACAA) Sustainability Chair in assessing the needs within the state while disseminating currently available published information as well as training or educational materials. Once we have an idea of what is

needed, I would like to work with the University of Kentucky and Kentucky State University Faculty on creating publications and planning workshops that focus on sustainable practices. Examples of potential publications are below:

- An explanation on how to read, interpret and understand soil test results. The current form is very confusing, especially for those who have not tested their soil before.
- A simple guide on how to properly irrigate. In my experience people either over or under water.

I hope you will consider me for the SARE/NACAA Fellows Program. Please feel free to contact me at amanda.sears@uky.edu or 859-623-4072 if you have any questions.

**Kurt Jones**  
COUNTY DIRECTOR

I have been a county extension agent for almost 20 years, the last 17 ½ of which have been in my current county. My programming areas emphasize agriculture, natural resource management, home horticulture, clean and renewable energy, and 4-H youth development. This diverse litany of programming areas mirrors that of my county and the surrounding region.

I have served as a leader not only in my state association (Colorado County Agents Association), but also NACAA in several leadership roles (Extension Development Council Chair 2015-2017, Communications Committee Vice-Chair, 2010-2014, 4-H Committee Vice-Chair, 2000-2001, National Chair 2002-2003). I am often on the professional development planning committee, having hosted this annual event in Chaffee County twice in the past decade, as well as the Western Region AM/PIC in Fort Collins (Oct., 2013).

One of the anticipated benefits of being selected as a SARE Fellow would be to increase my exposure to alternative agricultural enterprises from around the country. I enjoy learning new concepts, and sharing those experiences with colleagues and clientele that I work with. One of the project ideas that I have been exploring may be of use as a project for this fellowship opportunity.

Last fall, I initiated a pilot project to teach local beekeepers more advanced beekeeping concepts and "soft-skills" to aid in mentoring novice beekeepers. Based on the popular Colorado Master Gardener program, my class composed of 7 weeks of research-based beekeeping. There is a tremendous need for professional development in the area of beekeeping for not only our local beekeeping club but extension professionals throughout Colorado. I hope to strengthen my own beekeeping skills and knowledge, and support the professional and hobby beekeepers in my state during and following the SARE fellowship program.

The SARE Fellows program will also aid me in my Beginning

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Farmer work. Many of the graduates of the Building Farmers program often reach out to me on a wide variety of issues and ideas that they are working with. This audience is open to new ideas, and has expressed interest in working with me to explore new crops, new farming techniques, and new marketing potentials.

I will have many opportunities to share knowledge gained through the SARE Fellows program with colleagues. I have also completed a two-year evaluation capacity training fellowship (2011-2013) to hone my program evaluation skills. I have a good understanding of program evaluation, and would incorporate program evaluation throughout the proposed project and outreach activities. I have also taken numerous statistical analysis courses through Colorado State University, and have plans to strengthen my qualitative inquiry skills when the opportunity arises.

I have provided a copy of my current resume for more details about my professional development work, scholarly activities, and related activities.

Thank you for your consideration of my application. I look forward to joining this prestigious cadre of current fellows and graduates of this program. Please feel free to contact me should you need clarification or have further questions.



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# 2017 Service to American/World Agriculture

## V. Philip Rasmussen *Emeritus Western SARE Coordinator*

Dr. Phil Rasmussen received his Bachelor's and Master's degrees at Utah State University and his Doctoral degree at Kansas State University. Dr. Rasmussen spent the early part of his career establishing no-till research plots across the intermountain West, encouraging the use of innovative and sustainable technologies. Spending his career as an extension specialist and an administrator who worked with a "one-foot-in-the-field" approach to issues, Rasmussen was able to win the respect of academics and farmers/ranchers alike. Rasmussen conducted innovative research and extension work in conservation tillage; he was so proficient at conservation tillage he was widely known as "No-Till Phil". Conservation tillage reduces or eliminates plowing and saves farmers money and conserves soil and water. Rasmussen was a leader in helping to broaden the use of this practice in Utah from 7,500 acres in 1984 to over 125,000 acres in 2009.

It was his penchant for technology however that led him to work as the State Extension Computer specialist at a time when microcomputers were just beginning to be widely used in natural resource and agricultural management. Rasmussen became the nation's first NASA sponsored Geospatial Extension specialist in 1999, using modern technology for precision agriculture to ensure that resources were used in an environmentally friendly way. Phil served as the coordinator of Western SARE from December 1993 to July 2014 and has been associated with National SARE since 1988, having served on the first SAN Committee. He also served as an assistant director in both the Utah Agricultural Experiment Station and the Utah State University Cooperative Extension Service.

Phil was a part of the Extension/USDA/Nasa Cooperative Geospatial Extension Program from January 2000 to February 2015. He was funded for the "On-Target Fellowship Program" from July 2005 to July 2011. This program trained Extension agents across the country in geospatial technology. In addition to training and mentoring, these workshops provided each attendee the latest in GPS units, hand held computers and software.

In 2004, when NASA announced the grant awards for Geospatial projects they said the following about Phil's project: "We are pleased to be a part of this worthwhile effort which will benefit all Americans," said NASA Administrator Sean O'Keefe. "NASA's unique resources to view the Earth from space will enhance our ability to predict climate, weather and natural hazards as well as to mitigate and assess the effects of natural and human-induced disasters. The information we provide will allow our partners to make critical, accurate

and timely decisions," he said. "Education in the use of geographic information systems and other advanced technologies is critical in today's agricultural economy if we are to remain competitive and protect our natural resources for future generations." Agricultural Secretary Anne Veneman said.

Phil received USU's highest award for service, the E.G. Peterson Extension Award, at commencement exercises in June 1999. R. Paul Larsen, Vice President for Extension at USU at the time, called Rasmussen "a superb specialist who has been exceptionally productive in soil and water conservation, minimum tillage and computer applications".

Rasmussen has published more than two hundred articles and book chapters covering the fields of: agronomic computer applications, soil physics/management/conservation, and sustainable agricultural techniques. Phil has also obtained millions of dollars in grants and other funding in his career.

Phil has also been honored by the NACAA. He was chosen to give the annual address "Becoming a Sustainable Extension Educator in 2009 and was a presenter and author at the NACAA Annual Meeting and Professional Development Conference in Greenville, NC in 2008 presenting USU/NASA/NACAA Search for Excellence in Agriculture Remote Sensing. Phil was invited to present the "Capstone" sustainability address at the NACAA conclave at the Portland, Oregon AM/PIC in September 2009.

Currently, Phil and his wife, Linda, just finished serving a church service mission on humanitarian farming operations in Europe and the Americas.



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# 2017 Achievement Award Winners

## *North Central Region*

Indiana - Amanda Dickson  
Indiana - Amanda Mosiman  
Iowa - Rebecca Vittetoe  
Kansas - Marlin Bates  
Kansas - Karaline Mayer  
Michigan - James Dedecker  
Minnesota - Jake Overgaard  
Missouri - Travis Harper  
Nebraska - Wayne Ohnesorg  
North Dakota - Mary A. Berg  
Ohio - Mary Griffith  
Ohio - Eric A. Richer  
South Dakota - Anthony Bly  
Wisconsin - Trisha Wagner

## *Northeast Region*

Maryland - Doris Behnke  
New Hampshire - Amy Papineau  
New Jersey - Amy A Rowe  
New York - Libby Eiholzer  
Pennsylvania - Juliette Enfield  
West Virginia - Daisy F. Bailey

## *Southern Region*

Alabama - Daniel S. Miller  
Alabama - Alex Tighe  
Arkansas - Grant Beckwith  
Arkansas - Sara Beth Johnson  
Arkansas - Kevin Van Pelt  
Florida - Alicia R Lamborn  
Florida - Matt Lollar  
Florida - Blake R. Thaxton  
Georgia - Adam Speir  
Georgia - Jessica Warren  
Georgia - Tripp J. Williams  
Kentucky - Curtis Dame  
Kentucky - P. Andrew Rideout  
Kentucky - Kathryn Wimberley  
Louisiana - Bobby Bingham  
Mississippi - Rocky Lemus  
Mississippi - Randall Mckey  
North Carolina - Danelle Mcknight Cutting  
North Carolina - Richard Goforth  
North Carolina - Bart Renner  
North Carolina - Dan Wells  
Oklahoma - Zack A. Meyer  
South Carolina - Amy Dabbs  
South Carolina - W. Cory Heaton  
Tennessee - Amy L. Dismukes  
Tennessee - Lindsay Stephenson Griffin

Tennessee - Amanda L. Mathenia  
Texas - Kimberly Benton  
Texas - Kara J. Matheny  
Texas - Cooper Terrill  
Texas - Michael Wilkes  
Texas - Paul Winski  
Virginia - Stephen Barts  
Virginia - Jennifer Ligon

## *West Region*

Colorado - Todd Hagenbuch  
Idaho - Jon Hogge  
Montana - Tyler Lane  
New Mexico - Jason Lamb  
Oregon - Dustin Johnson  
Utah - Katie Wagner  
Washington - Trevor C Lane  
Wyoming - Brian Sebade

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# 2017 Distinguished Service Award Winners

## *North Central Region*

Indiana - Larry Caplan  
Indiana - Curt Emanuel  
Iowa - Kapil Arora  
Kansas - Frannie Miller  
Kansas - Brian L. Rees  
Michigan - Thomas Guthrie  
Minnesota - Ryan Miller  
Missouri - Todd Lorenz  
Nebraska - F. John Hay  
North Dakota - Dan Folske  
Ohio - Tony Nye  
Ohio - Curtis E Young  
South Dakota - Connie L. Strunk  
Wisconsin - Kevin Jarek

## *Northeast Region*

Maryland - Shannon Potter Dill  
New York - Aaron Gabriel  
Pennsylvania - Robert C Goodling, Jr.  
West Virginia - Brian Wickline

## *Southern Region*

Alabama - Derek F. Bryan  
Alabama - Shane Harris  
Alabama - Mac D. Washington  
Arkansas - Rex Herring  
Arkansas - Kevin Lawson  
Arkansas - Shaun Rhoades  
Florida - Sheila Dunning  
Florida - Ronald W Rice  
Florida - Lindsey Wiggins  
Georgia - Stephanie Ray Butcher  
Georgia - Winston Eason  
Georgia - Mary Carol Sheffield  
Georgia - Michael Wheeler  
Kentucky - Chris Ammerman  
Kentucky - Sarah Fannin  
Louisiana - Craig Roussel  
Mississippi - Wayne Porter  
Mississippi - Anita Webb  
North Carolina - Mark Blevins  
North Carolina - Carl Crozier  
North Carolina - Tim Hambrick  
North Carolina - Becky Spearman  
Oklahoma - Casey N Russell  
South Carolina - Brian Beer  
South Carolina - Philip (Andy) Rollins

Tennessee - David C. Bilderback  
Tennessee - Laurie Mobley  
Tennessee - Ty Petty  
Texas - Sara Lindley Allen  
Texas - Corrie Bowen  
Texas - Josh Brooks  
Texas - Chad H. Gulley  
Texas - Shane Mclellan  
Virginia - Joyce Latimer

## *West Region*

Colorado - Bruce Fickenscher  
Idaho - Steven Hines  
Montana - Mike Schuld  
New Mexico - Leigh Ann Marez  
Oregon - Gene Pirelli  
Utah - Clark E. Israelsen  
Washington - Sheila L. Gray  
Wyoming - Barton Stam

## 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**



**2017  
Western Region  
Hall of Fame Award**

**Richard D. Gibson  
Arizona  
35 Years**



Rick Gibson's dedication to the profession and the clientele is unsurpassed. With over 35 years of service through Cooperative Extension, Rick has been the model Change Agent, improving people's lives, their communities, the environment, and the economy.

Gibson began his career as the horticultural agent for Pinal County Cooperative Extension in Arizona in 1981. His work focused on helping families and businesses appreciate the delicate balance required for living in the Sonoran Desert where annual rainfall rates rarely exceed seven inches per year and high temperatures often exceed 115° F. The challenge has always been to identify plants that can thrive in this environment and produce a pleasing, and in the case of vegetable gardens, a tasty landscape, with minimal water. Rick's programs always had a water conservation aspect. His work has helped people grow and develop beautiful landscapes that help shade houses to reduce air conditioning costs, produce vegetables and fruits, to reduce food costs, and in the end, create a relaxing and enjoyable landscape that gives Arizonans the opportunity to enjoy their backyards when much of the country is shoveling snow.

Rick's service to the profession is equally stellar. His contributions to the AAEA (Arizona Agriculture Extension Association) have helped keep members engaged through professional improvement opportunities. Over the years, Rick has become a mentor to the organization as a whole, helping AAEA officers better perform their duties and alerting members to opportunities with AAEA and NACAA. At the National level, his commitment is equally strong. Serving as President from 2008-2009, Rick's accomplishments and dedication to the organization are well known and documented. He continues to serve when needed and is always available to lend a word or two of advice.

In the end, after all the accolades, after all the committee service and community service, of equal importance is the person himself. While Rick has excelled in national service for NACAA, AAEA, and other organizations, his impact on clientele over 35 years is his key contribution to Extension. Rick not only believes in the NACAA, he believes in the people of NACAA and the people we serve. Anyone who has had a conversation with him knows he is a great listener and only speaks after due consideration of the question or topic at hand. His compassion, his dedication, and his willingness to help others, is really the core of this nomination. Rick works tirelessly to innovate, motivate, and educate people to help them help themselves. His mark on the people and communities of Pinal County is well known by those who know him.

Year DSA Awarded: 1992

**2017  
North Central Region  
Hall of Fame Award**

**Gary L. Zoubek  
Nebraska  
43 Years**



Gary Zoubek has demonstrated excellence while serving as an educator, mentor, and friend to many over his 43 year Nebraska Extension career in Holt, Antelope, and York Counties. Over his career, Gary has collaborated in numerous projects, always seeking research-based ways to make farmers profitable yet environmentally and economically sustainable. This is evidenced by his work with the "Ten Ways to Boost Profits \$20/acre" effort, a NACAA Program Finalist in the Search for Excellence for Crop Production in 2007.

One of Gary's strengths has been his leadership in building strong teams. He is most recognized for his team efforts in building the Nebraska Agricultural Water Management Network (NAWMN) since 2005. The NAWMN has helped irrigators reduce pumping while maintaining yields, ultimately saving water, energy and money. The NAWMN has grown to nearly 1,400 collaborators managing 2 million irrigated acres.

Participants report an average of 2.2” of water saved per acre per year, resulting in more than 1 million acre-feet of water savings and fuel savings of more than \$50 million. This effort was awarded USDA-NIFA’s National Innovative Programs and Partnership Team Award in 2014.

Gary has demonstrated excellence as a mentor by co-leading highly successful and recognized efforts with mentees. These include: rolling 25 crop-related websites into a one-stop crop resource (<http://cropwatch.unl.edu>); providing agricultural training for National Guard soldiers and airmen deploying to Afghanistan on Agribusiness Development Teams (ADT); and in coordinating the Institute of Ag and Natural Resources exhibit at Husker Harvest Days, the nation’s largest irrigated farm show.

His 43 years of service to NACAA has resulted in opportunities to serve in State Chair roles and as State President from 1989-1990. Regional Vice-Chair roles include 4-H and Youth (1995-1997) and Professional Excellence (2005-2009). Most recently, Gary served as National Chair of the Professional Excellence Committee (2008-2012) where he and his committee instituted “finalist” awards for the poster session. Gary has attended 24 AM/PIC conferences and served as the chair for the 1999 AM/PIC held in Omaha.

Gary is also well-known in Nebraska for his service within the Nebraska Corn Growers Association and in recruiting new members (receiving 1st and 2nd place honors in 2014 and 2013 respectively). In 2015, he was recognized by the York County Corn Growers for Outstanding Service and was also recognized at the State level, receiving the Golden Ear Award for his service to Nebraska’s corn industry.

Gary has also been instrumental in the initial planning for Wessel’s Living History Farms since 1995. Since 2003, he has served several times on the Board of Directors and has volunteered many times. The farm received approximately 7,500 visitors in 2015 and the website (<http://www.livinghistoryfarm.org/>) has received 13.4 million visitors and 2.3 million movie downloads since 2003.

Gary exemplifies excellence in all he has done throughout his Extension career in service to farmers and the agricultural industry, in service to NACAA, and in service to the many organizations to which he belongs. Gary is a highly deserving recipient of this award.

Year DSA Awarded: 1987

**2017  
Northeast Region  
Hall of Fame Award  
Paul H. Craig  
Pennsylvania  
35 Years - Retired**



Only 21 days after being hired as a 4-H/Agriculture agent in SW Pennsylvania, Ed Woods, CED, had given me five days’ vacation, completed my membership in PACAA, and assigned me to a livestock committee at the PA Farm Show for eight days where I had my baptism in Extension work. Those experienced agents took me under their wing and introduced me to working and playing as a team. I was hooked on the profession of a county agent. Within months I was caponizing thousands of chicks, managing volunteers and 4-H members at fairs, camps and retreats. Fortunately I had help from a wonderful summer assistant, who later became my wife.

In 1981 I transferred, with my new wife, to NE PA as county agent in Monroe County, a rapidly developing region that still maintained a small but diverse agriculture. Programming included crop production, pesticide safety, forestry and natural resources and Farm/City Programming. In 1982, an on-farm study of green manure crops with two local producers was initiated. This resulted in my completion of an MS Agronomy degree and provided crop production programming.

In 1988 we transferred to Dauphin County, PA an agricultural county closer to my wife’s home. Clientele included English and progressive Amish. Agronomic programming included: on farm trials, crop meetings, workshops, newsletters and direct contacts. In-home meetings with small groups of Amishmen were held annually. The FFA group became strong supporters of local programming.

In 2001 I was the Capital Region Agronomy Team forage production and team leader. Initially four agents programming in seven counties became five across eleven to now where agents provide statewide programming. I became very interested in team building and professional development training.

In 2004 programming started related to post harvest management of corn silage. The next 6 years, 147 spots on 65 different bunker silos were sampled. Studies included measurement of packing densities, losses of forage dry matter and feedout face management. National, regional and local publications highlighted results. This program was a 2007 NACAA National Winner in the Search for Excellence program.

*Association Involvement*

At my first AM/PIC, I heard “the Attitude of Servitude.” This

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attitude has guided me ever since. Soon I became more active in my state association and eventually state president. In 2006 I became NACAA NE Regional Director and 2011 elected vice president. I served as President during the 2013 Galaxy 3 meeting. In 2014, as past president NACAA, I chaired a JCEP committee that determined that there would not be another Galaxy until further considerations are met.

*Humanitarian Activities*

Paul is active in his church, serving as Trustee member and other leadership roles. He supports the local FFA high school program serving on advisory committees and judging county, district and state wide speaking contests. He judges agronomic crops in several local and two state fairs. Paul works with a local game farm training his Labrador retriever. Paul served as a forage production and harvest management advisor, with WinRock International Farmer to Farmer Program in Kazakhstan in 2006.

Year DSA Awarded: 1997

**2017**  
**Southern Region**  
**Hall of Fame Award**  
**N. Fred Miller**  
**North Carolina**  
**28 Years - Retired**



Fred Miller has served the NCACAA, the National Association of County Agricultural Agents (NACAA), Cooperative Extension and the citizens of his county with distinction throughout his career. Fred's career is the epitome of professionalism, dedication and service to his coworkers and clientele.

Fred began his career in 1981 as an Extension Agent responsible for Ornamental Horticulture in Forsyth County. Fred was recognized early in his career for developing outstanding educational programs for professional horticulturalists and homeowners. Fred established one of the earlier Master Gardener programs in North Carolina which has become one of the largest programs in the state.

Fred was selected in 1989 as Catawba County Extension Director where he provided leadership for the total county program including ten staff members and educational programming for community and rural development, consumer horticulture, forestry and pesticide education.

By serving as a role model with a vision, Fred created an Extension Staff recognized statewide for its achievements and by the Catawba County Government for their teamwork.

Year DSA Awarded: 1999

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# 2017 ABSTRACTS OF THE NATIONAL WINNERS AND FINALISTS COMMUNICATIONS AWARDS CONTEST

## Audio Recording National Winner

Mckenzie, P.\*<sup>1</sup>

<sup>1</sup> Agricultural Extension Agent, NC Cooperative Extension, Henderson, NC, 27536

The objective of this radio segment is to provide the gardening public with timely updates on gardening activities. This segment aired on March 8th, 2017 at approximately 2 pm on WIZS Radio, 1450 am based in Henderson, NC. The audience is estimated at approximately 10,000 listeners. It was recorded at the WIZS production studio. The program results in the gardening public receiving timely tips which help them achieve better results in the garden and landscape. The recording can be accessed at the following link: <http://soundcloud.com/user-96612206/cooperative-extension-with-paul-mckenzie-030817?in=user-96612206/sets/co-op-extension>

### NATIONAL FINALISTS

Lentz, Edwin M.\*<sup>1</sup>

<sup>1</sup> 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 rural community informed about the latest agricultural information including crop alerts and upcoming Extension educational activities. The topic is introduced by the station's Farm Services Director. The Extension Educator provides the 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. Program submitted was aired 6:35 a.m. on WFIN, May 11, 2016, which discussed the potential for wheat foliar diseases. Recorded programs are stored on county web site for six weeks. For program outcomes, producers have been informed about the latest agricultural issues, provided summaries and Internet locations of latest university research

information, and given dates and times of upcoming Extension educational programs. Results of the programs have included producers using the information in their farm operations and attending 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.

Cox, K.\*<sup>1</sup>, Lima, Dan F.\*<sup>2</sup>

<sup>1</sup> Extension Agent, WVU Extension Service, Wheeling, WV, 26003

<sup>2</sup> Belmont County Agent, Ohio State University Extension, St. clairsville, OH, 43950

The Extension Calling Radio program was begun in the late 1970's by WVU Extension's Ohio County Agent Edgar Hooper as a series of twelve minute long, informational programs. While the previous agents developed a cross institution partnership; under the leadership of the current team of agents, the show has expanded into an uninterrupted, half-hour, talk show style radio program complete with the occasional special guests. It is recorded live weekly at WWVA in Wheeling, WV and aired at 5am on Sunday mornings as well as several other rotating times on different nights to reach out to new listeners. WWVA 1170 AM in Wheeling, West Virginia has an estimated listening audience of 4,000 and its 50,000 watt broadcast reaches areas far outside its Ohio River Valley home. Our show's objective is to share timely, research based information with individuals who work shifts or jobs that do not allow them to attend standard programming. This show also aids in fulfilling the public access needs of WWVA, and provides Extension an opportunity to reach people in their homes & vehicles throughout the community on a regular basis. In support of the missions of both land grant universities for research based outreach, the show covers a mix of new research with time-tested best management practices representative of the farm, garden, and home. Topics include safety, livestock and vegetable production, pasture management, risk management, natural resources, and many more. Impacts and reach are measured by audience feedback both locally and from distant states such as New York and Connecticut. Feedback has included thanks, requests for programming, topical questions and comments, and specific inquiries for more information. The following excerpt of the program was originally aired October 9<sup>th</sup>, 2016.

Bachman, G.\*<sup>1</sup>, Myers, Amy\*<sup>2</sup>

<sup>1</sup> Horticulture Specialist, Mississippi State, Biloxi, MS, 39532

<sup>2</sup> Extension Associate II, Agricultural Communications, Mississippi State University, Mississippi State, MS, 39762

Southern Gardening Radio is a daily (260 segments per year) 2 minute radio segment designed to air within Mississippi radio programming. Southern Gardening Radio is heard on more than two dozen radio stations across Mississippi as well as

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Mississippi Public Broadcasting.

Segments are designed for persons interested in lawn and garden care and seasonal interest.

The goal of Southern Gardening Radio 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 Radio. The audio archive can be viewed at <http://extension.msstate.edu/shows/southern-gardening>

Southern Gardening Radio, King Tut Papyrus,

<http://extension.msstate.edu/southern-gardening/audio/2016/king-tut-papyrus>

Southern Gardening Radio, Cuphea Vermillionaire,

<http://extension.msstate.edu/southern-gardening/audio/2016/vermillionaire-cuphea>

## **Bound Book** **National Winner**

Gao, G.Y.\*<sup>1</sup>, Ellis, M.\*<sup>2</sup>, Welty, C.\*<sup>3</sup>, Brown, M.\*<sup>4</sup>, Becker, R.\*<sup>5</sup>, Williams, R.\*<sup>6</sup>, Prochaska, S.\*<sup>7</sup>

<sup>1</sup> Extension Specialist and Associate Professor, Ohio State University South Centers, Piketon, OH, 45661

<sup>2</sup> Professor Emeritus and Extension Pathologist, The Ohio State University, Wooster, OH, 44691

<sup>3</sup> Extension Entomologist and Associate Professor, The Ohio State University, Columbus, OH, 43210

<sup>4</sup> Associate Professor Emeritus, Ohio State University South Centers, Piketon, OH, 45661

<sup>5</sup> Retired Program Assistant, Ohio State University Extension, Wooster, OH, 44691

<sup>6</sup> Professor Emeritus, The Ohio State University, Wooster, OH, 44691

<sup>7</sup> Associate Professor Emeritus, Ohio State University Extension, Marion, OH, 43302

Home fruit production has been very popular since many gardeners desired safe and fresh fruits. Answering questions from the gardeners on fruit production can be very time consuming to county extension professionals. ‘Midwest Home Fruit Production Guide’ has been written to help both gardeners and extension professionals. The content was carefully selected so that we could include as much detail as possible without making the book too big. Most of the fruit crops that can be grown in the Midwest were covered in the book. Common pests and diseases of fruit crops were addressed as well.

The book is organized in 10 chapters, which include “Introduction, Tree Fruits, Small Fruits, Less Commonly Grown Fruits, Landscape Aspects of Fruit Plants, Obtaining

and Using Fruits, Pest Management and Disease Control in Home Fruit Plantings, Gooseberries and Currants, Some Sources of Fruit Plants, and Glossary of Terms.” We tried hard to make our writing as clearly and easily understood without sacrificing scientific merit. Since the serious gardeners tend to be quite well educated, we tried not to ‘dumb down’ our book too much. Our book has been proofread by extension professionals, gardeners and novices.

Many design and format elements were used to attract and hold the attention of the reader. We used 269 illustrations of color pictures and monochrome drawings to support information. Quite a few subheadings were used to help readers find information quickly. A pdf version of the book has been provided. However, the file does not have the highest resolution since there is a 10MB limit on file with our entry submission site. The hard copy of the book is printed on heavy duty glossy paper in full color and in a spiral binding for easy handling and reading.

In summary, The 2017 version has been revised based on the 2009 and 2010 versions since the first two printings were sold out. There are still 50 copies on back order. The hard copy of this version will come out in March, 2017. We certainly hope the 2017 version of the ‘Midwest Home Fruit Production Guide’ will be equally popular!

### ***NATIONAL FINALISTS***

Burton, D.\*<sup>1</sup>

<sup>1</sup> 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 best preserved historic and one-room schools still standing in Missouri.

The idea was to create a “Who’s Who” type of directory of historical and one-room schools in the state. Plans are to update the book every year or two as additional schools are preserved.

The goal was to get readers and organizations to use this publication as a way to promote heritage tourism in the state and to build a network of school historians and enthusiasts. That is the reason the directory is designed to showcase the best historic schools in Missouri that are restored or otherwise accessible to the public.

Ironically, the history of one-room schools follows a similar path to the history of extension and agriculture in rural Missouri. The two intersect frequently and involve the same people.

As a result of this publication, a network of enthusiasts has

been expanded, and additional school preservation attempts are underway. The book has also earned lots of regional, state and national print, radio and TV media coverage (18 stories at last count) and each story has been an opportunity to talk about the educational and agricultural history of rural Missouri.

To date, the Greene County Extension office has sold nearly 300 print copies of the book which is also available on Amazon at [https://www.amazon.com/Missouri-Directory-Historic-One-room-Schools/dp/154061395X/ref=sr\\_1\\_1?ie=UTF8&qid=1489100118&sr=8-1&keywords=missouri+directory+of+historic+and+one-room+schools](https://www.amazon.com/Missouri-Directory-Historic-One-room-Schools/dp/154061395X/ref=sr_1_1?ie=UTF8&qid=1489100118&sr=8-1&keywords=missouri+directory+of+historic+and+one-room+schools)

The book was entirely researched, written, edited and designed by the individual member submitting this abstract and contest entry.

Hampton, Wade\*<sup>1</sup>, Jones, Dean\*<sup>2</sup>, Mulloy, Ashley\*<sup>3</sup>, Perrygo, Bruce\*<sup>4</sup>, Wates, Ron\*<sup>5</sup>, White, Bob\*<sup>6</sup>

<sup>1</sup> Contributor, Maryland Grape Growers, Brandywine, MD, 20613

<sup>2</sup> Contributor, Maryland Grape Growers, Huntington, MD, 22063

<sup>3</sup> Contributor, Maryland Grape Growers, Woodbine, MD, 21797

<sup>4</sup> Coordinator, Maryland Grape Growers, Leonardtown, MD, 20650

<sup>5</sup> Contributor, Boordy Vineyards, Upper Marlboro, MD, 21082

<sup>6</sup> Contributor, Maryland Grape Growers, Brandywine, MD, 20613

Interest in sustainable grape growing (viticulture) has been increasing. But as wine grape growing varies vastly around the world due to differences in climate, soils, and pest pressure, most of the information in the literature is not explicitly pertinent to Maryland. The objective of this workbook is to specifically address the unique needs of Maryland growers.

The purpose of this workbook is to provide Maryland growers (Maryland Grape Growers Association/MGGA) with a systematic way to evaluate the viticultural practices used in their vineyards, and, based on these evaluations, to develop a program that produces high quality grapes in an economically and environmentally sustainable manner. The workbook is organized utilizing “increasing preference options” (4 options; low thru high risk) for each of 136 specific cultural practices under 7 management topics. Growers find the option that matches their current practice, then decide what it would take to move one or two steps down the risk scale. Each practice has resources/figures for additional information, most of which refer to the Specialist’s Web site and his “Timely Viticulture” topical newsletter.

The Specialist chose the specific management practices and the criteria for the 4 options. Editing included a committee

of 5 MGGA members to utilize their practical expertise. A Specialty Crop Block Grant funded the initial professional printing of 150 workbooks.

The Specialist taught 3 free regional 3-hour sessions (65 attendees) on sustainable practices and how to utilize the workbook. A special session was conducted at the 2016 MGGA/UME Field Day (55 attendees) and an afternoon session was dedicated at the 2017 MGGA/UME Annual Meeting (115 attendees). Attendees were provided a free color hardcopy of the 120 page workbook and copies were distributed to each UME County Office and Research Center. A link to a pdf of the workbook was posted on the MGAA and Specialist’s website for free download.

A post-workshop survey was emailed to attendees (33% return): 100% were very satisfied with the workshop/workbook; 100% stated said they “had developed” and “were beginning to implement” sustainability plans. Continuing education is scheduled and a follow-up survey will be administered.

BJ Jarvis\*<sup>1</sup>, Clay T. Cooper\*<sup>2</sup>

<sup>1</sup> County Extension Director/Horticulture Agent IV, UF/IFAS Extension Citrus County, Lecanto, fl, 34461

<sup>2</sup> Ag/Natural Resource Agent 1, , Lecanto, FL, 34461

#### **Audience:**

This plan was designed to address a short-fall in knowledge from county personnel and agricultural who respond to, and mitigating for, animal-involved large and small disasters and their aftermath.

#### **Purpose:**

Preparedness for any type of emergency is important. Following an emergency, communities typically possess a good ability to assist citizens with housing, shelter, and water. Like human disasters, animal-related emergencies are typically handled by first responders. However, these individuals often have no animal knowledge— about normal animal behavior, how to gather frightened or injured animals, where to house impounded livestock, or how to transport. In animal based emergencies, timing is critical and response knowledge is essential to minimize the extent of an emergency.

Citrus Extension realized that there were no local plans or coordination to assist responders in animal-based emergencies and developed a local plan to assist first responders and agriculture operators, with the intent to minimize the trauma and extent of impact on involved agricultural animals and the community.

This bound book plan outlines procedures and scenarios for anticipating and responding to local emergencies.

#### **Number printed:**

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10 (distributed to appropriate key county personnel, to sheriff's dispatchers, to Animal Services response team captains and others)

### **Agent/educator's role in development/writing/production**

Agents Jarvis and Cooper, and a multi-disciplinary team of agriculture and emergency response stakeholders, met at least monthly for more than one year determining the necessary plan information and communications vehicles in order for first responders to operate in a more informed manner. Since development, several local groups have endorsed this document (including the new County Sheriff, Citrus County Cattlemen's Association, Farm Bureau, and the Citrus County Agricultural Alliance, along with FDACS) and spoke in support of Board of County Commissioners adoption of the plan. It has been presented to the local cattlemen's group and other groups with a very positive reception.

## **Computer Generated Graphics Presentation**

### **National Winner**

Yergeau, S.\*<sup>1</sup>

<sup>1</sup> Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755

Compaction is a major problem affecting soil health in agriculture and horticulture in Ocean County. Compacted soils inhibit the growth of plant roots affecting the health of crops, pastures, and landscape vegetation. This presentation was given to Rutgers Master Gardeners (RMGs) of Ocean County during two workshops in the spring of 2016. The objective of this presentation is to outline the causes of compaction, its effects on soil health, mitigation options, and how to measure soil compaction in the home landscape. The slide set of 47 slides is available at <http://ocean.njaes.rutgers.edu/Resource%20Management/Understanding%20Soil%20Compaction%20-%20Script.pdf>. The purpose of this lecture is to introduce the RMGs of Ocean County to compaction as a horticultural problem, how to diagnose potential soil compaction in the home landscape, and to discuss some methods to mitigate compaction. Audience members were instructed on the use of a soil compaction tester that was available for RMGs of Ocean County to borrow on a voluntary basis at home, and to report their findings back to Dr. Yergeau. This lecture was presented during two workshops; one on April 27, 2016 and one on May 25, 2016 to 74 participants. Of the 74 Rutgers Master Gardeners trained, 43 signed up and tested their home lawns. The information gathered from the lawn testing effort is being used to develop a baseline level of soil compaction

in Ocean County and management recommendations for homeowners. The information presented during the workshop was condensed and used to create a webpage titled "Understanding Soil Compaction" (<http://ocean.njaes.rutgers.edu/UnderstandingSoilCompaction.html>). This lecture was fully developed as a scripted Microsoft PowerPoint presentation by Dr. Yergeau.

### ***NATIONAL FINALISTS***

Coffin, D.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Dover-Foxcroft, ME, 04426

Each year county educators present a short summary of the programs and activities they have been involved in to their county executive committees. Coffin works in two counties which have a joint meeting. In 2016 the staff decided to try something a little different with their presentations and used the PechaKucha 20 X 20 format. They prepared a Microsoft PowerPoint for Mac presentations with 20 slides that would each advance after twenty seconds. Educators were required to be concise as they described their county activities in just over 6 minutes. The joint meeting was attended by ten county executive committee members who commented that it was very fast paced and very interesting for them to learn about the county staff activities. This entry is one of four presentations that were made that evening. Since some of the executive committee members were unable to attend the original meeting, Coffin added a voice recording to the PowerPoint presentation using her MacPro laptop which were emailed to absent members, with at least one person viewing the presentation. Photos were of combination of Coffin's and other attributed photographers.

Beer, B.\*<sup>1</sup>

<sup>1</sup> Area Livestock Agent, Clemson University Cooperative Extension Service, Lancaster, SC, 29720

The presentation, "Economic Comparison of Hay Storage Methods" was developed for use by the author at two, regional Bermudagrass Hay Production Workshops held in August 2016. The intent was to examine the cost of lost hay due to storage method, the cost of different storage methods, and determine the economic viability of changing hay storage methods and reducing hay loss. The author reviewed publications from the University of Georgia and University of Tennessee and adopted content for this presentation. Hay producers that stored hay for future use was the primary audience. In addition to Bermudagrass Hay Production Workshops, this presentation was used by the author at four, county level beef cattle educational meetings, and at a Regional Equine Workshop. This presentation was viewed by approximately 125 hay producers, cattle producers, and equine owners in South Carolina. Content of this presentation was also modified and included in the article *How Much Does Your Hay Storage Cost?* for Clemson Extension's Livestock and Forage Program Team

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Statewide Newsletter, CU in the Pasture. The newsletter is electronically distributed to approximately 1050 people. Survey of producers at hay production workshops showed an increase in knowledge of all subjects discussed, including economic impact of hay storage methods.

Gray, S.L.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Washington State University Extension, Chehalis, WA, 98532

- Deep Work vs Shallow Work: A Time Management Method
- Deep Work vs Shallow Work: A Time Management Method Power Point Script

As Extension budgets continually tighten and expectations abound with programs, grant writing and publishing each days' time allotment at work becomes more and more valuable. Yet there are days, and weeks that we look up from what we are doing and wonder 'where did the time go?' "Deep Work vs Shallow Work: A time management method" is based on the 2016 book by Cal Newport, writer and assistant professor at Georgetown University. Many of his concepts apply directly to extension work. We will explore how to harness time and use it to our best advantage to accomplish our goals. The "four-rule guide" will be introduced to help minimize distractions and focus on thoughtful deep work to allow our best efforts and still have time for other life activities (outside of work!). This presentation introduces concepts and provide an opportunity for participants to engage in a brain storming session and a hands-on exercise to begin to apply this method to their individual work lives.

## **Fact Sheet**

### **National Winner**

Gohil, H.\*<sup>1</sup>

<sup>1</sup> Agriculture and Resource Management Agent, Rutgers Cooperative Extension, Clayton, NJ, 08312

Red leaves in the vineyard are caused by many biotic (viruses, bacteria, and fungus) and abiotic (nutrient deficiencies, cold injury, damage to root systems, etc.) stresses. Anything that can cause blockage or stress in the vascular system where water and nutrients are transported can result in the development of red leaves. Though the timing, pattern of appearance, and spread could be different, the overlapping of the symptoms, especially the reddening of leaves, makes it very difficult to identify the cause based only on visual symptoms. The fact sheet *Red Leaves in The Vineyard: Biotic and Abiotic Causes* was developed to

educate beginning and established wine grape growers on how to differentiate the symptoms between nutritional deficiencies and virus diseases. It also advises wine grape growers not to rely on guesswork, but to get the vines tested for accurate diagnosis as soon as possible. Examples of abiotic and biotic stresses with pictures, description and remedy are presented along with a decision making chart for action to be taken after appearance of the red leaves on grapevines. The content of fact sheet was presented at Wine Grape session of 2017 Mid-Atlantic Fruit and Vegetable Convention in Hershey, PA where entrant was an invited speaker. Fact sheet was distributed to growers at that convention (55) and at wine grape twilight meetings (32). The fact sheet (FS1260) is published at Rutgers New Jersey Agriculture Experiment Station. Available to download at: <https://njaes.rutgers.edu/pubs/fs1260/>.

### ***NATIONAL FINALISTS***

Green, J.M.\*<sup>1</sup>, Larson, J.L.\*<sup>2</sup>

<sup>1</sup> Urban Entomologist, Nebraska Extension in Lancaster County, UNL, Lincoln, NE, 68528

<sup>2</sup> Urban Entomologist, Nebraska Extension in Douglas-Sarpy Counties, Omaha, NE, 68124

The incidence of head lice remains steady among primary and elementary school children, affecting millions between the ages of 3 and 12 years, annually. Head lice were the second most common biting pest of concern in Lancaster, Douglas and Sarpy Counties. Efforts to manage head lice fall on the parents or caregivers at home, and the costs in terms of time, money, and energy, can become substantial. Adults report increased stress and frustration due to repeat or shared infestations among household members. The purpose of this science-based resource is to minimize the panic and anxiety that parents feel when the school sends home head lice notification. The document provides answers to frequently asked questions, outlines non-chemical treatment options, and compares and contrasts six currently available pediculicides. The goal is to discourage behaviors that spread head lice, decrease the time parents must take time off work, and allow students to make full use of the time assigned for education. The fact sheet is accessible online, available in Spanish, distributed at conferences in color print (250 families), and emailed to school districts in the Metro Extension district in Nebraska (~1600 families). The resource is available at <http://lancaster.unl.edu/pest/lice>, which received 176,713 views in 2016. Authors read peer-reviewed articles by school nurses, conducted a survey for parents via social media, and examined various delousing product labels.

de Koff, J.\*<sup>1</sup>, Robbins, C.\*<sup>2</sup>, Link, R.\*<sup>3</sup>

<sup>1</sup> Specialist, Tennessee State University, Old Hickory, TN, 37138

<sup>2</sup> Extension Associate, Tennessee State University, Nashville, TN, 37209

<sup>3</sup> Research Assistant, Tennessee State University, Nashville, TN, 37209

The objective of this fact sheet was to disseminate current information related to winter canola production in Tennessee. A second objective was to relate the properties of winter canola to the production of biodiesel. The audiences for this publication are Tennessee Extension agents and farmers. The fact sheet was developed and published by the author and was peer-reviewed by two Tennessee Extension agents, and three faculty/extension specialists from Virginia, Kansas and Oklahoma who each had expertise in winter canola. It was uploaded to the Tennessee State University website in June 2016 and was incorporated into the Biomass Energy Training Curriculum used to train 17 Extension agents and one Soil Conservation District official in 2016. The fact sheet used a table and figures to help achieve the stated objectives. The table highlighted the states with the greatest production of canola based on the harvested acres recorded for 2015 by USDA-NASS. Figure 1 demonstrated the small seed size of canola, emphasizing the need for a firm seedbed and shallow planting. Figure 2 was a high resolution image of a seedpod with immature seed and a seedpod with mature seed. This is a unique way of demonstrating this which, to my knowledge, has not been done before. In Figure 3, data from my ongoing winter canola research was included to identify the important varietal differences in canola meal quality for its potential use as an animal feed. All material was referenced to allow readers to identify further information. Contact information (phone, email, social media) was also included to allow readers to follow up with additional questions.

Kerr, S.\*<sup>1</sup>, Tuck, B.V.\*<sup>2</sup>, Hammond, E.\*<sup>3</sup>, Olson, S.\*<sup>4</sup>, Ginsburg, A.\*<sup>5</sup>, Hino, J.\*<sup>6</sup>

<sup>1</sup> WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

<sup>2</sup> Professor, Department of Crop & Soil Science, Oregon State University Extension Service-Wasco County, The Dalles, OR, 97058

<sup>3</sup> District Conservationist, Wasco County Soil and Water Conservation District, The Dalles, OR, 97058

<sup>4</sup> Water Quality Specialist, Oregon Department of Agriculture, Bend, OR, 97701

<sup>5</sup> Publishing Manager, Oregon State University Extension & Experiment Station Communications, Corvallis, OR, 97331

<sup>6</sup> Learning Technology Leader, Oregon State University Extension & Experiment Station Communications, Corvallis, OR, 97331

“Getting Started with Sheep and Goats—Building a Flock or Herd” (EC 1648; October 2016) was created as part of the Oregon State University Extension Services 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 issues, 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—Building a Flock or Herd” informs small acreage livestock owners about species and breed selection, choosing healthy animals, working with veterinarians, diseases of concern, managing a new herd of flock, wise stewardship of animals and resources, and recommendations for sources for detailed information. This fact sheet is the second installment in a series on this topic. 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 soil and water district conservationist, and a state Department of Agriculture water quality specialist. They were assisted by two Extension communication specialists. The first author of the abstract was the primary author of this fact sheet. Both the pdf and audiofiles of Getting Started with Sheep and Goats—Building a Flock or Herd are available at <https://catalog.extension.oregonstate.edu/ec1646>. The fact sheet was downloaded 16 times in 3 months (a database change resulted in the loss of previous data); users were from 11 cities throughout WA, ID, and OR.

## **Feature Story**

### **National Winner**

Overbay, A.E.\*<sup>1</sup>

<sup>1</sup> Extension Agent, ANR, Dairy Science, , Marion, VA, 24354

This feature story was written to recognize the role that strong, positive family relationships have on sustaining the family farm. Specifically, this article for the June 2016 edition of Progressive Forage magazine shared the important role of the author’s father played on their farm as mentor and friend. This personal story tells of the working relationship and subsequent loss of a loved one and how “right now” is the time to tell others how important they are to us. This publication was sent to over 47,500 subscribers. Readers from across the nation and Canada emailed or messaged the author with thank you notes and positive feedback. The entry was supplied to the editor of Progressive Forage as a Word document and distributed both in hardcopy and electronic form. This all original work is available on line

at: <http://www.progressiveforage.com/forage-production/producer-features/of-farms-and-fathers>

## ***NATIONAL FINALISTS***

Wells, B.C.\*<sup>1</sup>

<sup>1</sup> Extension Agent II, Commercial Agriculture, UF/IFAS Extension, St. Augustine, FL, 32092

The objective of the feature story was to educate commercial producers about integrated management strategies for the most destructive pest of cruciferous crops worldwide, the Diamondback Moth, which has become increasingly hard to control due to pesticide resistance. The agent researched the topic and created the article using Microsoft Word software on a desktop computer. The article was submitted with relevant photos in January 2017 to Meister Media Worldwide, a company that covers the North American commercial vegetable industry with their website Growing Produce and statewide with *Florida Grower* magazine. The feature was published online at GrowingProduce.com on January 13, and in *Florida Grower* magazine on March 1 (Volume 110, Issue No. 3, pages 38-39). The Growing Produce website has more than 76,000 monthly visitors and *Florida Grower* magazine has a monthly print circulation of 10,031 nationwide. To date, the article has had 27 direct-link Facebook shares and 1,120 Twitter impressions. The article can be viewed on Growing Produce at <http://www.growingproduce.com/vegetables/3-ways-to-save-your-vegetable-crops-from-diamondback-moths/>.

Griffeth, L.\*<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University of Georgia, Preston, GA, 31824

The author often attends many youth livestock shows with my nephews in Texas. Many of the Webster County and Stewart County ANR clientele know I am out of town, but they do not have an idea of what exactly I do at these events. After attending one of these livestock shows and the following week attending a Cloverleaf 4-H Project Achievement Event, I wrote a feature story of my experiences with our youth and decided to utilize the two weekly newspapers that service the area.

The author wrote "Youth" in March 2016 about the author's experiences with youth at a livestock show and 4-H project achievement. In addition three photographs were submitted with the story and were taken with a Sony CyberShot DSC-H70 digital camera and an iPhone. The article titled "Working with Webster youth means I'm surrounded by fantastic young folks" along with the three pictures was published in The Journal newspaper on March 30, 2016 with a circulation of approximately 2,000. The story and three pictures were

published on March 31, 2016 in the Stewart Webster Journal Patriot Citizen newspaper with a circulation of approximately 5,000.

Higginbotham, R.\*<sup>1</sup>

<sup>1</sup> Assistant Professor, Washington State University, Pullman, WA, 99164

The Cereal Variety Testing Program (VTP) at Washington State University (WSU) annually evaluates nearly 200 winter wheat, spring wheat, and spring barley entries at more than 40 locations in Washington. The mission of the VTP is to provide growers and industry with independent and objective variety performance information. The primary method of delivering information to Extension clientele is via the project website: <http://smallgrains.wsu.edu/variety>. A secondary method of delivering trial results is through articles published in *Wheat Life*, the official monthly publication of the Washington Association of Wheat Growers. Circulation for *Wheat Life* is 14,500. As director of the VTP, I annually submit articles to *Wheat Life* summarizing results from my winter and spring trials. The purpose of the articles is to provide an overview of trial results for wheat a barley producers in Washington. The articles are meant to convey basic agronomic results and direct producers to my website, where they can view more detailed trial information.

## **Learning Module**

### **National Winner**

Flahive DiNardo, M.\*<sup>1</sup>, Bakacs, M.\*<sup>2</sup>, Melendez, M.\*<sup>3</sup>, Nitzsche, P.\*<sup>4</sup>, Larson, D.\*<sup>5</sup>, Szkotak, R.\*<sup>6</sup>, Magron, R.\*<sup>7</sup>, Infante Casella, M.\*<sup>8</sup>

<sup>1</sup> COUNTY AGENT, , Westfield, NJ, 07090

<sup>2</sup> County Agent, Rutgers Cooperative Extension of Union and Middlesex Counties, Westfield, NJ, 07090

<sup>3</sup> County Agent, Rutgers Cooperative Extension of Mercer County, Trenton, NJ, 08648

<sup>4</sup> County Agent, Rutgers Cooperative Extension of Morris County, Morristown, NJ, 07963

<sup>5</sup> Master Gardener Coordinator, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728

<sup>6</sup> Program Associate II, Rutgers Cooperative Extension of Camden County, Cherry Hill, NJ, 08002

<sup>7</sup> Master Gardener Coordinator, Rutgers Cooperative Extension of Hunterdon County, Flemington, NJ, NJ, 08822

<sup>8</sup> County Agent, Rutgers Cooperative Extension of Gloucester County, Clayton, NJ, 08312

A team of Rutgers Agents and Master Gardener Program Coordinators joined forces to create a community vegetable

gardening curriculum that could be used by volunteer Master Gardeners, schools and community gardening organizations to teach gardeners the basics of establishing and maintaining a vegetable garden. Our objectives were to: 1) create peer-reviewed presentations, 2) develop program evaluations that could be easily administered and have Institutional Review Board (IRB) approval, 3) train volunteer Master Gardeners to deliver the curriculum, 4) facilitate Master Gardeners delivering the curriculum in their local communities. The team identified five topics the curriculum should address and established learning objectives for each one: Starting a Community Garden, Composting, Harvesting & Food Safety, and Insect & Disease Management, Part 1 Integrated Pest Management Techniques, Part 2 Key Plants – Key Pests. Each presentation was reviewed by the department chair and faculty with expertise in the topic. The curriculum consists of scripted and audio PowerPoint™ presentations. The presentations were recorded using PowerPoint™ and converted to MP4 files. Each presentation is accompanied with Rutgers Cooperative Extension and USDA fact sheet resources and pre/post evaluation quizzes. Each pre/post quiz consists of 10 true/false/not sure statements. The evaluations have Rutgers IRB approval. They can be administered using paper and are also available as on-line Qualtrics surveys. The lead author, Flahive DiNardo, was responsible for coordinating team meetings, co-writing scripts, developing program evaluation materials, facilitating IRB and peer reviews, recording four presentations, final editing and the distribution of materials. In the fall of 2016, 137 Master Gardeners attended regional training programs and received the curriculum on jump drives. The curriculum is also available to Master Gardener Coordinators on a Rutgers SAKAI course management website, <https://sakai.rutgers.edu>. Extension colleagues are welcome to have access to the curriculum materials upon request (contact: [Flahive@njaes.rutgers.edu](mailto:Flahive@njaes.rutgers.edu)). The presentations with accompanying resource materials and evaluation quizzes will be available to the general public on the NJ Agricultural Experiment Station website: [www.njaes.rutgers.edu](http://www.njaes.rutgers.edu).

### ***NATIONAL FINALISTS***

Berg, M.A.\*<sup>1</sup>, Harstad, A. E.\*<sup>2</sup>, Hoffmann, K. A.\*<sup>3</sup>, Johnson, N. A.\*<sup>4</sup>, Schuster, L. K.\*<sup>5</sup>, Wang, S. L.\*<sup>6</sup>, Weinmann, T. J.\*<sup>7</sup>

<sup>1</sup> Area Extension Specialist, Livestock Environmental Management, NDSU Extension Service, Carrington, ND, 58421

<sup>2</sup> Extension Agent, Stutsman County, NSDU Extension Service, Jamestown, ND, 58401

<sup>3</sup> Extension Agent, Cass County, NDSU Extension Service, Fargo, ND, 58108

<sup>4</sup> Area Extension Specialist, Community Health and Nutrition, NDSU Extension Service, Fargo, ND, 58108

<sup>5</sup> Administrative Secretary, NDSU Carrington Research Extension Center, Carrington, ND, 58421

<sup>6</sup> Extension Associate, Health, Nutrition and Exercise Sciences, NDSU Extension Service, Fargo, ND, 58108

<sup>7</sup> Extension Agent, Cass County, NDSU Extension Service, Fargo, ND, 58108

The Kids, Compost, Crops and Consumption (KCCC) program is designed to teach 3<sup>rd</sup> and 4<sup>th</sup> grade students about the food cycle. This program includes lesson plans, hands-on activities, take-home newsletters, physical exercises, recipes and evaluations.

The suggested order to use this program is to start with the livestock lesson which teaches students about different kinds of livestock, what they eat and what they are used for. The livestock lesson is followed by the compost and manure lesson which discusses the value of compost and manure as fertilizer for plants. Next is the soils lessons which teaches students about soil particle size and why soils are important for plant growth. The next lesson is about horticulture basics, emphasizing plant roots and photosynthesis. The final lesson teaches students about nutrition and why it is important to consume the recommended amount of fruits and vegetables. There is the option to teach a wrap-up lesson where there is an overview of each lesson with a final activity to be determined based on educator resources. Resources vary greatly among educators, thus the review lesson can easily be adjusted to meet the needs of any educator. Ideas on funding sources are provided. Each lesson can take 30 minutes or one hour to easily fit into any programming format.

The KCCC program is currently available via the original team, however, in the fall of 2017 the curriculum will be available to any Extension agent, teacher, or agency personnel who wish to teach youth about the food cycle. Follow-up evaluations were completed three months after the program by 63 of 80 students who participated in the pilot of KCCC. The evaluations indicated students applied the knowledge they gained: 73 percent planted the spinach square-foot garden that was provided by the program; 37 percent harvested the spinach and the majority ate it as a salad; 57 percent planted another garden besides the one the program provided; 62 percent had a parent participate in the garden activity; 29 percent consumed 2 serving of vegetables per day during the summer break months.

Mills-Lloyd, S.\*<sup>1</sup>

<sup>1</sup> Agriculture Agent, UW-Extension, Oconto, WI, 54153

Nestlé selected UW-Madison as an academic partner to lead their Dairy Farming Institute (DFI) education program located in Shuangcheng in the Heilongjiang Province of northeast China. The University of Wisconsin was tasked to work on all elements of the curriculum including design, program planning, the establishment of learning objectives and core competencies along with the evaluation of training programs

and trainers. Sarah Mills-Lloyd was asked to participate as a subject area expert in this project. She designed, developed and presented the material in the three-day course covering health management of calves and young stock. Her co-teacher was a veterinarian who developed and presented the portion for the course on analyzing key dairy performance indicators. The curriculum was specifically designed and developed for Chinese animal health workers.

The curriculum consisted of PowerPoint lectures with computer based DairyComp classroom activities and field investigative laboratories. Attendees received copies of the lecture material and laminated factsheets. The factsheets were created to complement the lecture material and be durable for participants to take back to their farm to serve as a teaching and reference tool for other employees. iClicker quizzes were administered to participants at the completion of each day to measure their competency of presented material.

Factsheets for this curriculum were co-developed with the assistance from another UW-Extension agriculture agent. The entire curriculum will be used for further educational applications, such as a heifer health and management module.

The session occurred the fall of 2016 with 14 Chinese and three Thai participants and three major allied veterinary business partners (GEA, Boehringer Ingelheim, and Bayer Animal Health). All the teaching materials were translated into Chinese for the course and presented in both Chinese and English. The animal health course was rated 4.89 (Likert 1-5).

Please follow this link to view the curriculum <http://ocont.uwex.edu/files/2017/03/L2-Animal-Health-Module.pdf>.

de Koff, J.\*<sup>1</sup>, Nelson, R.\*<sup>2</sup>, Holland, A.\*<sup>3</sup>, Prather, T.\*<sup>4</sup>, Hawkins, S.\*<sup>5</sup>

<sup>1</sup> Specialist, Tennessee State University, Old Hickory, TN, 37138

<sup>2</sup> Instructor, University of Tennessee - Martin, Martin, TN, 38237

<sup>3</sup> State Energy Coordinator, USDA Rural Development, Nashville, TN, 37209

<sup>4</sup> Extension Specialist, University of Tennessee - Knoxville, Knoxville, TN, 37996

<sup>5</sup> Outreach Professional, University of Vermont, Brattleboro, VT, 05301

The purpose of this curriculum was to assist agricultural Extension agents by providing materials they could use in stakeholder workshops/meetings related to bioenergy. The curriculum was developed with funding from a Southern SARE Professional Development Program grant I received in 2015. The curriculum was developed through a team effort. I developed the majority of the curriculum materials, however, specific portions were provided by Tim Prather at the University of Tennessee and Adia Holland at the USDA

Rural Development. Ramona Nelson at the University of Tennessee assisted with the organization of the curriculum and Sue Hawkins at the University of Vermont uploaded the materials to the eXtension.org Farm Energy Community of Practice website. The curriculum (<http://articles.extension.org/pages/73919/biomass-energy-training-curriculum-tn>) includes 13 units that all relate to biomass energy production and sustainable agriculture. Each unit includes learning objectives, presentation slides, participant handouts, a lesson guide, relevant factsheets, videos and activities, an evaluation and additional resources from other specialists. This material was used successfully in training 17 agricultural Extension agents and one soil conservation district official in 2016. Participating agents received a hard copy of the entire curriculum upon completion. Based on evaluations, over 90% of participants indicated an increase in their knowledge of no-till production of winter canola, on-farm biodiesel production and the Rural Energy for America Program. All participants either agreed or strongly agreed that they would recommend the program to others.

## Newsletter, Individual

### National Winner

**Susan Haddock**

Extension Agent

UF/IFAS

Hillsborough

The objective of these newsletters is to educate landscape maintenance professionals on a variety of urban topics while presenting in a consistent month to month format that is interesting and fun. Urban landscape management practices affect many aspects of natural resources from water quality to beneficial organisms. Florida has a wide diversity of water resources and the largest area of water resources in the contiguous 48 states. Many of these water resources are downstream of watersheds where approximately 19 million people live. Additionally, Florida has many beneficial insects that are good predators, parasites and pollinators and occur naturally in landscapes. The purpose of the newsletters is to educate horticultural professionals about how urban landscape inputs (pesticides and fertilizers) aimed at controlling damaging insects or greening up lawns are associated with potentially negatively impacts on natural resources. The primary target audience is commercial horticulture professionals but, the newsletters are designed to be easily understood by urban residents and Master Gardeners. The newsletters are distributed by email campaign monthly to over 550 clients/companies. Four hundred additional newsletters are directly distributed in hard copy to landscape suppliers for their clients. Over 50 newsletters are 'picked up' at the Extension office front desk

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monthly. As a result 98% of respondents to an informal survey (n=107) report that knowledge gained from the newsletter have helped them implement best management practices that protect and preserve water quality and beneficial insects and help them manage properties more responsibly. Respondents also greatly enjoy the Photo Promo and many indicated that is the section they go to first for fun. The newsletter was designed by the submitting Agent and printed on office equipment.

### ***NATIONAL FINALISTS***

#### **Christina Yoder Becker**

Extension Educator  
Penn State Extension Greene County  
Greene County

A county 4-H newsletter, the *4-H Greene Horn*, was published bi-monthly for the Greene County Pennsylvania 4-H community in 2016. The newsletter highlighted current 4-H club and county activities and informed the 4-H community of upcoming activities. The newsletter was formatted as a mini newspaper and included a cover page with a feature story and an *In this Issue* spotlight, a *Leadership Spotlight* page that focused on a suggested leadership activity providing educational information to aid in successful engagement, *Club and County News*, *Upcoming Events*, and a back page featuring a *Mark Your Calendar* section for a quick listing of upcoming events. When available, event titles were hyperlinked for quick access to event information. The .pdf newsletter was distributed online through the Penn State Extension 4-H Online management system to each unique email address provided. A printed copy of the newsletter was made available to families upon request.

#### **Wendie Powell**

EXT Educator AG/4H  
Oklahoma Cooperative Extension Service  
Okfuskee County

The Okfuskee County Agriculture Newsletter is created by Wendie Powell, Okfuskee County, Oklahoma and is distributed quarterly to area producers. The purpose of the newsletter is to share research-based information with livestock, crop, and horticulture producers to promote quality standards. Articles include horticulture, livestock, pond management, upcoming programs and events, among other topics. Articles are compiled from area/state specialists, as well as written personally. This newsletter is distributed through postal mail (224 on mailing list), electronic mail (48 on mailing list), and may be acquired at the Okfuskee County OSU Extension Office. Additionally, it is distributed at vendor events that feature Okfuskee County OSU Extension. This quarterly newsletter is prepared in a field office, duplicated by field staff with field resources. Feedback is often given in the form of requests for more information on a certain article, suggestions on future articles, and even appreciative comments! The audience in Okfuskee County is very diverse; for example, county demographics include 64%

White, 8% Black, 21% American Indian, as well as 24% of the population living below the poverty line.

#### **Carrie H. Wohleb**

Regional Extension Specialist  
Washington State University Extension  
Grant/Adams Counties

*WSU Potato Pest Alerts* is an e-newsletter written by Regional Extension Potato Specialist, Carrie Wohleb. It is sent to 690 subscribers weekly from April to September. The subscribers are potato growers, crop consultants, and processing company representatives who are responsible for about 150,000 acres of potatoes in the Columbia Basin of Washington State. The e-newsletter is generated using an online email marketing service. *WSU Potato Pest Alerts* is the most important output generated from an area-wide insect monitoring program. About 50 commercial potato fields across the region are monitored weekly for insect pests: potato psyllids, aphids, beet leafhoppers, and potato tuberworm. Observations of other insect pests, spider mites, and beneficial insects are also recorded. Each issue of *WSU Potato Pest Alerts* includes a summary of insect monitoring results, education about the pests and the problems they cause, and management recommendations that integrate monitoring, conservation of beneficial insects, cultural controls, and optimal use of pesticides. Most issues also include maps that show estimated pest densities across the region and graphs that compare monitoring results from the current and previous seasons. Information about late blight and other diseases identified during the growing season is also included. Subscribers have noted that *WSU Potato Pest Alerts* play an important role in minimizing pest outbreaks in the region. It helps them anticipate and mitigate problems before they become difficult to manage. Potato growers have reported making fewer insecticide applications because of the timely information they receive about regional pest populations. It is estimated that a cost savings of \$30 per acre (the average cost of a single insecticide application) saves Washington's potato growers about \$4.5 million per year. The *WSU Potato Pest Alerts* and insect monitoring program are funded by an annual grant of the Washington State Potato Commission.

## **Newsletter, Team**

### **National Winner**

#### **Rakesh Chandran**

Extension Specialist - Pest Management  
WVU Extension

Chandran, R.\*<sup>1</sup>, Frank, D.\*<sup>2</sup>, Rahman, MM.\*<sup>3</sup>, Danilovich, M.\*<sup>4</sup>, Owen, S.\*<sup>5</sup>

<sup>1</sup> Extension Specialist - Pest Management, WVU Extension, Morgantown, WV, 26506

<sup>2</sup> Extension Entomologist, West Virginia University, Morgantown, WV, 26506

<sup>3</sup> Extension Plant Pathologist, West Virginia University, Morgantown, WV, 26506

<sup>4</sup> Extension Specialist - Consumer Horticulture, West Virginia University, Morgantown, WV, 26506

<sup>5</sup> Extension Specialist - Wildlife, West Virginia University, Morgantown, WV, 26506

The IPM Chronicle is a multi-disciplinary quarterly newsletter published by the West Virginia University Extension Service - Ag. and Nat. Res. unit, with assistance from the Extension Service Communications Team. It has been published since 2013 and serves as a credible source of information related to emergent pest management issues relevant to West Virginia, with some topics of regional or national scope. It has a very broad readership ranging from Homeowners to Master Gardeners, County Agents and Growers. The IPM Chronicle is managed by Rakesh Chandran, IPM Coordinator at WVU along with contributions from Daniel Frank (Entomology), Mafuz Rahman (Plant Pathology), Rakesh Chandran (Weed Science), Mira Danilovich (Environmental Plant Damage), Sheldon Owen (Verebrate Pests), and Barbara Liedl from West Virginia State University collaborating and contributing articles on Greenhouse and High Tunnel IPM. Although it is primarily a web-based publication with over 3000 unique readers in 2016, approximately 500 hard copies were distributed at meetings, workshops, and conferences. Keywords are embedded into the files to direct search engines and facilitate the search process.

## **NATIONAL FINALISTS**

Rodgers, E.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Purdue Extension, Auburn, IN, 46706

The DeKalb County Extension Edge is put together to supply information to citizens in and around DeKalb County with an interest in our Extension programs. The purpose of these newsletters is to deliver timely information to our audience as a form of education. This newsletter is assembled on a bi-monthly basis for the three program areas in our office: 4-H/Youth Development, Agriculture and Natural Resource, and Health and Human Sciences. The audience includes all 4-H member and volunteer families, Master Gardeners, Extension Homemakers, the DeKalb County Extension Board, DeKalb County Commissioners and County Council, and county citizens interested in the Agriculture and Natural Resource and Health and Human Sciences programs. Every other month, each educator submits material in either Publisher or Word format to one of our secretaries who in turn formats the newsletter. The newsletter is then printed, folded, collated, sealed, and mailed in-house. The Extension Edge is delivered by hard copy and electronically to approximately 1,000 households each mailing. As the Agriculture and Natural Resource educator, I contribute

the material for the Agriculture and Natural Resource Section and edit the final copy of the newsletter before it is published. I also typically submit material for the opening page as I also serve as the County Extension Director.

Stebbins, T.C.\*<sup>1</sup>, Dale, A.M.\*<sup>2</sup>

<sup>1</sup> Extension Agent III, University of Tennessee, Chattanooga, TN, 37416

<sup>2</sup> Master Gardener, University of Tennessee, Chattanooga, TN, 37409

This newsletter is called "The Grapevine". It is available at [www.MGHC.org](http://www.MGHC.org). The main objective is to encourage the Master Gardeners of Hamilton County to become more involved in the association. The general public can see most of the content except for a password protected part just for Master Gardener business. The newsletter serves as a low cost way to promote the activities of a dynamic Master Gardener group. There is a calendar of events. The Tennessee Extension Agent writes topical articles. There are lists of upcoming classes and seminars. The association President writes the front page article. New interns are encouraged to build their writing skills by submitting short articles for the newsletter. This newsletter encourages several hundred volunteers to take action. These volunteers sign up for classes, adopt better practices, gain skills and then aspire to take personal or community action on a project. This has led to progress on many social, economic, and environmental issues in Chattanooga. The newsletter is sent to about 250 Master Gardeners in Hamilton County, TN. About 2000 community service hours are given by new interns the first year. Over 18000 hours are given each year by Hamilton County Master Gardeners continuing to help others.

**Susan Kerr**

WSU NW Regional Livestock and Dairy Extension Specialist  
Washington State University, Northwestern Research and  
Extension Center

Stephenson, G.\*<sup>1</sup>, Lucas, C.\*<sup>2</sup>, Fery, M.\*<sup>3</sup>, Gwin, L.\*<sup>4</sup>,  
Andrews, N.\*<sup>5</sup>, Garrett, A.\*<sup>6</sup>, Runkel, S.\*<sup>7</sup>, Powell, M.\*<sup>8</sup>,  
Stoven, H.\*<sup>9</sup>, Stephan, T.\*<sup>10</sup>, Noordijk, H.\*<sup>11</sup>, Fernandez-  
Salvador, J.\*<sup>12</sup>, Suits, R.\*<sup>13</sup>, Kerr, S.\*<sup>14</sup>

<sup>1</sup> Extension Small Farms Specialist, Oregon State University  
Extension Service, Corvallis, OR, 97331

<sup>2</sup> Small Farms Program Assistant, Oregon State University  
Extension Service, Corvallis, OR, 97333

<sup>3</sup> Benton, Linn, & Lane County Extension Educator, Oregon  
State University Extension Service, Corvallis, OR, 97333

<sup>4</sup> Extension Food Systems Specialist, Oregon State University  
Extension Service, Corvallis, OR, 97331

<sup>5</sup> Clackamas & Washington County Extension Educator,  
Oregon State University Extension Service, Aurora, OR,  
97002

<sup>6</sup> Benton, Linn, & Polk County Extension Educator, Oregon  
State University Extension Service, Corvallis, OR, 97333

<sup>7</sup> Douglas County Extension Educator, Oregon State University Extension Service, Roseburg, OR, 97470

<sup>8</sup> Jackson & Josephine County Extension Educator, Oregon State University Extension Service, Central Point, OR, 97502

<sup>9</sup> Yamhill County Extension Educator, Oregon State University Extension Service, McMinnville, OR, 97128

<sup>10</sup> Deschutes, Jefferson, and Crook County Extension Educator, Oregon State University Extension Service, Redmond, OR, 97755

<sup>11</sup> Clackamas & Washington County Program Assistant, Oregon State University Extension Service, Aurora, OR, 97002

<sup>12</sup> Marion & Polk County Extension Educator, Oregon State University Extension Service, Salem, OR, 97301

<sup>13</sup> Hood River & Wasco County Program Assistant, Oregon State University Extension Service, Hood River, OR, 97031

<sup>14</sup> WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

The Oregon State Small Farms program is pleased to have published its award-winning newsletter, *Oregon Small Farm News (OSFN)*, for 10 years. This free, full-color digital publication was created to address the educational needs of the burgeoning small farm audience in Oregon. The purpose of the *OSFN* is to provide 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 41 quarterly issues of the *OSFN* since it was first published in 2007. 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. 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 by its page views, which have steadily grown from 4,000 for the first issue in 2007 to an average of 20,000 for 2016 issues.

## **Personal Column**

### **National Winner**

**Tony Nye**

In 2014 I was invited by the managing editor of the *Acreagelife* magazine to be a monthly contributor to this hobby/small farm publication. My monthly column is titled *Weekend Farmer*. The objective of this column is to bring useful farm management and production practice information to small scale farming enthusiasts. Each article authored is sent to the managing editor and professionally edited by their staff. Before final copy is printed, I review and edit for any corrections. Readership of this magazine is distributed through several means which includes 19,500 distributed print run copies, 10,448 digital subscribers, and an *Acreagelife* following on facebook of 71,836. In his editorial, James Egolf, *Acreagelife* Managing editor wrote, “Tony Nye is another name you will recognize, bringing us the voice of both an educator and real-world expert on small-scale agriculture production.”

### **NATIONAL FINALISTS**

**Phillip Durst**

Sr. Extension Dairy & Beef Educator  
MSU EXTENSION  
OGEMAW

One of the toughest areas of management on farms and ranches for many producers is managing employees. Stan Moore and I were invited to write a series of columns on topics relating to employee management for the *Nebraska Cattleman* magazine, a publication of that organization. The objective was to educate employers through columns that would be both practical and interesting. The opportunity came after Moore spoke in Nebraska about employee management. The editor of *Nebraska Cattleman* recognized the “strong interest” of their readers and wanted to “delve deeper” into the topic with a series of columns. Moore and I agreed to write six columns for the magazine, each writing three. We were given a target word count of 950 – 1400. The two columns submitted, “Employee Recruitment: Intentional and Continuous” and “Effective Employee Training” were written by Durst and published in the September and November 2016 issues of *Nebraska Cattleman* magazine. Columns were submitted electronically to the editor. Magazine staff formatted the articles and added the pictures. According to the editor, the *Nebraska Cattleman* magazine goes to 15,000 producers (all industry segments) across Nebraska and into surrounding states, as well as to top seedstock, cow-calf and

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feedlot operations in the U.S. In addition, the “Employee Recruitment” column was reformatted to fit requirements for The Michigan Cattleman magazine and submitted and carried in that publication in the Fall 2016 issue.

**Melanie Barkley**

EXTENSION EDUCATOR  
PENN STATE UNIVERSITY

This personal column appears once a month in the weekend edition of the Bedford Gazette and in the home and family section of the Daily American. The column is shared with other educators in the Bedford and Somerset County offices. The newspapers that the column appears in are distributed countywide with a circulation of 19,000 for the Bedford Gazette and 12,500 for the Daily American. These agricultural related articles are written for livestock and dairy producers to address current issues related to farming and for the general public to learn more about agriculture in general. The column is prepared using Microsoft Word and is sent to the newspaper editor electronically via email.

**Molly Jameson**

Sustainable Agriculture and Community Food Systems  
UF/IFAS  
Leon

The objective of writing “Fascinating fungi” was to teach the community the fascinating process of how shiitake mushrooms are grown and to promote an event at the Tallahassee Farmers’ Market. Local high school culinary students partnered with USDA researchers to showcase shiitakes growing on various log species and the students cooked and offered samples of sautéed shiitake mushrooms to market shoppers. The objective of writing “Indulge your senses at the Lake Ella Growers’ Market” was to promote support for local farmers and producers and to promote the area’s growers’ farmers’ market, which was celebrating its 13<sup>th</sup> anniversary. The articles were written by Molly Jameson using Microsoft Word and posted to the *Tallahassee Democrat* WordPress blog. “Fascinating fungi” appeared on the front cover of the *Tallahassee Democrat* printed newspaper *Home and Garden* section on November 4, 2016. “Indulge your senses at the Lake Ella Growers’ Market” appeared on the front cover of the *Tallahassee Democrat* printed newspaper *Home and Garden* section on July 1, 2016. Average daily *Tallahassee Democrat* print readership: 73,000. Average daily *Tallahassee Democrat* unique blog visitors: 24,703. Facebook followers: 45,000. Twitter followers: 37,000. Instagram followers: 3,000.

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## **Program Promotional Piece**

### **National Winner**

Carutis, N.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Coudersport, PA, 16915

In an effort to increase use of nutrient retaining, soil stabilizing and organic matter building cover crops, the Penn State Interseeder planted cover crops in between the rows of standing corn on 5 farms across Potter and McKean Counties. The project was funded in-part by the Potter & McKean County Conservation Districts. The goal of the project was to share with farmers alternative ways to increase cover crop acreage on their farms. This flyer was mailed to 233 farmers in Potter and McKean Counties growing corn. 33 farmers attended a cover crop tour showcasing the locations. As a result of the field days, 330 acres of cover crops were planted by three producers in a “PA DEP 303d Ag-impaired Watershed” following corn using a no-til drill for the first time. The total acreage of cover crops to be planted in this watershed is expected to increase by 25% in 2017.

### ***NATIONAL FINALISTS***

Lindberg, H.M.\*<sup>1</sup>

<sup>1</sup> Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

The program promotional piece was developed in 2016 to market the online course, “Biological Control for Greenhouse Growers.” The colorful and informative promotional piece was intended to market the course to greenhouse growers, greenhouse scouts, and aligned professionals. This flyer explains the content, affiliated universities and organizations, the webhost, the course offerings, the outline of the course, and a link to the registration website. The flyer was available for download on the Biological Control for Greenhouse Growers Michigan State University registration website and was also distributed to over 700 Michigan greenhouse businesses by mail and e-mail. As a result the marketing campaigns and website views, a total of 133 growers from 9 countries, 24 U.S. states, and 12 Michigan counties registered for the online course that was offered from October 2016 through January 2017. The enrollments for the winter session of the course were 50% greater than expected and allowed for additional revenue to offer a total of seven scholarships to interested participants with financial need.

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Miller, R.\*<sup>1</sup>

<sup>1</sup> Crops Extension Educator, , Rochester, MN, 55904

A short web video, approximately one-minute long, was created to promote the 2016 Field School for Ag Professionals. The web-based video promotion was developed in response to the rapid expansion of our consumers' digital communications capabilities and our changing Extension communications strategies. According to a 2013 CropLife survey, 83% of people in the crop production industry now have good to very good access to high speed internet and these same respondents use mobile devices for work related purposes while in the field. It was our intention to promote the field school to Ag Professionals via new web-based means. The field school promotional video was posted to the University of Minnesota Extension Crops YouTube Channel and then was promoted through Twitter, email, and the Crops News Blog. The video received 405 unique views and 130 people attended the 2016 Field School for Ag Professionals. Ryan Miller shot video, edited and produced the final video product. Tom Rothman, Director of Ag Stakeholder Outreach, scripted and recorded one minute of audio describing the 2016 Field School. Catherine Dehdashti, Public Relations Coordinator, shot most of the video clips used in production of this video.

Link to piece: <https://youtu.be/of9sUQjQcSg>

Lester, W.\*<sup>1</sup>, Hall-Scharf, B.\*<sup>2</sup>, Bryant, T.\*<sup>3</sup>

<sup>1</sup> Urban/Commercial Horticulture, UF/IFAS, Spring Hill, FL, 34608

<sup>2</sup> Sea Grant, UF/IFAS, Brooksville, FL, 34604

<sup>3</sup> Director of Creative Services, UF/IFAS, Gainesville, FL, 32611

During 2016, reports about the Zika virus and associated health risks dominated the news throughout the nation, especially in Florida. In response, Hernando County Extension Agents participated in the statewide "UF/IFAS 2016 Zika Challenge" program to provide Floridians with current and scientifically accurate information concerning this public issue.

Agents trained 112 volunteers and created five educational videos on topics of mosquito-borne illnesses, breeding source reduction, and proper repellent methods. Videos aired on Hernando County Broadcasting (potential 83,000 reached) and Youtube (116 engagements). A promotional contest (309 participants) promoted two videos as a way to engage residents who would not attend traditional classes. Through partnerships, agents carried out an insect repellent drive that supplied 44% of the county's homeless population with repellent. Social media (1479 engagements), newsletters, and interviews also disseminated information. Promotional contest had significant impact on behavior change.

An infographic of the program's goals and impacts was

created with the assistance of UF/IFAS Communications as a way to better publicize the program's success. The piece visually illustrates the successful impact of program and was distributed through various outlets (i.e., Facebook, MailChimp e-mail, newsletters, and county websites). The infographic was also used as a reinforcement document during a national conference presentation. Other county departments and groups that were essential to the program's success are included in the piece to show the partnerships that were formed. A single page visual aid such as this is valuable for sharing with county elected leaders and department heads to effectively show the impacts that Extension can have in the community.

## Publication

### National Winner

Morganello, K.C.\*<sup>1</sup>, Scaroni, Amy. PhD\*<sup>2</sup>

<sup>1</sup> Water Resources Extension Agent, Clemson Extension, Charleston, SC, 29401

<sup>2</sup> Extension Associate, Clemson Extension, Charleston, SC, 29401

"*A Guide to Rain Gardens in South Carolina*" was published in December 2016. The document was developed by Clemson Extension and the Carolina Clear program to provide step-by-step instructions on how to design, build, plant and maintain a residential-scale rain garden. Rain gardens can help residents manage erosion and moisture control issues, direct stormwater runoff, provide for wildlife habitat, beautify the home landscape and help protect clean water downstream; for these reasons, rain gardens are a recommended best practice of Clemson Extension. In the 2016 Rain Garden Guide, text is broken up using color coded headers, bulleted lists and text boxes for "pro tips" and "pop quiz." This guide uses photographs depicting construction actions such as percolation testing, soil preparation, roof area measurement, berm establishment and more. Diagrams and a rain garden sizing worksheet are included for added function and aesthetics. Multiple rain garden drawings are included to assist with design choices and a plant list provided to assist with appropriate plant selection. Two resource pages provide links to complementing resources such as the Clemson Extension Virtual Rain Garden and the Carolina Yards plant database. *The Guide to Rain Gardens in South Carolina* is intended for residential audiences with the two-fold objective of helping to learn about rain gardens and their potential to protect local water quality, and to provide readers with step-by-step instructions on how to design, build, plant and maintain a residential rain garden. The document was first printed in November 2016 with 1000 copies made. The document is available for purchase at Clemson University Marketplace as well as available as a free

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download at [clemson.edu/raingarden](http://clemson.edu/raingarden). As of March 2017, over 200 print copies of the manual have been distributed with this number expected to rise at spring workshops and public events. The document was co-authored by Kim Morganello, Clemson Extension Agent, and Dr. Amy Scaroni, Clemson Extension Associate. Contributions and peer review was provided by multiple Clemson Associate Professors, Water Resource and Horticulture Extension Agents, the Director for the Center for Watershed Excellence, a Master Gardener and a professional landscape architect. For years to come, this nearly 20-page rain garden guide will serve as a Clemson Extension resource both in print and digitally.

Boyd, J.\*<sup>1</sup>

<sup>1</sup> County Program Director/Ext. Ag. Agent, Truth Or Consequences, NM, 87901

Horse judging manual for the coaches and youth horse judges. Students, which compete in horse judging contests, have a greater chance of being awarded scholarships at College or University institutes who are looking to improve their school's equine evaluation teams. The two most prominent youth agricultural education organizations are the 4-H and the FFA. Students may begin 4-H competition as young as 8 years old and continue in 4-H through high school. A student may enter the National FFA organization at the age of 12 or in seventh grade and compete throughout high school. A student may continue his or her horse judging endeavors with an intercollegiate horse evaluation team at an agricultural college. Number of manuals distributed can vary, the manual is available through a link on the New Mexico State 4-H website at New Mexico State University. As a former high school agriculture educator, and current extension agricultural agent. It was suggested to me by the former department head Dr. Clary, of the Agriculture and Extension Education Department at NMSU-ACES to use my twenty five years of background knowledge and experience to write a horse-judging manual for the coaches and youth horse judges.

Edmunds, B.\*<sup>1</sup>, Little, R.\*<sup>2</sup>, Sagili, R.R.\*<sup>3</sup>

<sup>1</sup> Community Horticulture Extension and Assistant Professor (Practice), Oregon State University, Tangent, OR, 97389

<sup>2</sup> OSU Extension Master Gardener, Oregon State University Extension, Tangent, OR, 97389

<sup>3</sup> Extension Apiculturist and Assistant Professor, Oregon State University, Corvallis, OR, 97331

The use of mason bees as pollinators is growing in popularity with gardeners. Unlike honey bees, mason bees are solitary bees (do not form hives) and are considered less aggressive. Mason bees are also active at lower temperatures

than honeybees. Mason bees can be purchased as dormant adults from garden centers in early spring and are easy to rear. These factors make mason bees an ideal pollinator for gardeners with early blooming fruit trees.

The Oregon State University (OSU) Extension publication “Nurturing Mason Bees in Your Backyard in Western Oregon” provides an overview of the basic biology and life cycle of mason bees and detailed descriptions of what is needed to start keeping mason bees. This includes desirable plants, nesting sites and types of nests, and caring for the cocoons over fall and winter. There are many color photos used throughout the publication.

Full use statistics are not available, but from mid-July through mid-September 2016 the publication was downloaded 295 times in 100 cities across Oregon and across devices (smartphone, tablet and desktop computers). The publication has also been used in numerous public presentations. R. Little, a co-author on the publication, is a retired professional entomologist and OSU Extension Linn County Master Gardener. Through his volunteer work, he taught 13 backyard mason bee rearing workshops across Oregon state in 2016 & 2017. Over 500 copies of this publication have been distributed as part of that curriculum. Other ways that the publication has been utilized: as a reference in an OSU Extension gardening story on mason bees that was distributed to 155 media sources across the state and in social media posts (Facebook and Twitter).

Kerr, S.\*<sup>1</sup>, Murray, T.\*<sup>2</sup>, Pehling, D.\*<sup>3</sup>

<sup>1</sup> WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

<sup>2</sup> Associate Professor, WSU Extension, Pullman, WA, 99164

<sup>3</sup> Pest Management Public Affiliate, WSU-Snohomish County Extension, Everett, WA, 98208

WEST NILE VIRUS: Protect Your Horses from West Nile Virus (FS201E) was published by Washington State University (WSU) Extension in March 2016. This seven page, full color publication is available for free downloading from <http://cru.cahe.wsu.edu/CEPublications/FS201E/FS201E.pdf>. It was peer reviewed through the WSU Fast Track system and is part of the WSU Garden Team's “Home Garden Series.” The work was submitted as a Word document to the WSU Extension publication system, where it was edited, graphically designed, converted to a pdf, and uploaded to the WSU Extension publications site. The authors were not charged for this service. This publication was an extensive update and expansion of a two-page document released in 2003. Between 2008 and 2016, Washington has reported equine WNV cases in the highest reporting category four times and had the most cases in the U.S. twice—this indicates continued need for educational outreach to horse owners for their horses’ protection as well as their own. Topics discussed in this publication include the

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history of WNV in Washington State; the role of mosquitoes; signs of illness in horses; how to protect horses; the WNV transmission cycle; how to reduce mosquito habitat; and integrated pest management of mosquitoes. A map was created by the first author to depict the cumulative number of equine WNV cases in Washington State on a county basis from 2002-2015. The publication also includes photographs of mosquito larval stages provided by the second author; text call-out boxes for added emphasis and clarity; a graphic of the WNV transmission cycle from the Centers for Disease Control; the WSU safe pesticide use statement; and references and recommendations for additional reading. The first author wrote or revised information pertaining to the disease and horses and the second and third authors generated the mosquito-related information. This publication has been accessed or downloaded 43 times.

## **Published Photo & Caption**

### **National Winner**

#### **Kapil Arora**

Field Agricultural Engineer  
Iowa State University Extension

The photograph was taken by the author in late summer of 2016 when appropriate soil moisture conditions existed to install the drainage tile line. The purpose of taking the photograph was to show the size of the plow and the tractor needed to install a tile line 5 to 6 feet deep in the ground. It is important to maintain good slope or grade in the installed tile line so the water flows down hill. The size of the plow is important so that it can break through soil compaction and any large rocks which a small plow may not be able to break resulting in irregular slope in the installed tile. Size of the tile (diameter) increases with increase in the size of the area to be drained. Number of tile lines needed depends on the field layout and the desired tile spacing based on soil type. All these factors need to be planned out ahead of time for which learning is required. The photograph and its caption "Plan it" were published in the February 2017 edition of the *Wallaces Farmer*. Fifty-five 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 3,200 daily hits. The purpose of the publishing the photograph and its caption was to draw the attention of Iowa farmers, contractors, and landowners to learn more details about farmland drainage and associated new technologies at an up-coming day-long workshop.

### ***NATIONAL FINALISTS***

#### **Melanie Barkley**

EXTENSION EDUCATOR  
PENN STATE UNIVERSITY

This photo was published in the *Dorset Connection* as part of a feature story directed toward commercial sheep producers. The photo illustrates that sheep should be selected on more than just visual appraisal characteristics: production goals as well as performance should also be considered. The digital photo was taken during the spring and published in the Winter 2017 edition of the magazine. 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 1,000 members of the registry association. Entrant took the photo, wrote the feature story, and sent them electronically to the Executive Director of the registry association.

#### **Patrick Marcellino**

County Extension Agent  
University of Georgia  
Elbert/Northeast

This photo was taken on my early morning commute to work. It was chosen for the 2017 Georgia Ag Forecast promotion which was used as the cover photo for all related publications. These publications were distributed throughout the State of Georgia. It was also displayed at the presentation events as the opening slide for eight different venues around the State of Georgia. Participants in those presentations included Dr. Sam Pardue, Dean and Director of the University of Georgia College of Agriculture and Environmental Sciences, Gerald Long, President of Georgia Farm Bureau, as well as many other UGA specialists and speakers. It can also be found on the Ag Forecast website at <http://www.caes.uga.edu/about/signature-events/ag-forecast.html>

#### **Susan Kerr**

WSU NW Regional Livestock and Dairy Extension Specialist  
Washington State University  
Northwestern Research and Extension Center

The submitted photograph was taken to illustrate a farm profile article featured in the Oregon State University Small Farms Program's quarterly electronic newsletter, *Oregon Small Farm News*, Vol. XI No. 4, Fall 2016. The farm profile, "Revisiting Conway Family Farm—Camas, WA," was also written by the photographer. The article was a two-page update of an article written seven years previously. The purpose of the article was to share one small farm's evolution over time due to changing markets, labor availability, interests, opportunities, and input

costs. The purpose of the photograph was to draw attention to the publication in general and the article in particular. Although 39 issues of this quarterly, 10-year-old publication had been published to date, the cover had featured livestock or poultry only four times previously. The photograph was recorded on a Canon G15 digital camera, downloaded to and stored in a desktop computer photo gallery, and e-mailed with the article to the newsletter editor. The photographer submitted several acceptable photographs to the editor for consideration but identified “Zena at the Conway Dairy” as her favorite. The cover photo caption (“Zena at the Conway Dairy”) was included on page two of the publication. Zena was an exceptionally friendly yet polite Nubian dairy doeling who proved quite photogenic and cooperative. Approximately 20,000 people viewed this issue, driven to the site through e-newsletter subscriptions, team Facebook page, or other web sites. The complete publication is available at <http://smallfarms.oregonstate.edu/sites/default/files/newsletter-covers/sfnfall16.pdf>.

## **Video Presentation**

### **National Winner**

Gale, J.A.\*<sup>1</sup>, Hinkamp, Dennis\*<sup>2</sup>

<sup>1</sup> Sevier County & Southern Region Area Extension Agent, UTAH STATE UNIVERSITY, Richfield, UT, 84701

<sup>2</sup> Media Specialist, UTAH STATE UNIVERSITY, Logan, UT, 84322

In an effort to meet home gardeners where they are, USU Extension has developed a series of gardening related YouTube videos. One question asked often is: “what can I do with extra produce from my garden?” This video instructs home gardeners on options for using extra sweet corn. Methods included in the video are:

- How to make drying racks
- Using plastic to create solar heat to assist in drying
- How long to let it dry by reaching proper moisture content
- Storing dried kernels
- Making and using corn flour

This video is available on the USU Extension YouTube channel for educators and home gardeners. The content was developed by Jody Gale and the video was edited and produced by Dennis Hinkamp.

<https://www.youtube.com/watch?v=ydQ46nhiv20>

## ***NATIONAL FINALISTS***

Goldy, R.\*<sup>1</sup>

<sup>1</sup> Senior Extension Educator, MSU EXTENSION, Benton Harbor, MI, 49022

Less than 2% of the US population is directly involved with production agriculture. This leads to consumers relatively ignorant of how food is produced. However, there is consumer interest in food production as evidenced by the number of views agricultural videos receive on You Tube. Many existing videos, however, have poor video or sound quality or only tell a portion of the story (generally harvest). This video is the first in what will be a series of consumer oriented videos designed to educate in an entertaining manner. Other goals were to show that most farms are still family own and operated, the total process is complex with many steps, and that food is relatively inexpensive given what is required to get it on the grocery store shelf. The goal would be to put several together so they could be shown as a loop wherever people wait such as Dr. and Dentist offices, airports, etc. There is no narration so viewers are forced to think about what they are viewing and draw their own conclusions. It also allows videos to be shown in settings where audio may be difficult to hear. The video can be viewed at: <https://youtu.be/5BiZEBtIdA>.

Rosenkranz, V.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Commercial Horticulture, University of Maryland Extension, Salisbury, MD, 21802

Delmarva Gardens by Ginny Rosenkranz, Commercial Horticulturist, is a taped, thirty-minute local cable show on Public Access Channel 14 that reaches over thirty thousand household cable subscribers in Wicomico County on Maryland’s Eastern Shore. PAC 14 is a non-profit Public, Educational and Governmental Access Television station that serves Wicomico County, Maryland. To create Delmarva Gardens, the educator goes inside greenhouses and homes or outdoors into flower gardens and landscapes throughout the year to catch the pertinent up-to-the-minute gardening information on film. Delmarva Gardens is currently in its 16th year of production and can be viewed on PAC 14 locally, the Wicomico County Extension Office under gardening and on YouTube. It is an excellent opportunity to bring Integrated Pest Management/Total Plant Management and practical, research based gardening tips to the residents of Wicomico County and all those that view it. PAC 14 Executive Director Creig Twilley does all of the filming and editing. Ginny is responsible for all of the program ideas, production, and implementations. In the 2017 March edition, Delmarva Gardens presented Getting started on Spring Plantings with Jay Martin’ which showcased how a home gardener can start seeds and how a professional greenhouse grower starts seeds and transplants seedlings. This month’s edition was available

on Wicomico County's PAC 14 every morning at 9 am from Monday through Saturday and on YouTube at <https://youtu.be/MDzLMNHZS3Y>. The shortened version for NACAA is <https://youtu.be/vWWlvhpGUHg>.

Bakacs, Michele\*<sup>1</sup>, Smela, David\*<sup>2</sup>

<sup>1</sup> County Agent II/ Associate Professor, Rutgers Cooperative Extension, North Brunswick, NJ, 08902

<sup>2</sup> Public Information Assistant, Rutgers Cooperative Extension of Middlesex County, North Brunswick, NJ, 08902

Rutgers Cooperative Extension of Middlesex County has developed the second in a series of videos describing the restoration efforts within the Manalapan Brook watershed in central New Jersey. This video is titled "Restoring the Manalapan Brook Watershed: Floating Wetland Islands-Installation and Maintenance". Floating wetland islands use recycled plastic material which are planted with native wetland plants. The plants along with microbes in the island, remove harmful nutrients from the water column including excess nitrogen, phosphorus, and sediment. The islands shown in this video were installed in Thompson Park in the Township of Monroe. The video was released in April, 2016 and was developed for NJ municipalities, residents, and schools. The primary objectives of the video are: 1- to inform local watershed residents about the purpose of the new islands in the lake; 2- to inform communities across the state about small scale, inexpensive projects that can be installed in their lakes and ponds to help mitigate nutrient pollution.

Ms. Bakacs wrote and narrated the script and Mr. Smela, County Public Information Assistant, was the videographer and editor. The video was funded by the NJ Department of Environmental Protection. It was played continuously at the August, 2016 Middlesex County Fair and Monroe Township's October, 2016 Green Fair and has been viewed 232 times at [https://www.youtube.com/watch?v=NiHfbJEzU\\_E&t=46s](https://www.youtube.com/watch?v=NiHfbJEzU_E&t=46s). The video has also been used to teach Rutgers volunteers such as the Master Gardeners and Environmental Stewards about best practices for water quality protection.

## Website

### National Winner

Overgaard, J.\*<sup>1</sup>

<sup>1</sup> Extension Educator, Agriculture Production Systems, University of Minnesota Extension, Winona, MN, 55987

Farmbytes is a section of our UMN Extension Small Farms website that I have developed to address specific production and marketing topics for the small farms community. Our audience includes specialty crops and livestock (mostly small

and alternative, as well as beef and dairy) producers, and are mostly interested in organic and sustainable agricultural production. The first Farmbytes went live in the spring of 2016.

Farmbytes are designed to be easily and quickly digested and are what I consider a "value added fact sheet". They're built around video and use limited text to address the issue of short online attention spans. Another goal is to make them more personal. To do this, rather than use text, I record myself introducing the topics on video. For viewers who are looking for more information beyond what's covered in the videos - manuals, websites, fact sheets, and other resources are provided.

Farmbytes also have an evaluation component. At the end of each, there's a question asking users whether the Farmbyte was useful, they can check yes or no. As of February, 2017, there are 48 submissions, 92% indicate they are helpful. As of December 2016, the pages have had over 1200 views.

Farmbytes are available at the following URL: <http://www.extension.umn.edu/food/small-farms/farmbytes/>

### *NATIONAL FINALISTS*

Schoenian, S.\*<sup>1</sup>

<sup>1</sup> Sheep & Goat Specialist, University of Maryland Extension, Keedysville, MD, 21756

The purpose of the Maryland Small Ruminant Page ([www.sheepandgoat.com](http://www.sheepandgoat.com)) is to serve as an information portal for sheep and goat producers and others interested in small ruminants. A secondary goal is to expand the reach of the University of Maryland Extension Small Ruminant Program and extend educational resources to producers who lack extension expertise. The web site has undergone many changes and re-designs since its establishment in 1998. In 2015, the web site was moved to a template system (Wix) to enable a more professional design, including optimization for mobile devices and use of apps. The web site provides information on ongoing and upcoming programs. It contains original material, such as articles, spreadsheets, quizzes, images, presentations, and newsletters. It provides linkages to social media sites, including Facebook, Flickr™, Twitter, SlideShare, YouTube, ISSUU, and two blogs. Shepherd's Notebook, a 2016 "top 50" farming and agricultural blog ([lawnstarter.com](http://lawnstarter.com)), is embedded in the web site. There are also outside links to various industry resources, including market prices and best management practices. According to Google Analytics, the Maryland Small Ruminant Page has over 15,000 active users per month, Approximately 25% are returning visitors. Wix recently selected the Maryland Small Ruminant Page as one of its "best performing" in terms of SEO (search engine optimization). The page is recognized internationally as one of

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the preeminent web resources on sheep and goat production. Susan Schoenian is totally responsible for the content, design, and maintenance of the web site.

[www.sheepandgoat.com](http://www.sheepandgoat.com)

Kawabata, A.\*<sup>1</sup>

<sup>1</sup> Associate Extension Agent, University of Hawaii Cooperative Extension Service, Kealahou, HI, 96750

There are over 950 coffee growers in the State of Hawaii, including the largest producer on Kauai with approximately 3,000 acres. In 2010, coffee berry borer (CBB), *Hypothenemus hampei*, a devastating insect pest of coffee was discovered in Hawaii. In the following years, growers became confused and frustrated about CBB management strategies due to the multitude of information and misinformation provided. Growers were also struggling with over 80% crop loss due to CBB. I created the [hawaiicoffee.weebly.com](http://hawaiicoffee.weebly.com) website to consolidate and provide Hawaii's coffee producers with research-based CBB integrated pest management (IPM) recommendations and local resources to combat CBB.

I design, post, maintain, and provide the main content of the website which includes CBB IPM recommendations, Extension and scientific publications and presentations, information on CBB biocontrol, and common coffee pest and disease problems. Additionally, the site's blog is populated with coffee and other agricultural events and announcements (E&A) by my CBB program's technician. This website can be translated to over 100 languages, and is referred to on coffee farm visit recommendations, monthly E&A emails and mailings, and CBB IPM recommendation and Extension video publications. Outreach event flyers and registrations are also posted and coordinated through this website.

A business card provides recipients with the website's URL, a corresponding Facebook URL, and content highlights. To date, more than 1,100 business cards have been distributed to coffee growers as well as to researchers and Extension agents in Hawaii, Puerto Rico, and California. Since its creation in 2014, my website has grown 106-fold from 30 views to over 3,200 views and 300 unique visitors a week. In a recent (2016) CBB survey, 68% of respondents identified the UH CTAHR website among the top two resources for obtaining information on CBB control. And, because of outreach and the establishment of this website, damages caused by CBB have decreased by 20% and 8 out of every 10 farmers implement field sanitation, a critical CBB control measure, on their farm. Further, the use of field monitoring has increased by 14% and nearly (95%) all growers use the recommended biopesticide to manage CBB.

<http://hawaiicoffee.weebly.com/>.

Edmunds, B.\*<sup>1</sup>

<sup>1</sup> Community Horticulture Faculty, Oregon State University Extension, Tangent, OR, 97389

The Seed to Supper program is a partnership between Oregon State University (OSU) Extension and the Oregon Food Bank. This program promotes food security of low-income residents by providing education and support, empowering participants to grow their own vegetables.

The program consists of six two-hour sessions for adults and covers the basics of vegetable gardening. Topics include planning a garden, managing soil, growing season maintenance and harvesting. OSU Extension is seeing promising results in Linn and Benton counties communities - the program is changing the gardening behaviors of traditionally underserved audiences. The Seed to Supper program is provided at no cost and relies heavily on volunteer and financial support from the Oregon Food Bank, OSU Extension, volunteers and private donations.

In 2016, the author participated in the eXtension i-Three Issues Corps program to learn methods of promoting the impact of Extension programming. The author's specific project goal was share the results of the Seed to Supper program with new online audiences to increase community support of the program. During the 2016 i-Three Issues Corps training, several approaches to social media promotion and data presentation were shared with attendees including ESRI's Story Maps application (<http://storymaps.arcgis.com>). The author used this web-based tool to share the impacts of the Seed to Supper program. ESRI Story Maps offers several different layouts and this website used the Journal design. This design is described as a sequential, place-based narrative story map and was a good fit for sharing this program's impact. The Seed to Supper Story Map website is available on the OSU Extension Linn and Benton County websites and has been promoted across social media accounts (over 900 views). The Story Map can be viewed at: <http://arcgis.com/2auoEWF>

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# **NACAA Member Presentations**

## **2017 NACAA**

**102nd**

**Annual Meeting**

**and**

**Professional Improvement Conference**

**Salt Lake City, Utah**

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## 4-H & Youth

### 4-H SUMMER DAY CAMP - ENGAGING YOUTH ON MULTIPLE LEVELS

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<sup>1</sup> Extension Educator, Penn State Extension Greene County, Waynesburg, PA, 15370

The Greene County Pennsylvania 4-H Program offers a summer day camp for 4-H and non 4-H youth. The one-day camp provides interested youth ages 8-12 a science-based experiential 4-H learning opportunity, non-4-H youth exposure to the 4-H educational model, and 4-H teens an opportunity to develop leadership skills in organizing and planning a major event and, if interested, a beginner level counseling experience.

4-H members in the County Council leadership club work cooperatively, under the guidance of adult volunteer leaders, to plan the one day camp. Teens select a STEM-based science topic for camp, choose a theme, create an event name, and develop activities to increase the value of and interest, understanding, and skills in the educational program. Activities include interactive games, crafts, and visits to topic-related businesses and industries, government offices, and public parks. Teens interested in counseling campers complete required camp counselor training and clearances.

Camp opens and closes with activities and evaluation led by counselors under the supervision of approved volunteer leaders. The day camp group travels by bus to planned locations that support the educational focus.

Recent camps focused on forestry, underground ecosystems, and the dairy industry. In 2016, the “Sprout Up with 4-H” Day Camp visited a tree farm and a state park where campers learned about tree growth, identification, and management. In 2015, “Fun Down Under” Day Camp visited a local cavern to learn about life under the earth and the creatures who dwell there. The 2014 “Udderly Moovelous” Day Camp visited a high-production dairy and another that processes and sells milk retail.

Announcements for camp were distributed to local newspapers, organization websites, radio, and social media. Donations and grants were secured to price camp registration at a cost affordable by all families.

Campers completed an evaluation before leaving camp. Each could name at least two things learned. Satisfaction comments indicated campers highly enjoyed the events.

### SHOWCASING AGRICULTURE AS A CAREER TO STUDENTS

\*Burke, P. J.<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University Of Georgia, Carrollton, GA, 30117

Agriculture is Georgia’s largest industry, yet many people think that a job in agriculture requires one to be a farmer.

In the near future, there will be more agriculture related jobs than there are qualified employees. Because of this and the importance of agriculture in Carroll County, Georgia, the UGA Extension staff organized the annual Ag Career Expo for high school students in 2016 and 2017. The goal of the program is to expose students who are choosing their career pathway to the vast amount of jobs available in the agriculture field. Over 600 high school students have been able to visit over 30 agriculture related businesses, organizations and colleges to learn more about the career opportunities for their future. Presenters were able to answer any questions the students had regarding jobs in their particular sector. Colleges and universities also shared the education programs they offer to help the students reach their agricultural career goals. At the Ag Career Expo, students had 10 minutes with each presenter. Students used their cell phones and laptops to do a 12-question scavenger hunt of agriculture related questions. By visiting with each presenter, students would learn the answers to the questions. The highest-ranking teams were awarded prizes. The vision of the planning committee, which consisted of UGA Extension staff, local school officials and agricultural business leaders, was to debunk the myth that jobs in agriculture require dirt and tractors and encourage more young people to consider agriculture as a career.

### MANATEE COUNTY FIELD DAY FOCUSES ON STEM AND CAREERS IN AGRICULTURE

\*Glenn, M.<sup>1</sup>

<sup>1</sup> Extension Agent Commercial Horticulture, Uf-Ifas, Palmetto, FL, 34221

Manatee County has over 313,000 acres of production agriculture and ranks 7th in Florida in agriculture sales. However, an aging workforce threatens the future viability of these enterprises. Therefore, it is vital to inspire our youth to consider careers in agriculture. The objectives of the field day were to provide the opportunities for youth to experience science, technology, engineering, and math (STEM) programs while exposing them to different facets of agriculture. The methods used for the field day included tours of plant nurseries/farms/research centers, presentations, hands on activities and educational games. 72 youth of diverse backgrounds participated. A survey was used to evaluate the day and a 6 month follow up was utilized to measure behavior change. There was a 39% increase in knowledge about agricultural science, a 36% increase in knowledge pertaining to commercial agriculture, and a 28% increase in an interest in pursuing a career in agriculture. 88% felt that buying food locally was a good idea and had convinced their parents to do so. 60% realized that many insects are beneficial and now try to preserve them in their homes and gardens. This annual program has been a success preparing today’s youth towards becoming an integral member of agriculture in Manatee County and elsewhere.

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## **4-H RIVERKIDS**

\*Harris, A. S.<sup>1</sup>

<sup>1</sup> County Extension Coordinator, Alabama Cooperative Extension System, Dadeville, AL, 36853

The state of Alabama is blessed with an abundance of water resources. Thousands of miles of broad rivers, meandering creeks and streams, and hundreds of lakes and reservoirs cover the state. These resources in turn provide many recreational opportunities for residents to get outside and enjoy Alabama's natural environment.

Paddling is a fantastic way to explore the outdoors and to experience Alabama's abundant water resources. Kayaking in particular, one of the fastest growing outdoor recreational sports, is a wholesome activity that families can enjoy together. In 2016, Alabama 4-H began offering a new youth outdoor recreation program called 4-H RiverKids with the intent to introduce youth to kayaking. Youth ages 9-18 are given the opportunity to acquire paddling skills in a safe 4-H setting.

Besides being a fun and exciting activity, 4-H RiverKids introduces youth to basic paddling techniques, teaches water safety skills, educates participants about responsible environmental stewardship, promotes awareness of career opportunities in natural resources and environmental sciences, and fosters an appreciation of the outdoors. The flexibility of the 4-H RiverKids program has allowed youth from all across the state to attend beginner kayaking camps, participate in numerous floats trips, learn hands-on about water quality, river ecology and conservation, and engage in environmental related service projects. 4-H RiverKids has also created volunteer opportunities for avid paddlers to get involved and support local 4-H programs by sharing their expertise, experiences, and love for the water.

In addition to engaging youth in educational activities, 4-H RiverKids has the potential to promote and contribute to Alabama's Ecotourism, by increasing the use of our waterways, increasing the knowledge and awareness of environmental and management issues, and the incorporation of service projects.

4-H RiverKids is a partnership of the Alabama Cooperative Extension System (ACES) / Alabama 4-H and the Alabama Scenic River Trail (ASRT) Association. This unique and exciting program has the combined strengths of Land Grant research based education, service, and technical expertise in paddling instruction.

## **PLAYING WITH FIRE – TEACHING GRILLING TECHNIQUES THROUGH EXPERIENTIAL LEARNING**

\*Mauldin, M. D.<sup>1</sup>

<sup>1</sup> Agriculture & Natural Resources Agent, University Of Florida, Chipley, FL, 32428

The Agent developed a day camp for local 4-H members, focusing on meat selection and safe and effective grilling

techniques. The main goals of the day camp included 1) Helping local 4-H members gain practical life skills relating to retail cut selection and safe and effective grilling techniques. 2) Take advantage of a fortunate scenario – free access to a large number of grills and a substantial supply of meat – by maximizing the amount of experiential learning utilized in the camp. 3) Promote and prepare 4-H members for the 4-H Tailgate Contest. 4) Have fun. Grilling is both a cooking method and a recreational activity and should be enjoyed. All facets of the three-day camp were taught using the experiential learning model. Campers were provided fundamental information, asked to make predictions/hypotheses relating to various aspects of the grilling process, allowed to test their theories, and observations were discussed and conclusions drawn. All 17 individuals that participated indicated that they learned at least one new skill through attending the camp. Six of the youth that attended the camp, who had not grilled prior to the camp, applied what they learned during the camp and participated in the NW District 4-H Tailgate Contest. Two of the six qualified to move on to the State 4-H Tailgate Contest. The camp was a success and accomplished all of the stated goals. The success, in large part, can be attributed to the extensive use of experiential learning throughout the camp.

## **BRING BIOSECURITY CONCEPTS TO LIFE FOR YOUTH**

\*Kerr, S.<sup>1</sup>

<sup>1</sup> WSU NW Regional Livestock and Dairy Extension Specialist, Washington State University, Mount Vernon, WA, 98273

Biosecurity focuses on disease prevention or control. It is a very important topic for all livestock producers to understand and appreciate, but it can be a very dull lecture to youth. This presentation will share an approach used to engage youth in real-life, on-farm scenarios with which they can identify. This flexible approach can include general farm layouts or be tailored to fit discussion of specific livestock species. All ages of youth and adults enjoy the challenge of evaluating the scenarios to find biosecurity risks and make suggestions about how these risks can be mitigated. Adding a visual and kinesthetic component to teaching improves learning and retention for some participants, especially those who have difficulty learning from lectures that are primarily audio. Using this hands-on approach to establish an appreciation for the critical importance of biosecurity, the foundation will be laid for a more formal, traditional, or advanced presentation, if desired.

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# Agricultural Economics & Community Development

## BUSINESS EXECUTIVE TRAINING FOR WOMEN

\*Berning, B.<sup>1</sup>; VanNurden, P.<sup>2</sup>

<sup>1</sup> Extension Educator, Ag Business Management, University Of Minnesota, St. Cloud, MN, 56303

<sup>2</sup> Extension Educator, Ag Business Management, University of Minnesota, Willmar, MN, 56201

In 2016, University of Minnesota Extension Educators launched a Women in Ag Network (WAGN). The need for the program was great; one in four farmers in Minnesota is a woman. While there were programs for women farmers, most offered networking or topical overviews of general business concepts. There was not a program offering in-depth business training for women. Because of the growing number of women in agriculture, it is imperative that women have more than just an overview of business basics. Like any business owner, women farmers need a deep and intimate knowledge of key business areas, such as finances, risk management, human resources, asset protection, and estate planning.

WAGN has utilized multiple approaches to provide this high-level education to women. Through quarterly seminars with smaller group sizes, WAGN facilitators can offer one-on-one attention and answer all participant's questions. Women are able to network with each other and feel comfortable to speak up and ask questions they might not normally ask. The seminars are interactive; participants listen to instructors, complete in-class activities, and work in teams to solve business problems. All of these tools help women to make better decisions and be confident in them.

In addition, an annual conference provides a time of celebration and networking, while offering a variety of speakers and breakouts that cover timely issues. The 2017 WAGN conference theme was "Planning Our Future", which was a call for producers to proactively plan for their future, rather than waiting for it to be happen. Every break-out and speaker focused on business management and issues unique to women farmers.

WAGN is excited to offer this unique approach to women in ag programming. Equally exciting, WAGN evaluations show that participants are leaving events with more knowledge than they started with. Follow-up surveys show that women are implementing this knowledge on farms. WAGN will be completing strategic planning this year to determine how to increase its presence and bring its unique style of programming to even more women!

## NORTHEAST OHIO BEGINNING REFUGEE AND IMMIGRANT FARMER TRAINING PROGRAM

\*Kowalski, J.<sup>1</sup>

<sup>1</sup> Extension Educator, Ohio State University, Stow, OH, 44224

Ohio welcomed approximately 4,200 refugees in 2016. Many persons in the refugee community have agrarian backgrounds or other experience in farming or backyard food production. Because of this background knowledge and in response to the need to help new arrivals acclimate and gain marketable job skills many resettlement organizations have incorporated farming programs into their social enterprise model. In 2016-17, the Ohio State University Extension Summit County Agriculture and Natural Resources Educator partnered with Asian Services in Action, Inc. and Let's Grow Akron to provide a "Beginning Refugee and Immigrant Farmer Training Program (RIFT)" for a group of 36 low-literacy refugees from Asia and Africa in order for persons to gain the skills to develop micro-farm enterprises. The training covered eleven topics, incorporated hands-on activities, and provided the participants with some basic start-up materials. The objectives of this presentation are to 1) describe the facets of the RIFT training program, 2) discuss successes and challenges encountered during the program, and 3) examine best practices for Extension collaboration with refugee farm projects.

## MAKING IT IN MICHIGAN CONFERENCE AND TRADE SHOW FACILITATES ECONOMIC ACTIVITY IN THE AGRI-FOOD SECTOR

\*Reau, B.J.<sup>1</sup>

<sup>1</sup> Senior Associate Director, Michigan State University Extension, Adrian, MI, 49221

The Making It In Michigan Conference and Trade Show showcased the food processing and value-added agriculture industries in Michigan. The one-day event consisted of two components targeted at different audiences. Two hundred thirty-six participants attended the conference that provided eleven educational sessions related to starting or expanding a food business. A Michigan entrepreneur, who built a business using locally grown fruits that now has over 300 employees, gave the keynote presentation. In an online, follow-up evaluation conducted two weeks after the conference, 78% of respondents reported one or more actions from a checklist of fourteen action outcomes. Forty-five percent reported they plan to develop a new food product or business. Forty-one percent reported they plan to develop a marketing plan. Fifty-six percent reported they plan to utilize social media to promote their business. Eighty-eight percent rated the keynote address as excellent. Two hundred and seven businesses participated in the trade show designed to give entrepreneurs a venue to promote their locally produced products to buyers representing retail establishments. A follow-up, online survey

was conducted three months after the event. Thirty-nine percent of respondents reported they had received new orders for their products and 50% reported they made contacts with buyers that they believe will lead to future orders for product. There were over 650 participants, staff and volunteers involved in Making It In Michigan. The educator provided overall leadership for the event including coordination of program planning, development, implementation and evaluation.

### **FARM SENSE: EASY, APPLICABLE FARM FINANCIAL MANAGEMENT TRAINING**

\*Enfield, J.<sup>1</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Youngsville, PA, 16371

Penn State Extension has provided financial training for farmers as a requirement for Farm Service Agency loans for over 25 years. In 2015-16, the Penn State Agricultural Business Management team reviewed the curriculum to make the material more concise, easier to understand, and parameters were placed to gauge measurable impacts of the training such as changes to profitability of participating farm businesses one year following the course. In 2016, a new 100 page peer-reviewed text book was professionally published for use in the class. The book shows the financial statements of a full time livestock and crop farm that is used as a guide when farm managers fill out their own statements (which is done as a part of the class). The course is taught in 4 sessions for a total of 20 hours. Hands on activities are included throughout the course and the PowerPoint presentations guide the participants through the chapters in the book. This course is a unique farm financial management program because of its easy-to-understand practical application and its empowerment of farm managers to take charge of their finances. Currently the Penn State Agricultural Business management team is seeking ways in which to expand the course audience and expand visibility of this program through marketing and program sponsorship.

### **IMPACT OF GRANT FUNDING ON A SMALL, RURAL FARMERS MARKET**

\*Dewitt, S. P.<sup>1</sup>

<sup>1</sup> Agriculture Extension Agent Ii & County Director, UT, Maynardville, TN, 37807

In a small, rural county with a population of 19,000 people a Farmers Market has been successful over the last five years. With the implementation of a USDA Farmers Market Program, a grant awarded to the University of Tennessee Extension Office in Union County, the Farmers' Market sales totals grew by 76% in a single season. The major components of the grant were salaries for a part time Farmers Market Manager and Summer Intern and marketing. The Farmers Market Manager and Summer Intern dedicated time to contacting media, producing a weekly newsletter, and organizing special events.

The other major portion of the marketing budget was billboard advertising. Surveys results showed 30% of customers were new to the market. Surveys also revealed the billboards were noticed by customers and ten percent of customers to the market came as a result of seeing the billboards. Thirty six percent of customers indicated a desire to see more products available for sale. The Board of Directors also changed guidelines to allow producers to purchase wholesale produce Tennessee grown produce and offer for sale at the market. A paid market manager and increased advertising increase the economic impact of the Farmers Market on a small community. The agent will seek to secure funding for salaries and marketing.

### **GAINING A BETTER UNDERSTANDING OF CONSUMER PREFERENCES OF LOCAL PRODUCE**

\*Johnson, L.<sup>1</sup>; Lollar, M.<sup>2</sup>; Rumble, J.<sup>3</sup>

<sup>1</sup> Ext Agt II, Agriculture, UF/IFAS Extension Escambia County, Cantonment, FL, 32533

<sup>2</sup> Horticulture Agent, UF/IFAS Extension Jackson County, Marianna, FL, 32448

<sup>3</sup> Assistant Professor of Agricultural Communication, UF/IFAS Department of Agricultural Education and Communication, Gainesville, FL, 32611

Situation: Due to increased consumer interest in knowing about their food and farmers, the local food movement in Florida has become a multi-billion dollar industry. Consumers often desire direct contact and interaction with a local farmer. A well-versed grower who can effectively communicate with his/her customers has a considerable advantage. A curriculum, "Promoting Specialty Crops as Local", was developed by Dr. Joy Rumble in collaboration with the Florida Specialty Crop Foundation, through funding provided by the Florida Specialty Crop Block Grant Program and was developed to help Florida growers better communicate their message. Objective: Through agent in-service training at the Florida State Horticulture Science Meeting, 15 UF/IFAS Extension agents learned how to offer the Promoting Specialty Crops as Local curriculum to their growers. This curriculum will help growers that will to develop a communication-based marketing plan, enabling the farmers better promote their farm and products. Methods: Agents team taught the six curriculum module to demonstrate the way the curriculum was meant to be used with growers. The scripted curriculum includes multi-media presentations, activities, and worksheets. Each person was provided a Promoting Specialty Crops as Local workbook. During the session, participants worked in break-out groups, participated in question and answer sessions, and developed marketing messages. Evaluation: Participants were evaluated at the end of each module and also complete an overall online Qualtrics survey. Results: Nineteen participants, mostly UF/IFAS Extension agents, attended the four hour In-Service training

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at the Florida State Horticultural Society Annual Meeting. 68% (13/19) of participants completed the survey. 69% (n = 13) of surveyed participants planned to implement information learned from the workshop into their Extension programming. 100% of surveyed participants (n=13) stated they could better comprehend their clientele's perception of the term "local" (in the context of produce). Conclusion: Through participation in this training and use of the curriculum, agents are equipped to offer trainings to help growers successfully direct market local produce by developing communication strategies that build relationships, trust, and repeat customers.

### **ROLE OF AGRICULTURAL EXTENSION IN DISASTER RESPONSE AND RECOVERY: A HURRICANE MATTHEW SUCCESS STORY**

\*Wells, B.C.<sup>1</sup>

<sup>1</sup> Extension Agent II, Commercial Agriculture, UF/IFAS Extension St. Johns County, St. Augustine, FL, 32092

In October 2016, Florida encountered a storm of a magnitude that it had not seen in more than 11 years. Category 4 Hurricane Matthew blasted its way up the East Coast with winds in excess of 100 mph and heavy rainfall. The effects were especially felt in St. Johns County where more than 1,100 acres of crops were impacted. Asian vegetables and snap beans were the worst hit, along with cabbage, cauliflower, broccoli, and squash. Most of these specialty crop farmers were uninsured and left "hopeless and without options." In response, the agricultural agent began assessing farms within 24 hours to document crop losses and prepare a report for the Agricultural Extension Program Leader with information that would ultimately be submitted to the USDA in hopes of getting a disaster declaration that would qualify farmers for federal assistance to help them recover. The agent surveyed 17 farms in St. Johns County. Losses were more than \$1.6 million for Asian vegetables and snap beans alone. Farmers reported 30 to 100% losses. The USDA eventually designated St. Johns and three other counties in Florida primary natural disaster areas due to the damage caused by Hurricane Matthew. Without timely and detailed reporting by UF/IFAS Extension, Florida farmers may not have received the assistance they needed to help recover from the storm. This response can serve as an example of the role of agricultural extension in the wake of a disaster.

### **INCREASED LOCAL FOOD ACCESS, NEW FARMERS AND TRIBAL YOUTH DEVELOPMENT RESULT FROM COMMUNITY COLLABORATIONS**

\*Mayes, J.<sup>1</sup>

<sup>1</sup> Extension Educator Horticulture & Small Farms, University of Idaho, Moscow, ID, 83843

In rural Idaho, engaging with stakeholders can be challenging. Towns are separated by great distances and populations in

most towns are small, yet needs still exist for community development. University of Idaho Extension, housed by each county and two Tribes, has been successful at engaging with communities in rural North Idaho, specifically the Palouse region by partnering with local community organizations. This presentation will review the process and methods used to engage, convene and collaborate with various local nonprofit organizations as well as the Coeur d'Alene Tribe and the Plummer School District. Nearly \$800,000 in USDA-NIFA grant funding has been awarded to UI extension from 2012-2015 and \$600,000 in 21st Century grant funding awarded to the Plummer School District for a total of \$1.4 million based on these collaborations. Quantitative and qualitative results and impacts of these collaborations will be shared. A partnership model emerging from this community level work will be presented. Specific programs include beginning farmer and rancher education (statewide), farmers market development, business development programs, community action and leadership capacity building, community orchard, community garden programs, an after-school program and others.

## **Ag Issues & Public Relations**

### **MAKING THE CASE FOR EXTENSION PROGRAMS: DEVELOPING AND DELIVERING A MESSAGE FOR OUR UNIQUE PROGRAMMING**

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<sup>2</sup> Regional Director, Ohio State University Extension, Wooster, OH, 44691

Communicating Extension's unique ability to deliver programs and address community issues is more important today than ever. This session will focus on improving potential partners' understanding of what Extension is, how Extension can address key issues, and what collaborative role Extension can play to achieve collective impact together. Potential partners include: Public and private corporations and government (decision-makers), non-profits, philanthropic partners, agencies/organizations, media, clients (end-users), and the university (internal groups including non-Extension employees.) Participants in this session will go home being able to: (1) Engage in discussion around why Extension matters today more than ever; (2) Understand how Extension, while not duplicating existing efforts, can unite, mobilize, and catalyze community collective effort around a variety of consumer issues; (3) Learn strategies for engaging potential partners and funders in discussions regarding how Extension could provide a solid return on investment, and where "pain points" or opportunities exist; (4) Discuss innovative funding strategies to address community issues; (5) Be introduced to models for community convening and providing backbone support to enhance collective effort; and (6) Develop a

30-second description of Extension that would aid the potential stakeholder in understanding Extension. Go home with a game plan to market your programs to funders and partners for a successful future!

### **DEVELOPING A TEAM FOR EMERGING ISSUES**

\*Beers, L.<sup>1</sup>; Adams, E.<sup>2</sup>; Hall, P.<sup>3</sup>; Griffith, M.<sup>4</sup>; Zoller, C.<sup>5</sup>; Shoemaker, D.<sup>6</sup>

<sup>1</sup> Extension Educator, Ohio State University, Cortland, OH, 44410

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<sup>3</sup> Assistant Professor and Field Specialist, Agricultural & Resource Law, Ohio State University, Columbus, OH, 43210

<sup>4</sup> Extension Educator, Ohio State University, London, OH, 43140

<sup>5</sup> Extension Educator, Ohio State University, New Philadelphia, OH, 44663

<sup>6</sup> Field Specialist, Dairy Production Economics, Ohio State University, Canfield, OH, 44406

In 2016, a team of Extension professionals came together to develop the OSU Extension Critical Issues Team. This team was developed as a result of the difficulty of Extension professionals to react in a timely and professional manner to a critical issue which arises in main stream America. Often, Extension professionals are called upon to answer questions from clientele about emerging issues. How professionals are able to answer to these questions is critical in maintaining the credibility of the land grant Extension systems. These issues may be technical in nature requiring specialized knowledge or could be very controversial, or driven from governmental policy, or be an issue that is so new, that effective scientific research is not yet available. In an effort to better prepare Extension professionals for emerging issues, Ohio State University Extension has brought together of team of Educators to develop the best management practices for identifying emerging issues, developing resources, and for distributing information to colleagues. A key component to the team's success is the ability to identify issues in a timely manner so that information can be disseminated to county Educators before questions arise. Issues are identified through various channels. These include online seminars with state specialists to discuss new research, surveys of Extension advisory groups throughout the state, and surveys of county Educators in all program areas. Once identified, experts with knowledge of the issue will be pulled together to develop resources for county Educators to answer questions from clientele, and to develop publications for use with clientele. This presentation will share the current successes of our team, obstacles encountered along the way, and suggestions for developing a team in your state.

### **THE ON-FARM READINESS REVIEW: A TOOL TO ASSESS PREPAREDNESS FOR THE FSMA PRODUCE RULE**

\*Kline, W.L.<sup>1</sup>; Chapin, T.<sup>2</sup>; Danyluk, M.<sup>3</sup>; Gunter, C. C.<sup>4</sup>; Johnstone, A.<sup>5</sup>; Melendez, M.<sup>6</sup>; Tocco, P.<sup>7</sup>

<sup>1</sup> Agricultural Agent, Rutgers Cooperative Extension, Millville, NJ, 08332

<sup>2</sup> Biological Scientist, University of Florida, Lake Alfred, FL, 33850

<sup>3</sup> Associate Professor, University of Florida, Lake Alfred, FL, 33850

<sup>4</sup> Associate Professor, North Carolina State University, Raleigh, NC, 27695

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<sup>6</sup> Agricultural Agent, Rutgers Cooperative Extension, Trenton, NJ, 08648

<sup>7</sup> Extension Educator, Michigan State University, Jackson, MI, 49202

The Food Safety Modernization Act (FSMA) Produce Safety Rule was finalized in 2015. This regulation will directly impact fresh fruit and vegetable growers, and will be implemented starting in January, 2018. The Food and Drug Administration (FDA) is interested in helping growers with tools that could be used for self-assessment prior to any FDA inspections.

The On-farm Readiness Review process is driven by the National Association of State Departments of Agriculture (NASDA) and four state departments of agriculture (Oregon, North Carolina, Florida and Vermont). The partners in the project include the Food and Drug Administration (Produce Safety Office of Regulatory Affairs, Inspectors), United States Department of Agriculture (FDA liaison and GAP auditors), Cooperative Extension Organizations in Michigan, New Jersey, Florida, North Carolina and the Produce Safety Alliance at Cornell University. NASDA believes this project will provide a learning opportunity for industry and regulators, provide regulators with an opportunity to build knowledge and skills necessary to uniformly and consistently regulate the fresh produce industry, build awareness of critical food safety practices for farmers, provide farmers an opportunity to assess their operations against regulatory provisions and assist in building consensus among industry, academia and regulatory stakeholders

A "toolkit" has been developed to assist growers in deciding if changes to their operation are needed. The modules include the following assessments:

1. Preharvest, harvest and postharvest water
2. Preharvest, harvest and postharvest sanitation
3. Preharvest, harvest and postharvest worker training
4. Preharvest soil amendments
5. Preharvest and at harvest wildlife monitoring

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The modules are being tested in a series of pilot studies to make sure all the modules are clear and can be used by any grower, Extension personnel or regulator. The first test was carried out in Michigan this past summer on two farms (celery and blueberry). This test showed that the modules were too large to use in the field, the modules are currently being revised. The tool should be available in late 2017 for Extension to use as an educational tool for growers and packers under the FSMA Produce Safety Rule to use for a self-assessment.

### **WHEN MARKETING/REPORTING TO STAKEHOLDERS - CREATIVITY IS A MUST**

\*Mickler, K.<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University Of Georgia, Rome, GA, 30161

Marketing efforts are a crucial component of Extension promotion throughout one's county, district and state. The Floyd County Extension Office took a new and unique approach to their 2015 annual report. The report was designed and printed on an envelope, which contained three seed packets and a "Garden Chores" by the month guide. The report highlighted multiple Floyd County Extension program highlights while the seed packets offered consumers a practical component to our annual report. The "Garden Chores" by the month guide provided detailed information about the best practices for planting and garden maintenance each month. This report received outstanding feedback from county officials and multiple University of Georgia administrators. The report was created and distributed in February of 2016 by Floyd County Extension Staff. Fifty reports were produced costing \$407.00: Envelopes, \$96.00 Seed Packets, \$196.00, Printing \$115.00. Each report cost \$8.14.

### **HELPING PRODUCE FARMS MEET FOOD SAFETY REGULATIONS AND CERTIFICATIONS IN THE PIEDMONT AND WESTERN NC**

\*Rogers, E. T.<sup>1</sup>

<sup>1</sup> Area Specialized Agent, Food Safety-Fresh Produce, North Carolina State University, Lenoir, NC, 28645

For the past decade, produce farms have experienced the pressure from buyers to implement good agricultural practices (GAP) and good manufacturing practices (GMP) that lead to food safety certifications. The certifications are based on audits that are conducted at the farm during harvest season. Growers are often burdened by the process, audits are often expensive, require additional labor and are time consuming. Nonetheless, the process has helped growers become familiar with food safety practices on the farm and implement food safety plans. On the other hand, the Food Safety Modernization Act's 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 reduce the risk that a consumer may get sick or die from a foodborne illness after eating contaminated produce. Based on the above, the overall goal has been to develop a comprehensive program in produce safety that is relevant to farms based on the size of the operation and their specific requirements. Three clientele groups have been identified: 1) home gardeners and very small farms that want to learn and implement food safety practices who are not covered by the PSR and do not need a certification, 2) farms that are qualified exempt from the PSR but need a food safety certification, 3) farms covered by the PSR and who need to comply with a food safety certification. Presentations and handouts were developed for group one to be used at different programs. For group two, a class is offered that focuses on qualified exemptions and raises awareness of practices outlined in the PSR that growers should consider implementing on a voluntary basis. For the third group (covered farms by PSR and certifications) the Produce Safety Alliance trainings are being offered regularly. Materials that help implement practices and workshops to discuss auditing guidelines, GAPs and guidance are being provided. This approach is helping reach growers that have felt overwhelmed by these requirements in the past and has allowed our team to design resources that address their needs. The resources developed for these programs will be shared during the session.

### **WATER CONSERVATION EDUCATION FOR RESULTS: USING COMMUNITY PARTNERSHIPS**

\*Sheffield, M.<sup>1</sup>

<sup>1</sup> County Extension Agent, University Of Georgia, Dallas, GA, 30132

Concerns related to increased water demands, recurring drought, changing land use patterns, non-point source pollution, and decreasing water quality are prevalent with dramatic increases in population growth in local metro-Atlanta counties. The Georgia Environmental Protection Agency cites Georgia's rapid population growth over the last 30 years, as one of the major stresses on Georgia's water resources and Paulding County's population is projected to reach 275,000 by the year 2030. A lack of environmental education for the need to conserve soil and water resources is directly affecting sustainability of natural resources. Despite these needs marketing Extension programs at the rural/urban interface is becoming more challenging. With this data, Paulding County's Agriculture and Natural Resources (ANR) Program development team, identified soil and water conservation as an educational need in the county and created a plan to reach more clients. The Coordinator will share efforts of the team to reach residents with soil and water quality education. As a result of the team's efforts Paulding residents have pledged to conserve 79,000 gallons of water daily through the 40 Gallon Challenge Water Conservation Pledge. Additionally, implementation of the team has led to collaborations on programming and

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marketing of Extension Programming, strengthening Paulding County UGA Extension's ability to secure financial support and increasing the volume of clients that can be served. Strategies for effective community collaboration, tools for engaging this audience, and opportunities for spring-boarding to additional targeted collaborations will be shared.

### **HOW TO WIN THE OYF YOUNG FARMER OF THE YEAR AWARD**

\*McMoran, D. W.<sup>1</sup>

<sup>1</sup> Agriculture And Natural Resources Extension Educator-Director, Washington State University, Burlington, WA, 98233

The Skagit Young Farmer group began in 2008 under the leadership of Extension Faculty, Don McMoran. The Skagit Young Farmer group hosted monthly breakfasts and invited keynote speakers for each meeting including local elected officials. Several members from the group were nominated for the OYF National Young Farmer of the Year award culminating in the first ever finalist from Skagit County, Nate Youngquist in 2016. Nate received a cash award and a free trip to Washington D.C. and will serve in the OYF fraternity in perpetuity. This presentation will focus on how Extension Faculty can create a local Young Farmer group, how to get your farmers excited about applying and how to win the OYF Young Farmer of the Year award.

### **EXTENSION'S ROLE IN THE WATERSHED PLANNING PROCESS FOR THE FREEMONT RIVER IN WAYNE COUNTY, UTAH**

\*Wilde, T.<sup>1</sup>

<sup>1</sup> Extension Associate Professor, Utah State University Extension, Junction, UT, 84740

Wayne County, Utah is located in south central Utah. The county is diverse geographically with high elevation mountain ranges in the west transitioning to low elevation arid desert in the east. The Freemont River flows west to east nearly the full length of the county draining into the Colorado River near the eastern boundary. In the west end of the county the river flows through agricultural areas- including pastures utilized for cattle grazing. In the central part of the county the river flows through Capitol Reef National Park where there is high recreational use on the river. These differing uses have raised concerns about water quality prompting additional water quality monitoring and a revision of the Freemont River Watershed Management Plan. During this process concerns developed from the local conservation district and county commissioners about the objectivity of the person assigned to collect the water samples. Extension was identified by these local governing bodies as a source for unbiased scientific information and was asked to participate in the water quality monitoring plan. Extension's involvement in this process has brought consensus to the process and allowed it to move

forward with the focus on scientific data rather than political agendas. This has highlighted the relevance of Extension at the local level and increased the perceived value of Extension to the local governing bodies.

## **Agronomy & Pest Management**

### **COUNTY EDUCATORS SURVEY WEEDS ACROSS THE STATE TO DRIVE EXTENSION PROGRAMMING**

\*Griffith, M.<sup>1</sup>; Watters, H.<sup>2</sup>; Douridas, A.<sup>3</sup>

<sup>1</sup> Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140

<sup>2</sup> Field Specialist, Agronomic Systems, Ohio State University Extension, Bellefontaine, OH, 43311

<sup>3</sup> Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Urbana, OH, 43078

Every fall, members of the Ohio State University Agronomic Crops Team conduct an annual weed survey documenting the presence of weed populations and severity of infestation throughout the state in order to document and observe changes in weed populations in Ohio over time.

The weed survey enhances understanding of weed populations, grower concerns, and resistance issues in Ohio allowing Extension to focus research and programming to address grower concerns appropriately. The survey enhances understanding of the specific challenges growers face in weed management, which is a necessary step in addressing challenges through research and education. Findings give context to real world settings and can be utilized to drive Extension research and programming to inform practical application. Moving forward, the Ohio State University Agronomic Crops Team will continue to conduct the fall weed survey to develop a richer data set and continue to enhance understanding of how various weed populations are changing throughout the state.

This presentation summarizes survey data collected since 2008, representing weeds observed in 14 to 18 counties each year with approximately 80 fields of varying size observed per county. Additionally, the presentation will include discussion of methodology and the application of survey results in Extension programming throughout the state.

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## **CORN EAR FORMATION ISSUES IN 2016**

\*Rees, J.<sup>1</sup>; McMechan, J.<sup>2</sup>; Elmore, R.<sup>3</sup>; Hoegemeyer, T.<sup>4</sup>; Keaschall, J.<sup>5</sup>; Jackson-Ziems, T.<sup>6</sup>

<sup>1</sup> Extension Educator, Nebraska Extension, York, NE, 68467

<sup>2</sup> Extension Assistant Professor, University of Nebraska, Lincoln, NE, 68583

<sup>3</sup> Professor Agronomy/Horticulture, University of Nebraska, Lincoln, NE, 68583

<sup>4</sup> Adjunct Professor, University of Nebraska, Lincoln, NE, 68583

<sup>5</sup> Professor of Practice, University of Nebraska, Lincoln, NE, 68583

<sup>6</sup> Associate Professor, University of Nebraska, Lincoln, NE, 68583

Shortly after pollination in July 2016, authors observed and received reports of ear formation issues of barbell, short husks, and multiple ears occurring in Nebraska corn fields. These were observed from Gothenburg, NE to Saunders County, NE with numerous reports in Clay and Thayer counties in Nebraska south to the Kansas border. Upon releasing an article in <http://cropwatch.unl.edu>, additional reports were obtained from the Texas Panhandle to eastern Colorado and east through Nebraska, Iowa and Illinois. The widespread nature of this problem indicates a genetic (racehorse hybrids) X environment response. Additional hypotheses include primary ear abortion, ethylene production, and leaf sheath restriction resulting in abnormal ear formation. Identifying the causal agent(s) can aid corn breeding programs in their screening process and/or farmers in adjusting management practices. To better understand causes, 50-100 whole plant samples were collected from 16 affected and unaffected fields from central and eastern Nebraska. In addition, 25 plants of four hybrids were collected from an Eastern Iowa field. Individual plants are currently being evaluated for ear type, ear height and node number, internode length, plant location and row orientation. In addition, information on management practices and environmental data are being collected. Preliminary results of 300 samples have shown abnormal ears occurring on average one node below where normal ears were observed, suggesting primary ear abortion as one cause. Additional results from the survey and additional studies will be shared in this presentation.

## **BACTERIAL LEAF STREAK IN CORN CAUSED BY XANTHOMONAS VASICOLA IN THE UNITED STATES IN 2016**

\*Rees, J.<sup>1</sup>; Jackson-Ziems, T.<sup>2</sup>; Hartman, T.<sup>3</sup>; Timmerman, A.<sup>4</sup>; Schlund, S.<sup>5</sup>; Stepanovic, S.<sup>6</sup>; Adesemoye, A.<sup>7</sup>

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In July 2016, the United States Department of Agriculture confirmed Bacterial Leaf Streak (BLS) of corn for the first time in the United States. This disease is caused by the bacterium *Xanthomonas vasicola* and was confirmed in 51 Nebraska counties in addition to counties in Kansas, Colorado, Iowa, Illinois, Texas, Minnesota, and South Dakota. The disease is known to cause a gumming disease of sugarcane, affect several palm and grass species, bamboo, coconut, and sorghum species but it has only been found on corn, popcorn, and sweet corn to date in the United States. Minimal research has been conducted on the disease. Observations over the past few years lead us to believe the pathogen is residue-born. Hybrid differences in regards to susceptibility have also been observed in the field. Expected yield loss from this disease based on research is unknown. This presentation will discuss the pathogen biology, disease identification, management, and additional research findings associated with this disease.

## **WEEDS WEEK - A PROGRAM TO TEACH PEST RESISTANCE MANAGEMENT**

\*Schmitt, V. L.<sup>1</sup>

<sup>1</sup> Extension Field Agronomist, Iowa State University, Muscatine, IA, 52761

The development of pest resistance to fungicides, insecticides (including Bt), and herbicides is well documented. In Iowa, waterhemp resistance to Group 2 (ALS inhibitor) herbicides became the norm in the early 1990's. Currently, these Group 2 resistant waterhemp are also exhibiting resistance to both glyphosate and to Group 14 (PPO inhibitor) herbicides more and more frequently. To educate farmers, dealers, and independent crop consultants on preventing and managing pest resistance, a working group of field specialists and campus specialists collaborated to develop a series of one-day workshops, called Weeds Week, to be delivered at five locations across the state during the summer of 2015, and repeated in the summer of 2016. The curriculum is being converted to an on-line course. (Hopefully that will be complete by AM/PIC). The face-to-face workshops included lectures, worksheets, small and large group discussions, and plot tours. The on-line course is interactive and contains a virtual plot tour. Learn what we did and how we did it, view the curriculum materials, and hopefully view the on-line course. Attendees will have full access to these materials and may use them as a starting point to develop their own programming.

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## **WHEAT WALKS—AN IN-FIELD HANDS-ON APPROACH TO LEARNING**

\*Strunk, C. L.<sup>1</sup>

<sup>1</sup> Plant Pathology Field Specialist, SDSU Extension, Sioux Falls, SD, 57103

Wheat diseases are a constantly changing threat that producers have to deal with, and many are not familiar with disease identification and management. Producers are confronted with an overwhelming assortment of chemical products that they are being pressured to purchase. Simultaneously they need information on the most cost-effective way to control diseases, insects, weeds, and manage fertility issues whether it be through chemical, cultural, or biological means.

Wheat is a major crop in South Dakota with 2.25 million acres planted in the state in 2016. One of the important tools for maximizing wheat farm profitability is to manage input costs, which are constantly on the rise, and a farmer consistently needs to justify this cost-benefit ratio while applying these inputs. In addition, producers are also being faced with the threat of pesticide resistance and the potential loss of efficacy from current protection products in managing pests.

SDSU Extension and the South Dakota Wheat Commission have partnered together and developed “Wheat Walks” which allow SDSU Extension, SDSU Researchers, Industry and South Dakota wheat producers to come together for an in-the-field hands-on learning environment throughout the state’s wheat fields at flag leaf through head emergence. Program attendees are shown how to scout for insects and diseases while getting the chance to scout for themselves.

The wheat walks not only focus on disease identification and management, but also cover potential weed, insect, and fertility issues, as well as other agronomic management information in order to enhance wheat yields and the sustainability of the state’s wheat producers. The importance of adopting diverse crop rotations, cover crops, planting cultivars with disease resistance and other cultural practices in managing diseases is also emphasized.

## **INCREASING FORAGE BIOMASS - WHEATLAGE PRIOR TO CORN SILAGE**

\*Whitney, T. D.<sup>1</sup>

<sup>1</sup> Extension Educator, Nebraska Extension, Holdrege, NE, 68949

Dent corn (*Zea mays indentata*)(C4 annuals) and winter wheat (*Triticum aestivum* L.)(C3 annuals) are grown primarily in the Midwest in either grain-only or dual-purpose (grazing plus grain) cropping systems. The objective of this SC Nebraska irrigation two-year, multi-location forage research study was to compare C3 (wheat, rye & triticale) spring harvest dates for forage quality & biomass quantity as a compliment to irrigated corn silage production during the same plant growth years. Results suggest that C-3 annuals should not be terminated during

the traditionally recommended boot-stage development stage. Rather, yearly silage biomass production may be increased up to 25% if the C3 cool-season forages are harvested in later anthesis (pollination) for wheatlage biomass while still allowing near maximum corn silage biomass production later in the growing season.

## **USING DEMONSTRATIONS TO COLLECT ON-FARM RESEARCH DATA**

\*Bosak, E.<sup>1</sup>

<sup>1</sup> Field & Forage Crops Educator, Penn State Extension, Dauphin, PA, 17018

On-Farm Demonstrations can be the backbone for summer field days to educate farmers on a variety of topics. However, a common pitfall of demonstration plots occurs when observations are presented as true comparisons based on data. The principal difference between demonstration plots and on-farm research plots is replication. Demonstration plots typically only have a single example of a particular treatment, for instance, a cover crop species. Although extremely useful for educational purposes, a demonstration plot cannot substitute for on-farm research. Small plot research can be effectively produced in cooperation with local farmers. A randomized complete block design with three replicates can provide local data to share with farmers at a field day along with signed treatment plots from the first block as a demonstration. This presentation will go step by step through the practicalities of planning, laying out, collecting, analyzing, and presenting data from a small plot weed management project on a Pennsylvania farm. Eleven different pre-emergence and post-emergence soybean herbicide treatments were applied in a randomized complete block design with three replications. Herbicide efficacy data was collected at 14, 23, and 36 days following the pre-emergence application and 0, 7, 14, and 32 days following the post-emergence application. A field day was hosted in late July for farmers to see different herbicide programs for glyphosate-tolerant soybean and non-GMO soybean. An on-farm research report was generated to include in a local newsletter.

## **DELIVERING AN IPM PROGRAM TO SWEET CORN GROWERS IN MAINE**

\*Handley, D. T.<sup>1</sup>

<sup>1</sup> Vegetable & Small Fruit Specialist, University Of Maine Cooperative Extension, Monmouth, ME, 04259

Sweet corn growers face both an aggressive insect pest complex, including European corn borer, corn earworm and fall armyworm, and very low consumer tolerance for insect damage. High rates of insecticides to control these pests are no longer economically, environmentally or socially tolerable. The University of Maine Cooperative Extension has been working with local farmers to develop and support IPM practices for

sweet corn production since 1983. This program introduces farmers to pest monitoring techniques and the use of economic action thresholds to determine the necessity and timing of pesticide applications. In addition, alternative management strategies are emphasized whenever practical, to further reduce pesticide use. More than twenty volunteer farmers work with Extension to provide monitoring sites and pest information each season, which is shared with over 100 growers via weekly newsletters and our blog. Farmers have also participated in applied research projects throughout the program, including projects to evaluate trap types and placement, specialized silk treatments, and parasite releases. Program evaluations indicate that participating growers have modified their pest management practices as a result of their participation, and nearly always reduce the amount of pesticide used. Most have seen an improvement in crop quality, and found that IPM has improved sweet corn profitability on their farms.

### **NITROGEN AND POULTRY MANURE USE ON SOYBEANS**

\*Lewis Jr., J. W.<sup>1</sup>

<sup>1</sup>. Ag Agent, University Of Maryland, Denton, MD, 21629

Soybeans have traditionally been a crop that has not received manure but there are a growing number of poultry farmers who have reported doing so successfully with high yield irrigated soybeans believing that the response was due to the nitrogen in the manure. Policy makers in Maryland believe that there is excess poultry manure and changing regulations are requiring a broader distribution. So, a possible use is high yielding soybeans. There is confusion as to whether there is even a yield response and if so, is the yield increase from the extra Nitrogen, Phosphorus, Potash, Sulfur, or micronutrients. Research was conducted over 2 years on 2 irrigated farms. Treatments: Control, 1.5 ton poultry manure, Nitrogen pre-plant at the manure N rate, Nitrogen at R1 at the manure N rate, Phosphorus pre-plant at manure P rate, Potash pre-plant at manure K rate, Sulfur pre-plant at manure S rate. Yields on farm 1 ranged from 65 to 96 bu/acre across the 2 years and 6 replications. Yields from farm 2 ranged from 53 to 79 bu/acre across the 2 years and 6 replications. Total treatment yields over the 2 farms and 2 years were 73-76 bu/acre. Fall Nitrate soil test were conducted to measure residual nitrogen after harvest.

### **PESTICIDE APPLICATOR SCHOOLS PROTECT PEOPLE, PROPERTY, THE FOOD SUPPLY, AND THE ENVIRONMENT**

\*Bauer, M.<sup>1</sup>; Fenneman, D.<sup>2</sup>; Rogers, E.<sup>3</sup>

<sup>1</sup> Extension Agent, UF/IFAS, Lake City, FL, 32055

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<sup>3</sup> Extension Associate, North Carolina State University, Raleigh, NC, 27695

Proper pesticide use is critical to the agricultural industry in the Suwannee Valley. With an estimated 600 farms in Suwannee, Columbia and Madison Counties in North Florida, pesticide education and training is in great demand by the 277 licensed restricted use pesticide (RUP) applicators in the area. Pesticide training provides instruction on proper pesticide use and handling to individuals who want to obtain or retain certification to apply restricted use pesticides. In Florida, UF/IFAS Extension primarily conducts education and the Florida Department of Agriculture and Consumer Services (FDACS) administers the pesticide certification process. Objectives: 1) Develop an educational program to enhance pesticide stewardship and safety for those seeking certification to apply restricted use pesticides (RUP) and 2) Develop educational programs and resources that provide continuing education units for RUP License holders that focus on pesticide stewardship, minimizing pesticide exposure and improved safety for applicators and their families, and minimizing environmental impacts from agro-chemicals. Methods: The Agents work together to provide workshops, field days and magazine articles that increase knowledge of pesticide use, prepare individuals to pass exams, and deliver continuing education units (CEUs). Classes include lectures, use of multimedia presentation, case studies, videos, and hands-on experiential learning. Results: A total of 324 individuals have attended the 25 classes offered since 2009. An estimated 195 individuals received seven CEUs at each training. The passing rate for those taking exams at the conclusion of training is ninety-two percent. Conclusions: Certification and training programs protect people, property, the food supply, and the environment from both pests and pesticide exposure by ensuring the competence of pesticide applicators. Innovative programs developed by Extension agents in Columbia, Madison, and Suwannee counties in Florida, have prepared pesticide applicators for certification, and provided continuing education for recertification. This Extension program offers a significant economic, environmental, and community return to program participants and area residents.

### **EVALUATING FUNGICIDE PROGRAMS FOR CONTROLLING WHITE MOLD IN PEANUTS IN GEORGIA,**

Price, T.\*<sup>1</sup>, Kemerait, R.C.<sup>2</sup>

<sup>1</sup>Extension Agent, University of Georgia Cooperative Extension, Cook County, Adel, Georgia 31620

<sup>2</sup>Extension Plant Pathologist, Department of Plant Pathology, University of Georgia, Tifton, GA 31793

White Mold (WM) (*Sclerotium rolfsii*) is considered one of the most destructive diseases in peanut production in Georgia. An 11 acre trial was installed in a commercial peanut field in Cook County, Georgia to evaluate nine fungicide programs for controlling WM in peanuts. GA 06G peanuts were planted 29 April under center pivot irrigation. Treatments included

Provost; Provost + Propulse; Muscle; Muscle + Priaxor Xemium; Elatus (application 1, 3 and 5); Elatus (application 3 and 5); Fontelis; Convoy; and Abound + Alto. Control included Bravo Weather Stik only. Treatments were replicated three times. The greatest differences in WM incidence were noted at harvest. Peanuts were inverted and rated for WM 15 September (ratings recorded as number of 1 foot WM hits/200 feet of row). These ratings showed WM severity ranging from 42.7 in peanuts treated with Elatus (application 3 and 5), to 18 in peanuts treated with Convoy. Control (Bravo Weather Stik only) ratings showed greatest incidence of WM (60.3) among all treatments. Peanuts were harvested 20 September and yields among the treatments were compared. Peanuts treated with Elatus (applications 1,3 and 5) yielded 3,551 pounds per acre which was significantly greater among all treatments while peanuts treated with Abound + Alto (applications 3 and 5) yielded 2,921 pounds per acre which is least among all treatments with the exception of the control which yielded 2,687 pounds per acre. Leaf Spot and Tomato Spotted Wilt was insignificant in these trials. Data disseminated to growers via email and county production meetings.

#### **DELIVERING STRATEGIC PEST ALERT INFORMATION AND INTEGRATED MANAGEMENT OPTIONS DIRECTLY TO AG AND URBAN AUDIENCES**

\*Agenbroad, Ariel Lynne<sup>1</sup>; Neufeld, J.<sup>2</sup>; Guggenheim, R.<sup>3</sup>; Hirnyck, R.<sup>4</sup>

<sup>1</sup> Area Extension Educator, Community Food Systems And Small Farms, University Of Idaho Extension, Boise, ID, 83714

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<sup>3</sup> Extension Educator, Horticulture, University of Idaho Extension, Caldwell, ID, 83605

<sup>4</sup> Extension Pesticide Specialist, University of Idaho Extension, Boise, ID, 83702

PNWPestalert.net was created in 2002 by University of Idaho and Oregon State University Extension faculty. This unique network system utilizes a broad base of partners to create and distribute alerts to agricultural and more recently, residential subscribers, delivering timely, research-based Integrated Pest Management (IPM) information on the emergence, identification and management of common pests and diseases of concern through email and text messages. Twelve years of survey data show that users increased their knowledge of IPM, adopted recommended IPM strategies, reduced pesticide use by 6 percent, and minimized adverse pest and pesticide impacts on the environment and human health in the region.

This presentation will focus on impacts, ways in which the network may be adapted for other areas of the country, and how our faculty utilize partners and volunteers to collect and disseminate the information on pests of concern to reach

agricultural producers and homeowners with timely, research-based information on pest emergence and integrated pest management.

#### **IMAZAMOX RESISTANT JOINTED GOATGRASS AS A POTENTIAL NEW PEST IN THE PACIFIC NORTHWEST**

\*Esser, A. D.<sup>1</sup>; I.C. Burke<sup>2</sup>

<sup>1</sup> Extension Agronomist, Washington State University, Ritzville, WA, 99169

<sup>2</sup> Associate Professor of Weed Science, Washington State University, Pullman, WA, 99166

Clearfield wheat (*Triticum aestivum*) varieties were first planted in the dryland cropping region of eastern Washington on a widespread basis beginning in the fall of 2003. In 2016 the first case of jointed goatgrass (*Aegilops cylindrical*) resistant to imazamox, the active ingredient in Beyond herbicide, has been confirmed in this region. The resistant biotype is 144 times more resistant than susceptible jointed goatgrass plants. Work is being completed to identify the mechanism of resistance, but it is known that the resistance in this case was not the result of a cross between Clearfield wheat and jointed goatgrass. It is believed this is an isolated incident however; farmers across the region need to be more assertive adopting an integrated weed control system to minimize the resistant biotype and steward the Clearfield wheat system. An integrated approach to weed management uses a combination of cultural and mechanic control in combination with chemical control to provide the best possible weed control. One of the first steps, after properly scouting and assessing the population, is to understand the biology of the pest and focus on methods that reduce the soil seed bank. Jointed goatgrass seed remains viable up to 5 years, and approximately 80% germinates within 3 years if placed between the soil surface and a depth of 2 inches. Timely light tillage operations can be an effective mechanical control tactic to help manage the soil seed bank. Herbicide alternatives for jointed goatgrass control or suppression in wheat is very limited, thus chemical options need to focus on preplant herbicide applications and applications in different crop types such as canola and legumes. This cultural control tactic, along with maintaining a healthy vigorous crop can be an effective tool to limit the spread of this pest in eastern Washington.

#### **HARD WHITE WINTER WHEAT GROWER STRIP TRIALS-SOUTHERN IDAHO**

\*Hogge, J. M.<sup>1</sup>; J.R. Findlay<sup>2</sup>

<sup>1</sup> Area Extension Educator, University Of Idaho, Rexburg, ID, 83440

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Idaho has been the number one producer of hard white wheat in the US, until 2014, when we slipped to number three,

behind Nebraska and Colorado . Idaho has lost hard white winter wheat acreage to higher value crops such as corn and malt barley. To date Idaho growers have not had a hard white wheat variety that would meet the yield, agronomics and end-use quality needed. The Idaho Wheat commission partnered with University of Idaho extension to evaluate hard white wheat varieties on one acre plots. Growers and potential seed producers want to see performance data from one acre plots. Growers desired to observe and harvest the wheat varieties with standard scale equipment and their own management practices. In 2015, dryland farmers, were recruited to grow a hard white winter variety trial on a grower scale (1 ac per variety, non-replicated, under standard growing practices). The Idaho Wheat Commission solicited hard white wheat varieties from a variety of developers. The varieties selected had to be commercial or commercially available to growers in two years. Varieties selected had to be winter hardy, high yielding and have good end-use quality. The large scale trials were intended to allow the grower to see enough of the variety to compare them side by side in his field and make a decision on the variety(s) they would be willing to grow in the future.

#### **SUGARCANE APHID: A NEW THREAT TO SORGHUM IN ARIZONA**

\*Mostafa, A.<sup>1</sup>

<sup>1</sup>. Area Agent, University Of Arizona, Phoenix, AZ, 85040

The sugarcane aphid, *Melanaphis sacchari* have been recorded in Arizona in summer 2016. This is a new pest report for our state. Given this heavy infestation, it is likely this aphid has been in the state for longer than just this year, although reports extended only as far west as eastern New Mexico last year. The sugarcane aphid is distributed over the South, Texas and New Mexico; where it is one of the most important insect pests of grain and forage sorghum. Until recently the sugarcane aphid fed only on sugarcane in the US, but in 2013 it was found feeding on sorghum in southeast Texas near the border with Louisiana. This sorghum-feeding sugarcane aphid biotype spread over north Texas, southern Oklahoma, Louisiana, and Mississippi. Sugarcane aphids survived the 2013 winter in south Texas and spread throughout much of Texas and 12 other southern states during the spring and summer of 2014. In 2015, the sugarcane aphid spread through Texas into Oklahoma and Kansas, eventually infesting 17 states. This area encompasses 90 percent of the US sorghum acreage. Giving the severity of this infestation and the rapid distribution of sugarcane aphid in Texas, this could become a serious impediment to sorghum production in Arizona with serious consequences on forage and dairy industries in the state. Giving the challenges facing forage crops, like alfalfa and now sorghum, in the last few years, it is important to bring different interested parties in the forage and dairy industry together for discussion.

#### **EXPANDING AN IPM PROGRAM WITH A SCOUTING TOOLBOX**

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As pesticides become more regulated, their expense increases and fewer choices are available. This creates a need to find ways to use fewer pesticides. The public continues to desire aesthetically pleasing standards in their landscapes. To do so in environmentally sound ways is a challenge. Scouting in agricultural production areas has been used for an extended period of time. The use of this method in nurseries and especially in landscapes is still relatively new. At the heart of a good IPM/Scouting program are the many tools that facilitate accurate identifications and pest management decisions. Although the main emphasis is on the landscape and commercial clientele, this toolbox of essentials is adaptable for any green industry enterprise or for the homeowner.

The program covers the following objectives of Scouting:

\*Equipment needed to develop a Scouting toolbox

\*How to use each tool to determine the problem and best type of control, beginning with the least toxic to the more traditional chemical controls.

This presentation on the use of a Scouting toolbox has been presented to national and regional audiences as well as to Master Gardener classes. Over 1,000 students have participated in this class.

#### **DEVELOPMENT OF AN INTEGRATED ERGOT DISEASE MANAGEMENT PROGRAM FOR PERENNIAL GRASSES GROWN FOR SEED**

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Ergot is a disease of economic importance in perennial

ryegrass and Kentucky bluegrass seed production east of the Cascade Mountain Range in Oregon and Washington, USA. Incidence and severity of ergot infections vary seasonally but the disease is endemic in some areas. Ergot reduces seed yield, hinders seed certification efforts, and prohibits use of post-harvest residue as livestock feed. The fungal pathogen, *Claviceps purpurea*, infects the ovaries of flowering grass hosts prior to fertilization and forms sclerotia rather than viable seed. Suppression of the disease can be achieved with properly timed fungicide application of fungicide at anthesis initiation and/or during early stages of anthesis. The decision to apply fungicide(s) for ergot control has historically been a difficult process due to: 1) a lack of information regarding ascospore presence or absence before and during anthesis; and 2) the variation in timing and duration of anthesis among different cultivars. A multi-year, collaborative research and extension outreach project was implemented in Oregon to focus on the development of new tools for an integrated ergot disease management program. To date the project has: 1) evaluated host plant ergot resistance/escape, new fungicide chemistries and application techniques, biological degradation of sclerotia, and role of insects in disease dispersal; 2) monitored and quantified aerobiology of ascospores in perennial ryegrass and Kentucky bluegrass; 3) developed a high-fidelity polymerase chain reaction (HF-PCR) protocol to detect *C. purpurea* ascospores on insects; 4) developed an ergot ascospore predictive degree day model for perennial ryegrass; 5) developed a quantitative polymerase chain reaction (qPCR) protocol to detect airborne ascospores in cool-season grass seed crops; and 6) developed and deployed a decision-aid tool to help growers make informed fungicide application decisions.

## Animal Science

### BASICS OF MANAGING A LIVESTOCK ENVIRONMENT FOR IMPROVED HEALTH AND LESS DEPENDENCE ON ANTIBIOTICS

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Stress in livestock can increase the likelihood of disease outbreaks, managing the environment can reduce the stress. In this presentation I plan to summarize the main points from a day long workshop normally team presented with an ag engineer. A couple example main points to learn include: How to dry out the air for a less humid, healthier atmosphere in a livestock facility; How to manage effective environmental temperature through learning about heat transfer mechanisms. The purpose of the day long workshop is to increase understanding and improve operation of the ventilation systems in swine facilities. Optimal ventilation will increase herd health, increased profit and reduce carbon footprint. A win-win scenario is possible. Poor functioning ventilation

systems are common. Over ventilating uses excessive energy and increases stress on pigs. Under ventilating is harmful to pig health and productivity. Applying proper ventilation principals result in less energy cost and healthier, more productive pigs.

This educational program had significant industry reach and impact through innovative interdisciplinary education. The interdisciplinary team of Animal Science and Ag Engineering hosted 19 level one workshops and 5 level two workshops in Northwest Iowa reaching 394 participants. The participants included producers, territorial managers, regional field staff and consultants. The influence on these key individuals was huge as they managed, owned or consulted for 21,470,527 growing pigs and 539,599 sows. The program was successful for both large and small producers. Results speak for the program as survey returned from 207 participants reported 242 new ideas learned and 182 changes made. The changes implemented by the participants had a self-reported value totaling \$689,200. Per participant value was \$3,266.35. If all 394 participants achieved similar results the annual value of the program could be estimated at 1.287 million dollars.

### FEED MANAGEMENT PRACTICES AND CORN SILAGE QUALITY EFFECTS ON INCOME OVER FEED COST

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Feeding and cropping management practices are critical to the profitability of a dairy business. In a 2015 cash flow plans summary, dairy farm breakeven milk price ranged from \$12.23/cwt to \$38.72/cwt (n=107). Between 2013 and 2015, 60 farms were sampled four times over two years for corn silage, fecal starch, and milk urea nitrogen (MUN), and surveyed about best management practices. 44 of those farms provided actual income and expenses for their dairy enterprise for all three years. The objective of the project was to determine the affect corn silage quality and feed management practices on income over feed cost. Gross milk price and total milk cow feed cost varied both within years and across years. There was greater variation in total milk cow feed cost among the 44 farms than in gross milk price. The next step was to evaluate the top and bottom 25% herds for income over feed cost and their feed management practices and corn silage quality. The top 25% had the highest percentage of implementation of feeding management practices as compared to the bottom 25%. The top 25% tended to have slightly better corn silage in terms of higher average dry matter percent, 7 hour starch digestibility, and 30 hour NDF digestibility both in the fall and spring sampling periods. During the next phase of this project, a more complete analysis of corn silage within rations will be analyzed with the addition of actual dry matter intakes and an analysis of the total mixed ration.

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## **DETERMINING ANTHELMINTIC RESISTANCE ON SHEEP FARMS IN THE SOUTHEASTERN US**

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Gastro-intestinal parasites are the primary health problem affecting sheep and goats in warm, moist climates. Effective control programs are hampered by the existence of resistant worm populations. Most farmers do not know the resistance status of their farms and frequently administer ineffective treatment(s). In 2016, the American Sheep Industry Association's Let's Grow Program funded a project to test for anthelmintic (dewormer) resistance on commercial sheep farms in Maryland, Virginia, and Georgia. The project cost-shared the DrenchRite® test (larval development assay) for 10 farms in each state. Extension specialists facilitated the collection and shipment of pooled fecal samples to the University of Georgia for analysis and provided follow-up recommendations. Critical well values which correlate to fecal egg count reductions were used to determine resistance. Resistance is present if the percentage reduction in fecal egg count is less than 95%. The most commonly identified larvae in the fecal samples was *Haemonchus contortus* (82.1 + 3.8%). The percentage of farms with resistance to benzimidazoles (SafeGuard®, Valbazen®), avermectins (Ivomec®, Dectomax®, Eprinex®), moxidectin (Cydectin®), and levamisole (Prohibit®, Leva-Med®) was 100, 92.3, 84.6, and 42.3%, respectively. Resistance to moxidectin and levamisole was lower on Maryland farms compared to farms in Virginia and Georgia (P<0.02). Resistance to avermectins was similar. All farms had resistance to the benzimidazoles. All farms had resistance to one or more anthelmintics, but there were differences between farms and states. For effective control programs, farmers need to test for anthelmintic resistance and implement treatment protocols which maximize fecal egg count reduction.

## **DROUGHT PLANS PREPARE CATTLE PRODUCERS FOR MANAGEMENT DECISIONS**

\*Cheely, T.<sup>1</sup>

<sup>1</sup> County Extension Coordinator, University Of Georgia, Warrenton, GA, 30828

Livestock production contributes significantly to the economy of the Glascock, Hancock, McDuffie, and Warren County area. These are rural counties where farming is significant to life style as well as the economy. The Warren County Extension Coordinator has been designing programs for area beef producers to enable them to prepare individualized drought plans. She also helped producers update these plans on a

yearly basis as conditions changed. When drought predictions started, Mrs. Cheely started offering extra programming and information related to the topic and began concentrating on the topic in one on one consultation for those without a previously prepared drought plan. She encouraged them to start making proactive decisions instead of waiting to see how bad the drought would actually get. 100% of the producers with drought plans said these plans made them more effective managers of their operations. Drought plans included: cattle inventory organized as sell groups in order of sells depending on length and severity of drought as well as method of sale for each group, market targets set to determine sale dates, sacrifice pastures determined, supplemental feeding plans, stockpiles of commodities and supplies built up and soil fertility built up so maintenance would cost less and recovery would be less costly. Producers with permanent drought plans said they have more operating money on hand, are prepared to get remaining herd through the winter, still have their genetic bases intact and believe their farms will be set up for recovery when the drought is over.

## **LUNCH & LEARN CATTLEMEN'S SERIES**

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In Madison County, Florida and the surrounding counties there are approximately 135,000 head of cattle. Many of these producers buy and sell cattle at the local livestock market in Madison. These same livestock producers may or may not attend educational events hosted by local Extension agents. With the current trend in downward prices livestock producers need current research-based information to increase their chances of maintaining sustainability. To reach a broader cliental group, this agent teamed with the local livestock market to provide Educational trainings during lunch on sale days during the last sale of the month. The Agent consulted with the market owners and various other livestock producers to develop a seasonally related topic agenda for these meetings. Extension Specialists from UF and industry representatives were invited to share their knowledge through a venue of open-discussion and question & answer sessions. Topics included: pasture fertilization, forage varieties, weed control, livestock nutrition, bull selection/genetics and economics. In 2015, the first five-part/monthly series, was attended by a total of 217 producers. 2016 saw 231 producers attend the six-part series. This year's program will be six sessions again, three in the spring and three in the fall. Post session surveys from the previous two years (n=72) were conducted due to the time constraints of the sale. Respondents indicated 86% (n=63) increase in knowledge gained from the various sessions, 78% (n=57) plan to make changes to their operations. Overall, 100% (n=72) indicated the open-discussion/question & answer format was a valuable learning experience.

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## **SAND MOUNTAIN ELITE HEIFER DEVELOPMENT PROJECT III: HEIFER REPRODUCTIVE PERFORMANCE AND PROGRAM COSTS**

\*Marks, M. L.<sup>1</sup>; Stanford, M.K.<sup>2</sup>; Kriese-Anderson, L. A.<sup>3</sup>

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The Sand Mountain Elite Heifer Development Program was established to demonstrate to commercial cattle producers recommended methods for replacement heifer development including use of artificial insemination (AI) with a timed AI protocol. In Fall 2015, 40 acres of novel endophyte tall fescue, rye, and ryegrass was established or stockpiled. Heifers (n=48) were delivered in early January. Heifers were weighed (initial weight = 618 ± 82 lbs.) and measured for height (46.50 ± 2.09 inches) at delivery and divided into 3 groups. Heifers were rotationally grazed through the paddocks ensuring each group grazed each forage type the same number of days. Heifers were allowed continuous access to water and mineral supplementation. Prior to breeding, reproductive tract scores (RTS) and pelvic measurements were taken. Average RTS was 3.25 ± 1.2 units and average pelvic area was 158.53 ± 36.6 in<sup>2</sup>. In early April, estrous in heifers were synchronized using a Select-Synch plus CIDR protocol. After CIDR removal, heifers were visually observed for standing heat. Heifers in standing heat were AI bred 12 hours later. Heifers not observed in standing heat were bred 72 hours after CIDR removal. There were 34 heifers observed in standing heat and 14 heifers bred at 72 hours. At the time of breeding, heifers averaged 63.5% of their mature body weight, with a range of 52 to 75%. Average age was 435 ± 43 days. Ten days post-breeding, a clean-up bull was turned out and remained with the heifers for 57 days. A veterinarian palpated the heifers to determine pregnancy. 48% (23 heifers) were AI bred and 40% (19 heifers) were bred by the clean-up bull. 6 heifers (12%) remained open. During the inaugural year of the Program, heifers were developed only on forage and minerals from January through June. Cost of grazing was \$99.50/heifer or \$119.40/acre. Heifers remained healthy throughout the program with only routine vaccinations, deworming and fly control needed. Management practices were performed that could be performed by any cow/calf producer in northeast Alabama. Overall, the cost to enroll heifers in the program was \$450/heifer resulting in a cost of gain of \$1.50/lbs.

## **REACHING THE EQUINE COMMUNITY THROUGH PARTNERED PROGRAMMING**

\*Maxwell, C.<sup>1</sup>

<sup>1</sup>. Extension Agent, Virginia Cooperative Extension, Goochland, VA, 23063

Goochland and Powhatan Virginia Cooperative Extension Agents, Charlotte Maxwell and Rachel Grosse, have partnered with the local Southern States to provide programming for the robust equine communities that they serve. Consistent programming for horse owners has not been offered in the past and improved pasture quality is a need in the area. The purpose of these educational programs is to educate horse owners on sustainable pasture management practices, nutrition and other management aspects that are beneficial for both the horse and owner's wallet. We are accomplishing this through holding pasture walks and seminars with Extension specialists, industry representatives and local veterinarians as speakers. Two events were offered in 2016 including a pasture walk and winter equine seminar. Combined, there were 63 attendees at these events. The participants indicated that they increased their knowledge on deworming schedules, soil testing, weed prevention, sacrifice pastures, electric fencing and nutrition as a result of the first two events. 80% of our attendees also indicated that they were extremely likely to come to future events, showing that the interest in these events are relevant and beneficial to the equine community. More events are planned for 2017, including an Equine Demonstration Day with live ulcer scoping and a hay making demonstration. Partnering with a local feed store to provide programming has been a unique experience that allows us to increase industry partnerships and reach a larger audience in the community.

## **SAND MOUNTAIN ELITE HEIFER DEVELOPMENT PROGRAM I: FORAGE GROWTH AND UTILIZATION**

\*Stanford, M.K.<sup>1</sup>; Marks, M.L.<sup>2</sup>; Kriese-Anderson, L.A.<sup>3</sup>; Mullenix, M.K.<sup>4</sup>

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<sup>3</sup>. Associate Professor & Extension Animal Scientist, Auburn University, Auburn University, AL, 36849

<sup>4</sup>. Assistant Professor & Extension Animal Scientist, Auburn University, Auburn University, AL, 36849

The Sand Mountain Elite Heifer Development program was established to demonstrate to northeast Alabama commercial cattle producers recommended methods for replacement heifer development. A primary objective was to utilize stockpiled fescue and cool-season annuals as the sole source of nutrition. In September 2015, 8 acres of a novel endophyte tall fescue (Texoma variety) was clipped, fertilized with 60 pounds of

nitrogen/acre and allowed to stockpile. In October 2015, 8 acres of rye and 30 acres of ryegrass were no-till planted into burned-down plots and received 60 pounds of nitrogen (N) per acre. In March, an additional 30 pounds of N/acre was applied to rye and ryegrass paddocks. Each forage type was divided into 2 acre paddocks (n=17). Heifers (n=48) were weighed and measured for height at delivery in early January and divided into 3 groups. Heifers were rotationally grazed through the paddocks, ensuring each group grazed each forage type the same number of days. Forage height was measured when heifers were turned into each paddock using a grazing stick. Heifers were moved to a new paddock when 50% of the forage was eaten (range 1 to 10 days) as determined by height of the forage. Heifers grazed a total of 154 days. DM forage availability was determined by forage type using standard conversion factors. Pounds of forage consumed per day per heifer was determined by the forage consumed divided by the number of days grazed per paddock and the number of heifers in the group. Heifers consumed 18.9 lbs. DM/day/head of ryegrass, which was significantly more than grazed fescue or rye (12.4 & 14.9 lbs. DM/day, respectively). This led to significantly higher grazing rates per day for heifers on ryegrass compared to daily grazed rates of rye or fescue. This was expected since the palatability of ryegrass is higher than rye or stockpiled fescue. Overall, it was shown that properly managed forages with favorable growing conditions can produce sufficient forage mass for developing replacement heifers without the use of further supplementation.

### **BACKYARD POULTRY WORKSHOP SERIES**

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<sup>1</sup> County Extension Agent, Clemson Extension Service, Florence, SC, 29505

With the rise in sustainable agriculture over the past several years, there has been an increase in the number of backyard flocks in urban and rural communities. The purpose of the Backyard Poultry Workshop Series is to increase producer's knowledge of small backyard flock production and improve their management practices. Along with general management practices, the workshop series also aids in increasing the sustainability of their flocks and improving egg production. There is a team, consisting of an Extension Veterinarian, Small Flock Specialist, and Livestock and Forages Agents, that join together to conduct and organize these workshops. Throughout the year, the committee meets to discuss topics and formats in order to continually improve the program. The Backyard Poultry Workshop Series is a state wide program that allows agents from across the state to host the series. There are 4 workshops within the series, which include Getting Started, Flock Health and Necropsy, Marketing and Laws, and Processing and Handling.

Multiple methods were used to advertise and discuss backyard flocks, including an article in SC Living Magazine, newspaper and Livestock and Forages Team Newsletter

articles, and group activities that reach thousands of producers and backyard flock owners. The main form of outreach are the in-person workshops that are conducted throughout the state. We have had over 300 participants from multiple states in the Backyard Poultry Workshops Series over the past few years. Post-program surveys have indicated that participants have taken the knowledge gained and applied to their personal operations in several aspects of production such as housing and management, nutrition, pest control, and marketing. Surveys have indicated that these workshops have led to reduction in feed cost, bird longevity, and increase in egg production. These impacts have had an economic impact ranging from \$100 to \$1,000, according to participant feedback. This workshop has also had an impact on some municipalities adopting ordinances that allow backyard poultry in urban areas. These workshops continue to evolve to ensure the success of the series and to continue to increase the sustainability of backyard flocks.

### **PERFORMANCE OF ANIMAL WASTE MANAGEMENT PLANNING IN OREGON**

\*Arispe, S.<sup>1</sup>

<sup>1</sup> Livestock & Rangeland Field Faculty, Oregon State University, Ontario, OR, 97914

The animal waste management plan (AWMP) is an important nutrient management component on Oregon's confined animal feeding operations (CAFO). The legally binding document ensures that waste management application is consistent with state regulations. The objectives of this project were to engage with dairy producers monthly on waste management decisions and record keeping to help facilitate and evaluate accounting of waste nutrients applied and removed from crop production. To accomplish these objectives, we worked with two dairies in two disparate climatic regions within the state. One dairy was located in western Oregon in an area with an average annual rainfall above 90 inches, while the second dairy was located in eastern Oregon where the average annual rainfall is less than 15 inches. Specifically, we assessed the accuracy of their AWMPs, which outlined their current management, calibrated manure application equipment, obtained soil and manure profiles, and tested the nutritional value of forage. Finally, manure application records and crop removal data were recorded and entered into the electronic recordkeeping system ODARK. On dairy 1, the majority of their operation was double cropped with ryegrass in the winter, cut in the spring, and corn silage planted in the summer. Nitrogen applied averaged 356 + 192 lb per acre and N removal was estimated at 289 + 22 lb per acre. Dairy 2, planted corn in the summer and then harvested the crop in the fall for corn silage and corn grain. Nitrogen was incorporated into the soil on one field and that averaged 132 lb per acre and N removed was an estimated 216 lb per acre. Both dairy farms implemented management practices that were consistent with their AWMPs and therefore highlighted that they were compliant with state

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waste management regulations. However, the current study elucidated inefficient nutrient management practices that both dairies should address to become even more efficient.

### **BEEF CUTTING DEMONSTRATIONS TEACH PRODUCERS ABOUT END PRODUCT QUALITY**

\*Baker, S. D.<sup>1</sup>

<sup>1</sup> Extension Educator, University Of Idaho, Challis, ID, 83226

Providing hands-on beef cutting demonstrations has provided a unique and important perspective to Idaho beef producers to help them understand the challenges of merchandising beef at the retail level. With modern technology and diverse herd management, cattle are getting bigger and subprimals are becoming larger and more difficult to merchandise. University of Idaho Extension Educators showcased the Beef Alternative Merchandising (BAM) program to producers at multiple events throughout the state. The focus of the cutting demonstrations was to provide beef end-product quality information to producers to help them understand the importance of producing high quality beef for consumers. Extension Educators and retail marketing specialists teamed up to demonstrate eight new cuts that add variety and promote a great beef eating experience to consumers. Following the cutting demonstrations, beef producers were treated to a taste test where they compared traditionally-cut steaks with the BAM-cut steaks. This presentation will feature a beef cutting demonstration and a taste testing if time allows.

### **RIDE UTAH! A THERAPEUTIC EQUINE PROGRAM FOR MILITARY PERSONNEL**

\*Karl Hoopes<sup>1</sup>

<sup>1</sup> Extension Assistant Professor, Utah State University Extension, Logan, UT, 84322

Nearly 1 in 4 active and retired military personnel exhibit signs of stress ranging from PTSD to depression. Each branch of the military has developed internal resiliency programs to increase psychosocial support and the ability to bounce back from stressors. Current research has shown clinically significant benefits from therapeutic horse activities with military personnel, veterans, and family members. Utah State University Extension has developed a therapeutic equine program called Ride Utah! that provides military personnel and their guest a 1-2-hour trail ride, lunch, and a professionally moderated group discussion focused on military family issues. Ride Utah! is hosted in each county by USU Extension and collaborates with community members and military support groups. The results from the participant completed Conner-Davidson Resiliency Scale's demonstrate that Ride Utah! is harnessing Utah's natural beauty and resources into a successful program that is improving participant's emotional wellbeing and strengthens communities.

### **BUILDING A BEEF QUALITY ASSURANCE TEAM TO EXPAND PRODUCER EDUCATION OPPORTUNITIES**

\*Williams, S.<sup>1</sup>; Scott Jensen<sup>2</sup>

<sup>1</sup> Extension Educator, University Of Idaho, Salmon, ID, 83467

<sup>2</sup> Extension Educator, University of Idaho, Marsing, ID, 83639

Beef Quality Assurance (BQA) is important to the beef industry to increase consumer confidence and to maintain and even enhance beef consumption. Idaho is home to 2,400,000 head of beef cattle. In 2015, two county extension faculty stepped into the role of State BQA coordinators. Realizing that this role had to be balanced with county assignments, the decision was made to form a BQA team of instructors.

To meet the needs of the cattle producers and goals of the BQA program, a training program and guidelines for instructors was developed. At the beginning of the project, there were 3 trainers for the entire state. At the end of 2016, there are 9 trainers from Extension and 4 trainers with Zoetis. The other component developed was a BQA teaching toolbox and "hands-on-labs to be utilized in workshops. With the support of the Idaho Beef Council, trainers can apply for mini-grants to help with the cost of hosting BQA producer training.

Success of this format is evident by the 12 BQA workshops and 389 certified producers in 2016. Of those 81 were new certifications.

## **Early Career Development**

### **FROM A CHECKMARK TO A RELATIONSHIP**

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<sup>1</sup> Livestock Environmental Management Area Specialist, NDSU Extension Service, Carrington, ND, 58421

Let me set the scene...I, like most of us, spent the first 13 years of my life attending public school, a structured environment where someone told me what to do, where to go and how I was doing. The next 5 years were at a Land Grant university where structure was what I made it but still, someone (professors) told me whether I was doing good (A!) or bad (F). It's easy to know where you stand in a structured educational system, so when I graduated from my undergraduate studies I was certain I knew everything. Off to graduate school I went and after 2 years of early mornings, late nights and weekend lab work I wasn't sure I knew anything! My first "real" job was next and I landed in the world of Extension, which was my goal, so I was thrilled. What I learned as an early career agent was that we have more tools at our fingertips today than ever before, giving us the ability to do more, faster and better. It was so easy to get caught up checking things off my list. I studied my area of expertise and was able to answer most questions on

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the spot or within a few hours. And because I was no longer in a structured feedback system, I figured the more checkmarks, the better I must be doing. Eleven months in, I was left spiraling when clientele really started asking me questions that I couldn't answer. These questions required research and each answer lead to another more difficult question. It was then that I realized that my career would be built on the foundation of long-term relationships with these folks. What happens when we actually take time to build a long-term relationship? Can that benefit us down the road? Join me as I discuss the reward of when your clients go from checkmarks to relationships.

### **CHALLENGES OF BEGINNING EXTENSION AGENTS AND THE BENEFITS OF PEER-LED TRAINING**

\*Carutis, N.<sup>1</sup>; Enfield, J.<sup>2</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Coudersport, PA, 16915

<sup>2</sup> Extension Educator, Penn State Extension, Youngsville, PA, 16371

How did you feel when you first started your work for Extension? Getting started in a field office far from main campus, can be isolating. It is easy to feel as a new educator that you are missing some needed tools that contribute to your success. Many colleagues refer to the experience as "trial by fire." Contemplating if this isolated feeling was misguided, educators from the Twin Tiers of New York and Pennsylvania came together to discuss and research challenges and opportunities for onboarding of new extension agents.

A survey of new educators will unveil their struggles and suggestions for making the onboarding process faster and more complete. Recent work by various Penn State Extension Teams reveals some peer led training that is making a difference for new educators.

### **YOU, TOO, CAN PUBLISH AN ARTICLE IN THE JOURNAL OF THE NACAA**

\*Stivers, L.<sup>1</sup>

<sup>1</sup> Editor, J 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 the NACAA. This facilitated discussion will cover identifying article ideas, planning for successful publication, where to find assistance, and navigating the online submission process.

### **DON'T FORGET TO TAKE YOUR COMMISSIONERS A WATERMELON: GUIDELINES FOR BUILDING RELATIONSHIPS IN YOUR COMMUNITY**

\*Stevenson, C.<sup>1</sup>; Johnson, L.<sup>2</sup>; Simmons, N.<sup>3</sup>

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<sup>3</sup> County Extension Director and Livestock Agent II, UF IFAS Extension, Cantonment, FL, 32533

Within a few years of employment, an Extension Agent is expected to become a sought-after expert; the go-to person when a disease shows up, water resources are threatened, a school needs a garden. Our universities provide excellent training and access to research specialists, so we can interpret even the most tedious data to clientele needing practical advice. We are required by funding partners to precisely document educational contacts, grants, economic impacts, and learning outcomes to show the value of our programming.

However, if our clients and partners don't really know us, trust us, or feel like we care, our vast knowledge can be for naught. When new agents begin their careers, they're given technical training, but not always advice on how to integrate themselves into a community. While difficult to quantify in annual reports, building trust is invaluable.

It is particularly crucial for agents with defined clientele groups like producers or 4-H'ers to build relationships based on mutual respect—to know their families, their interests, their concerns. This goes beyond networking or listening sessions—it's about being there, paying attention, and really caring about the lives of the people you work with and for. It's also important to understand the needs within your county structure and values of administrative leaders in order to succeed.

At first, the investment—going to a fish fry, attending a farmer's father's funeral, going to a trade show on a beautiful Saturday morning—may seem an unnecessary burden on the time of a new agent already working crazy Extension hours. And it's of utmost importance that you don't try to do it all. But, if you're woven into the fabric of a community, it's not extra effort—you'll be at those events already.

During this session, agents will share specific experiences with relationship-building and demonstrate the tangible and intangible benefits of going a step beyond the job requirements. When agents invest time in their clientele and partners, these people will come to your aid when budgets are threatened, you need logistical help on a project, or when seeking honest advice on what the community needs.

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## **HOW TO GIVE A MEMORABLE INFORMATIONAL PRESENTATION**

\*Fredricks, G.<sup>1</sup>

<sup>1</sup> Associate Professor, Washington State University, Longview, WA, 98632

One of the important roles of an Extension agent is to provide educational information out into the community. When presenting material, the most powerful way to teach is a face to face presentation. While early career agents have the subject knowledge, they often lack experience in how to effectively engage an audience during a presentation. They need to learn how to involve an audience that goes beyond just teaching information, but motivates participants to incorporate the material they learned into action. People learn best by doing. People will learn by listening and watching, yet when people are engaged by interacting with the speaker, a higher level of understanding the knowledge is achieved. Rather than focusing on supplying a large quantity of information in the presentation, better results are achieved by providing a quality discussion that engages the audience to greater learning.

My presentation will illustrate a variety of methods that I have used to engage an audience for greater understanding and retention of information. These techniques can be successfully used with small or large audiences of up to 50 or more. Some examples to be presented include:

- Instruct participants how to judge something and then show pictures asking them to evaluate items for concerns and opportunities for improvement.
- Have participants bring in samples to be evaluated by the audience.
- Break participants into groups having them work on different simulated problems and report back to the group.
- Use jeopardy like game to test teams of their knowledge.
- Meeting with participants prior to presentation to tailor the talk to the group.
- Tour a location posing questions
- Show pictures and have participants identify concerns, opportunities and provide alternatives to consider.
- Provide pointers on how to put together an effective PowerPoint.
- Use of Ice breakers or questions to audience that make a point.

The goal is to have the audience leave with a complete understanding of the material presented, eager to use it when they get home and wanting to come back to learn more.

## **AND THE SURVEY SAYS...METHODS AND OUTCOMES FOR EXTENSION OUTREACH OFFERINGS**

\*Gray, S. L.<sup>1</sup>

<sup>1</sup> Extension Educator, Washington State University Extension, Chehalis, WA, 98532

Surveys are invaluable when it comes to realizing what worked and what did not when presenting information to our workshop and program audiences as well as garnering valuable data for future articles, papers, and publications. The information gained through evaluations help us plan our future programs and determine what information our audiences believed was of value to them. There are several methods available to use for gathering information among those are the pre/posttest; the online multiple choice or ranking system and then there is the rapid response method, using a system designed for one purpose and finding a creative use for it in another way. Each style of survey has good and not so good merits. This presentation will illustrate the use of each method and the response levels for each audience who participated to help you determine the best fit for your outreach education offerings. Replication of the methods demonstrated for use by extension faculty and staff everywhere.

## **Horticulture & Turfgrass**

### **A COMPARISON OF PHOTOGRAPHIC METHODS FOR CLOSE-UP DIAGNOSTIC WORK IN HORTICULTURE**

\*Baker, T.P.<sup>1</sup>; Fowler, T.R.<sup>2</sup>; Hosack, P.K.<sup>3</sup>

<sup>1</sup> Regional Horticulture Specialist (Northwest), University of Missouri Extension, Gallatin, MO, 64640

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Sharp photographic images of horticultural specimens in situ are very useful when establishing plant disease. Good color and contrast are paramount when identifying diseases. Photographs are also excellent for teaching growers about diseases. With the profusion of smart phones and tablet computers, are traditional cameras still needed? Many iOS and Android devices claim megapixel resolution easily in excess of earlier digital cameras of only a few years ago. Close-up lenses also exist to allow macro photography on these devices. This presentation compares several of these devices and add-on lens options with traditional digital cameras for diagnostic work. The presentation also explores photo resolution in general, for landscape-scale photography. Resolution and quality are dependent on both the number of megapixels and the sensor size. Smaller sensors sometimes have high megapixel ratings,

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but usually do not have the quality of the same number of megapixels on a larger sensor. Photos from smart phones, tablet computers, and digital cameras will be compared.

### **PARTICIPATORY APPROACH TO VOLUNTEER PROGRAM PLANNING: ASSESSING YOUR COMMUNITY FOR HORTICULTURE EDUCATION PROGRAMMING**

\*Barrett, E. E.<sup>1</sup>; Raison, B.<sup>2</sup>

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Community assessments are an important and useful tool for managing Master Gardener Volunteer programs and the workshops/events conducted by those volunteers. This process of identifying the strengths, assets, needs and challenges of a specified community can help improve programs and turn around programs that are struggling. There are several versions of community assessments that can be used with different volunteer programs to help them with their current programming. A well-executed community assessment involves: an evaluation of the current situation in a community; a judgment of what the preferred or desired situation in that community would be; and a comparison of the actual and desired situation for the purpose of prioritizing concerns. This program will review how community assessments were used in different ways in Ohio to provide direction for different county Master Gardener Volunteer programs. The session includes details of why planning matters, what is a community assessment, how to conduct one, examples from the field, and results from a survey and discussion with county coordinators across the state.

### **STREET TREE BENEFITS**

\*Draper, E.<sup>1</sup>; Chatfield, J.<sup>2</sup>

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<sup>2</sup> Extension Plant Pathologist, Ohio State University Extension, Wooster, OH, 44691

The Ohio Street Tree Evaluation Project started fifty years ago to determine how selected street tree plantings performed over time. Evaluations of growth rates and tree survival were conducted at 96 sites for five years starting in 1967, pictures were taken, and then data collection ended – until 1997. We then resurrected the project and collected data and pictures for all the sites.

We learned a great deal from this, including which tree selections and site characteristics provided the biggest bang for the buck over a thirty-year period. This was true, not only for arboricultural characteristics, but for the power of trees that worked within their communities.

In Brooklyn, Ohio two sites were three blocks apart. The ‘Lavalley’ hawthorns at one site grew sparsely, were replaced several times, and provided little benefit, aesthetically or for i-Tree analysis of the economic value of the environmental benefits (calculated in 2007 at the 40 year anniversary of the project). Nearby a planting of ‘Sunburst’ honeylocust created a tunnel of greenery that transformed the site, resulting in an entirely different community of trees and places for people. These trees also grew to provide a huge bonus of environmental benefits (storm water remediation, energy savings, air quality, etc.) compared to the nearby streets planted with ‘Lavalley’ hawthorns.

What a difference tree selection can make over the years. Imagine the Google map contrast we have for these two communities. Imagine how Master Gardener volunteers and youth connect with the community through this citizen science project. The project continues with new projects, from evaluating elm hybrids for elm yellows and Dutch elm disease to a follow-up of an entire community’s i-Tree values over the last decade, and including the original 1967 trees. *Parvis glandibus quercus*. Mighty oaks from little acorns grow.

### **APPLIED RESEARCH AND EXTENSION PROGRAMS FOR BLUEBERRY GROWERS IN OHIO**

\*Gao, G. Y.<sup>1</sup>

<sup>1</sup> Extension Specialist And Associate Professor, Ohio State University South Centers, Piketon, OH, 45661

The total blueberry production area in Ohio is estimated to be approximately 400 acres. Most of the plantings are between 1-5 acres. However, the largest planting is around 27 acres while several medium sized ones are about 15 to 20 acres. Our applied research projects have focused on cultivar selection, fertilization and irrigation, disease and pest management, and planting establishment, production systems, and bird management. Our extension programs included Ohio Berry School, Northern Ohio Blueberry School, Super Berry Field Night, and various presentations at county and regional schools as well as presentations at the Ohio Fruit and Vegetable Growers and Marketers’ annual congress and field days. (Draper,) (Nelson,) and (Sweetheart) are some of the better performing newer cultivars. Aged sawdust, though not as good as pine bark chips or wood chips, worked okay as a mulching material. High tunnel over the mature blueberry bushes did not seem to boost yield. Bird netting was the only effective way to control bird depredation of fruits. Educational programs in various parts of Ohio were quite successful. However, many growers still desire farm visits during the growing season. We worked with research and extension folks from several states to produce the “Midwest Blueberry Production Guide.” This publication was published through the University of Kentucky. Our blueberry research projects and extension programs have been supported by several specialty crop block grants from USDA through Ohio Department of Agriculture.

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## **ONE-YEAR FOLLOW UP TO A STATEWIDE MASTER GARDENING TRAINING IN MISSOURI**

\*Quinn, J. T.<sup>1</sup>; Byers, P. L.<sup>2</sup>; Denkler, S.R.<sup>3</sup>; Schutter, J.<sup>4</sup>; Trinklein, D. H.<sup>5</sup>

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The Missouri Master Gardener program has conducted core course training since the 1980s, with about 400 individuals trained annually. While many evaluations have been conducted, these never occurred uniformly across the state. An effort began mid-year 2014 to redress this. To insure all training locales be represented, both Fall 2014 and Spring 2015 trainings were included, thus a complete year. The University of Missouri's Assessment Resource Center was contracted to assist in developing an evaluation instrument. Over 200 students who attended training completed an end-of-course survey (55% response rate). Approximately one year after graduation, 138 students from these same classes took a one-year follow-up survey (35% response rate). Respondents to these two surveys included residents of 45 different counties, taking classes in 36 counties all across the state of Missouri (114 counties). The results of these two surveys show that participation in the Missouri Master Gardener Program led to benefits that were largely sustained one year after graduation. Participants mostly fulfill their volunteer hours. Graduates completing the one-year follow-up survey exceeded expectations for volunteer time, with 72% falling in the highest category (over 30 hours). Additionally, over 60% of respondents reported a moderate to large increase in enthusiasm for volunteering. Graduates also appreciate MU Extension more and over 40% returned for more classes. While respondents reported their attitudes had changed from a moderate to large extent in most areas, the greatest attitude change was their appreciation for the information available from MU Extension. The classes provide long-term savings, being a great return on their investment. Over 60% reported saving \$50 or more annually, with 10% reporting over \$300 annually (course cost is generally less than \$200). Gardening knowledge was largely retained. A year after graduating, at least half of respondents reported using their training in all topics except fruit production. Likewise, across all topics from 25% to 76% of respondents reported having shared their knowledge with others. This evaluation and one-year follow-up has been used as a 'success story' for MU Extension's reporting system.

## **RESULTS OF THE "GROWING BEACH PLUMS FOR PROFIT" PROGRAM**

\*Carleo, J.<sup>1</sup>

<sup>1</sup> Agricultural Agent, Rutgers NJAES Cooperative Extension, Cape May Court House, NJ, 08210

Farmers in Cape May County have been actively growing beach plums (*Prunus maritima*) commercially since 2006. Currently there are not enough good-tasting varieties available, which limits production capacity. The Cape May County Beach Plum Association (CMCBPA) secured a Specialty Crop Block Grant from the New Jersey Department of Agriculture to: 1) research clonal propagation techniques; 2) develop selected plants into commercial varieties, and 3) increase marketing and promotion to the public. This project was a collaborative effort between the CMCBPA, the County Technical High School's Agri-science Program, the USDA NRCS Plant Materials Center (PMC) and Rutgers NJAES Cooperative Extension of Cape May County. A series of propagation experiments were conducted, revealing that 'Lovell' peach yields a high rate of success initially when used as a rootstock in grafting beach plum scion wood. Consumer taste-test survey results indicate over a 90% positive reception to various types of beach plum products and a willingness to try more products in the future. Growers interested in expanding their tree-fruit offerings to include beach plum were educated on beach plum crop production and value-added products through a variety of events. The Agricultural Agent hosted a field day and multiple taste-testings and presentations in the region to educate potential growers. Results of the "Growing Beach Plums for Profit" project will be presented, as well as product taste-testing if permitted by the venue.

## **FROM SITE SELECTION TO HARVEST AND ALL THE TASKS IN BETWEEN: THE RUTGERS COMMUNITY GARDENING SERIES**

\*Flahive DiNardo, M.<sup>1</sup>; Bakacs, M.<sup>2</sup>; Melendez, M.<sup>3</sup>; Nitzsche, P.<sup>4</sup>; Larson, D.<sup>5</sup>; Szkotak, R.<sup>6</sup>; Magron, R.<sup>7</sup>

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<sup>3</sup> County Agent/Assistant Professor, Rutgers Cooperative Extension of Mercer County, Trenton, NJ, 08648

<sup>4</sup> County Agent/Associate Professor, Rutgers Cooperative Extension of Morris County, Morristown, NJ, 07963

<sup>5</sup> Master Gardener Coordinator, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728

<sup>6</sup> Program Associate II, Rutgers Cooperative Extension of Camden County, Cherry Hill, NJ, 08002

<sup>7</sup> Master Gardener Coordinator, Cooperative Extension of Hunterdon County, Flemington, NJ, 08822

In response to increasing inquiries from community organizations and schools regarding community vegetable gardening, a team of Rutgers Agents and Master Gardener Coordinators worked together to develop a curriculum that can be used by Master Gardeners, school and community groups to teach community gardeners the many aspects of starting and maintaining a successful community garden. The curriculum consists of five scripted PowerPoint™ presentations: Starting a Community Garden, Composting, Harvesting & Food Safety, and Insect & Disease Management, Part 1 Integrated Pest Management Techniques and Part 2 Key Plants – Key Pests. An MP4 audio version of each presentation is also included. Each presentation has learning objectives and is accompanied by pre/post quizzes to measure knowledge gained by participants. The curriculum also contains Cooperative Extension and USDA fact sheet resource materials related to each topic. The curriculum was peer reviewed and the program evaluations have Rutgers University Internal Review Board approval. A Qualtrics™ Survey site hosted at Rutgers is being used to record program evaluation data. The curriculum was introduced to 137 Master Gardeners at three regional “Train-the-Trainer” programs in the Fall of 2016. Each participant received a jump drive containing the curriculum, and received instruction on how to use the materials, including administering pre/post evaluations. Extension Agents and Program Coordinators delivered the lectures and participants completed the pre/post quizzes for each topic. On program evaluations, Master Gardeners (N=105) reported increased confidence in delivering the presentation topics and 70% will use the curriculum to teach others in community garden settings, county garden helplines and Speakers’ Bureaus. The curriculum is available to Extension professionals on a Rutgers SAKAI course management site upon request. The presentations and pre/post quizzes will be available to the general public on the New Jersey Agricultural Experiment Station website: [www.njaes.rutgers.edu](http://www.njaes.rutgers.edu).

## **TOOLS FOR FARMERS: WRITING A FARM FOOD SAFETY PLAN**

\*Melendez, M. V.<sup>1</sup>; Kline, W.L.<sup>2</sup>

<sup>1</sup> Agricultural Agent, Rutgers Cooperative Extension, Trenton, NJ, 08648

<sup>2</sup> Agricultural Agent, Rutgers Cooperative Extension, Millville, NJ, 08332

Farm food safety plans are a way to identify human pathogen risks, describe risk reduction measures implemented, and document the monitoring of risk reduction practices. The implementation of the Food Safety Modernization Act (FSMA) Produce Safety Rule will impact fresh produce operations of all sizes and locations, and while a food safety plan is not a requirement of the regulation it would be difficult to prove regulatory compliance without one. Growers who currently have a written food safety plan for a third-

party audit are well prepared for a FDA FSMA inspection. Farm operations, regardless of their size, are encouraged to have a written food safety plan as documentation that they have identified human pathogen risks at the farm and that they are taking appropriate steps to reduce those risks.

The Rutgers On-Farm Food Safety Team has assisted fresh produce growers with USDA Third Party Audit compliance since 1999. In 2012 outreach began to include education for produce operations who are not required to comply with a third-party audit by wholesale buyers in anticipation of the FSMA Produce Safety Rule. Farm food safety plan writing education is an important component of all Rutgers on-farm food safety trainings. PowerPoint presentations are presented on the topics of how to assess risk at the farm, how to write farm policies specific to food safety, and how to develop standard operating procedures for risk reduction tasks. A cheat sheet was created identifying critical questions to ask for specific areas of the farm when writing risk assessments. A checklist of standard operating procedures that could be written was also developed. These materials, along with the PowerPoint presentations, supplemental materials and templates for a written food safety plan are provided to participants on a USB drive. Once participants have attended a food safety workshop they are able to take advantage of a farm walk through with one of the On-Farm Food Safety team members. This walk through allows for specific questions and concerns to be addressed, and often offers piece of mind to the producer regarding their risk reduction measures.

## **UTILIZING COMMUNITY GARDENS AS A MASTER GARDENER DEMONSTRATION SITE**

\*Nitzsche, P.J.<sup>1</sup>

<sup>1</sup> County Agent II, Rutgers Cooperative Extension Of Morris County, Morristown, NJ, 07963

The recent renewed interest in community gardens has created a unique opportunity for Master Gardeners to demonstrate proper gardening techniques to a very engaged audience. With this interest in mind, Rutgers Master Gardeners of Morris County have set up a demonstration plots in local community gardens to display proper cultural techniques. The topics of focus over the past few years include vegetable variety selection, training and pruning techniques of tomatoes, succession planting, controlling squash vine borer and cucumber beetle and growing yacon (a specialty crop) in the home garden. The Rutgers Master Gardeners planted and maintained the plots, helped develop educational signage, and also addressed any questions from community gardeners while on site. Vegetables from the plot were harvested and weighed and the yield was recorded before being donated to a local food pantry. Twilight meetings open to the general public were held at the gardens to discuss the plots and in 2012 a web-based online survey was conducted at the end of the season to measure reaction to the plot by community gardeners. Eighty

four percent of the community gardeners responding to the survey indicated they visited the demonstration at least once during the season and 65% felt the demonstration taught them about growing practices either well or very well. While only 40% of the respondents indicated they spoke to a Rutgers Master Gardener at the demonstration, 92% of them said the information that was shared was useful. As a result of the demonstrations over 2000 pounds of produce have been donated to the local food pantry. It appears community gardens provide an excellent venue for Master Gardener volunteers to outreach Extension information to the gardening public. This presentation will discuss the details of utilizing community gardens as Master Gardener demonstration sites as well as the some of the challenges and successes of these projects.

### **ADVANCED TRAINING IN PRUNING WOODY LANDSCAPE PLANTS**

\*Peronto, M.<sup>1</sup>

<sup>1</sup> Extension Educator, University of Maine Cooperative Extension, Ellsworth, ME, 04605

The purpose of this program is to strengthen the skills and confidence of individuals who prune woody landscape plants for a living or a hobby. The need for in-depth pruning training was documented by multiple requests for guidance from professional groundskeepers, backyard gardeners and Master Gardener Volunteers, in addition to observations of tree and shrub decline due to neglect or poor pruning in local public landscapes. Many competent gardeners, including professionals lack the confidence to prune their landscape plants for fear of causing irreparable damage to costly specimens. This four-part 14-hour training combined classroom instruction, field demonstrations, and hands-on practice pruning. It was offered annually on Saturday mornings in the late winter, before plants had broken dormancy. Each weekly class focused on a different category of plants: ornamental trees, shrubs and vines, fruit trees, and small fruits (raspberries, blueberries, elderberries and grapes). Extension Specialists Dr. David Handley and Dr. Renae Moran teamed with me on program delivery along with two local horticulturists. Demonstration gardens at the County Extension office, town plantings, local orchards and Master Gardener Volunteers' properties were used as practice sites for pruning. I developed four instructional YouTube videos as supplemental tutorials for students to access on mobile devices. For safety, class size was limited to 20. The only training of its kind in the state, it drew participants from a large geographic region. In three years, fifty-six people from four Maine counties successfully completed the training. Participants were given a pre- and post-test to assess knowledge gain and confidence level change. The mean pre-post test score increased by 37% (pre = 55%, post = 92%, n = 56). On a scale of 1 to 8, where 1 = no confidence and 8 = complete confidence in pruning skills, the mean confidence level increased from 3.4 (before) to 6 (after training). From a

long term (one year) follow up survey, 94% of respondents (n = 16) self-reported significant improvement in their pruning skills, 100% of those who were professional gardeners (n = 8) had improved their on-the-job performance, and 50% of the professional gardeners had expanded their business.

### **FIELD TRIALS TO EVALUATE LOW-RISK PESTICIDES FOR ADULT JAPANESE BEETLES, POPILLIA JAPONICA NEWMAN, IN COMMERCIAL NURSERIES**

\*Schuster, C. F.<sup>1</sup>

<sup>1</sup> Extension Educator/ County Extension Director, University Of Maryland Extension, Derwood, MD, 20855

Japanese beetle populations reached heightened levels in 2015 and 2016 after three wet summers in a row. High soil moisture levels, during egg laying time for Japanese beetles, in 2013, 2014, 2015, and 2016 increased the survival of Japanese beetle larvae. Adult Japanese beetles inflict major damage on many species of nursery plants. As part of our IPM effort we have been trying to encourage nursery managers to use low risk pesticides to control pests and reduce the collateral damage to beneficial organisms. Our field research efforts are geared toward testing out new materials for potential control of pests in nurseries. BeetleGONE! from PhylloM BioProducts Corp. and Mainspring and Acelepyrn from Sygenta Company fit into our IPM efforts well. In the first year, we evaluated foliar applications, and the second year, we compared foliar applications to soil applications made in fall and spring. Our work will help quantify whether these materials are effective in controlling Japanese beetle adults in working nurseries. The manufacturer had problems with production of B.t.g; therefore, this product was not included in year two trials.

### **UF/IFAS EXTENSION, LAKE COUNTY GREENHOUSE ORIENTATION & MANUAL PROVIDES MISSION, STRUCTURE, AND EDUCATION TO MASTER GARDENER VOLUNTEERS**

\*Moffis, B. L.<sup>1</sup>; Popenoe, J.<sup>2</sup>

<sup>1</sup> Residential Horticulture Agent II, UF/IFAS Extension, Lake County, Tavares, FL, 32778

<sup>2</sup> Multi-County Fruit Crops Agent IV, UF/IFAS Extension, Lake County, Tavares, FL, 32778

The UF/IFAS Lake County Greenhouse is a facility used to propagate plants for demonstration gardens, plant sale fundraisers and to teach class participants about propagation techniques and botany. Prior to 2016, the Master Gardener volunteers working in the greenhouse were not formally trained on pesticide safety and did not understand the importance of cultural practices, such as sanitation and proper fertilization and irrigation. The objective of the greenhouse orientation and manual was to teach all volunteers working in

the facility pesticide safety, cultural practices and to reinforce the greenhouse mission. The seventy-one page (34 pages instructional, 45 pages appendices) greenhouse manual was created and utilized to deliver a three hour orientation to all new and veteran Master Gardeners that plan to work in the greenhouse. Twenty-six Master Gardeners received manuals and attended one of the two greenhouse orientations offered in 2016 and 2017. 100% (n=26) of participants increased their knowledge on topics such as, sanitation, pesticide safety, heat stress treatment, labeling plants appropriately and other cultural and procedural concerns. An average knowledge gain of 39% was realized by participants as determined by pre and post-test scores. 100% (n=26) of participants visually sighted and signed off on a greenhouse safety location checklist. As a result of the greenhouse manual and orientation classes, Master Gardeners improved sanitation practices by disinfecting pots and tools before and/or after use. The greenhouse floors and weeds are maintained on a more frequent basis. Master Gardeners have also demonstrated an understanding of pesticide applications and applicator requirements. The greenhouse is now a safer, more sanitary environment.

### **MEDITERRANEAN HORTICULTURE APPLICATIONS IN FLORIDA – AN OLIVE FIELD DAY**

\*Stauderman, K.<sup>1</sup>; Popenoe, J.<sup>2</sup>

<sup>1</sup> Commercial Horticulture Extension Agent II, FACAA, Deland, FL, 32724

<sup>2</sup> Multi-county Small fruit Specialist, Agent IV, FACAA, Tavares, FL, 32778

Interest in the Mediterranean diet and similarities between crops grown in Florida and the Mediterranean have sparked the interest of Florida growers looking for alternative crops. Reduced water use of Mediterranean crops is also appealing because of the water limitations in Florida, however climatic differences may pose a challenge. The agents attended an international study tour to Italy to learn more about Mediterranean horticulture and food systems and their applications to Florida horticulture. Based on their experiences, an Olive Field Day was designed to provide useful information to Florida growers contemplating this new crop. The field day was conducted on a working Florida olive farm and mill, and included a walking tour of the farm and mill, information on layout considerations, climate monitoring, nutritional requirements, IPM, and organoleptic comparisons of olive oils. An end of the program survey provided results on which aspects of the program were most useful to the growers, and how this crop might help them save water while providing a quality crop.

### **ADAPTING A POPULAR HOME GARDENING EXTENSION PROGRAM FOR SUCCESSFUL, STATEWIDE DELIVERY ONLINE**

\*Agenbroad, A. L.<sup>1</sup>; Young, M.<sup>2</sup>

<sup>1</sup> Area Extension Educator, Community Food Systems And Small Farms, University Of Idaho Extension, Boise, ID, 83714

<sup>2</sup> Extension Educator, no affiliation given, Weiser, ID, 83672

Victory gardens were planted in backyards and community spaces in the United States and Europe during World Wars I and II to reduce pressure on limited wartime food supplies.

In 2008, a 40% increase in the number of vegetable and fruit related home gardening calls in a community struggling with unemployment and food insecurity inspired University of Idaho Extension Educator Ariel Agenbroad to reinterpret the idea of victory gardening for modern times and modern families. The Idaho Victory Garden program unites Master Gardener volunteers, small farmers, faith-based groups, community gardeners and Extension faculty to present a 6-week course training individuals and families to successfully plan, plant, harvest, prepare and preserve affordable and healthy food in home and neighborhood gardens. This popular course and its popularity only continued to grow.

In 2012 we began development of a peer-reviewed, formal Idaho Victory Garden curriculum to expand the course to Extension offices around the state. In 2015, with the help of Extension Educator Montessa Young, the first online pilot version of the course was launched utilizing the resources of the Extension.org campus and continues to expand our reach.

The Idaho Victory Garden program has united Extension faculty and diverse community partners in teaching individuals and families to grow and use affordable, healthy food in home and neighborhood gardens since 2008. Graduates are using their new-found knowledge and community connections to “grow” dynamic personal impacts with real public value.

In this presentation, learn how we adapted this course and its content for online delivery, and how what we learned from pilot year evaluations are shaping how we share much needed content across geographic barriers.

### **GROWING HOPS IN THE DESERT SOUTHWEST**

\*Robinson, M. L.<sup>1</sup>

<sup>1</sup> Horticulture Specialist, University Of Nevada Cooperative Extension, Las Vegas, NV, 89123

When most people think about growing hops, they think of agricultural areas such as the northwestern United States. However, the University of Nevada Research Center and Demonstration Orchard, located in North Las Vegas, Nevada, has been testing various cultivars of hops for the past five years. With the help of dedicated staff and volunteers, hops have been grown in both shaded hoop houses and in full sun on more traditional post and wire arbors. The research center has

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found interest from two brewers and several microbreweries that have used some of the hops for beer production. Interest in growing hops include home brewers, small-scale urban agriculture, gardeners and herbalists. The preliminary results suggest shade increases harvest and perhaps quality. Some of the varieties that grew and produced well included Cascade, Nugget, Mount Hood, Zeus, Chinook, and Centennial. Willamette, however, performed poorly. Overall, hops seem to have few pests and diseases in the dry desert climate. The crop provides a good harvest that is in high demand. This year, a new variety, Neomexicana, native to the desert Southwest will be tested, providing even more data over the next few years.

## Leadership & Administrative Skills

### WOMEN IN AG: DESIGNING A COMPREHENSIVE EXTENSION AND OUTREACH STRATEGY

\*Schultz, M. M.<sup>1</sup>; Scarbrough, L.J.<sup>2</sup>

<sup>1</sup> Program Manager I, Women In Agriculture, Iowa State University Extension And Outreach, Ames, IA, 50011

<sup>2</sup> Women in Ag Communication Specialist, Iowa State University Extension And Outreach, Ames, IA, 50011

The issues highlighted in this session are meeting the educational needs of women in agriculture and building a comprehensive extension program. Today's women manage complex farms and agribusinesses, innovate food production and land conservation, lead local and national organizations, and teach the next generation. As women take on challenging new roles, they are generating significant influence on rural communities and national food security. Yet, USDA identifies women as an underserved audience. To meet emerging needs and build on more than ten years of national leadership with Annie's Project farm management courses for women, Iowa State University launched a new comprehensive program in 2015, which includes Annie's Project.

Our methods include borrowing from the Balanced Scorecard framework to manage our work around four strategic goals: 1) deliver quality education by streamlining internal program development processes, 2) connect and communicate through increased external stakeholder involvement, 3) build organizational capacity through teamwork and professional development, and 4) create public value by managing financial resources for greatest stewardship and impact. Our mission is to provide research-based educational programs that expand agricultural enterprise, improve natural resource management, and support the community of women in agriculture.

We provide Extension education to extend knowledge and empower women through local and online courses, local and online networks, conferences, tours and special events.

The participant impacts and public value generated by our work are demonstrated by our program evaluation. With

training and mentoring, women are willing and able to take important actions to grow agricultural businesses, conserve soil and water, and improve lives. These actions create public value by contributing to a more sustainable agricultural system.

Our program is applicable to other regions. Just as we helped share Annie's Project with educators in more than 35 states, we will share information about the new ISU Women in Ag program. By discussing our goals, strategies for accomplishing those goals, and metrics for measuring progress, we hope to give session participants models and tools they can adapt or replicate for extension programs in their own states. Participants will gain Extension skills they can apply to a range of programs or audiences including how to create curricula; build statewide coalitions; generate research and scholarship; and develop national partners in government, industry and extension. The topics presented in this session are relevant to the future of extension professionals and the populations they serve by showing them how to develop programs for specific audiences, connect to stakeholders, build Extension teams, and share the public value of Extension programs.

### SERVING OUR STAKEHOLDERS: AN ADVANCED MASTER GARDENER TRAINING SERIES ON CUSTOMER SERVICE AND PUBLIC SPEAKING

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Walton County Master Gardener volunteers assist Extension by directly reaching over 5,000 clients annually. Many of the first interactions that clientele have with Extension are with Master Gardeners, and thus, it is imperative that Master Gardeners be well trained in basic customer service principles and techniques, office administrative skills, handling of difficult clients, and proper presentation delivery. Since these skills were not addressed in the initial training course for Master Gardeners, an advanced training series was devised to teach and reinforce those necessary skills. The series consisted of 3 separate 2 hour trainings and was designed for a minimum audience of 25 Master Gardeners. The intended outcomes were for 75% of participants to gain knowledge on topics including resources available to Master Gardeners, proper presentation delivery, office administrative skills, basic customer service principles and techniques, and handling of difficult clients. In addition, 50% of attendees were expected

to use the techniques and principles learned during the training in interactions with clientele. The workshops each began with a one hour presentation on customer service topics including online and print resources available to Master Gardeners, proper presentation delivery, office administrative skills, basic customer service principles and techniques, and handling of difficult clientele. The hands-on second hour of each workshop allowed participants to navigate Master Gardener Resources on their own computers, prepare an actual presentation to deliver, field clientele questions/concerns in a live scenario, and demonstrate proper email and telephone etiquette. A total of 29 Master Gardeners attended the events and 13 completed an end of program post-pre test evaluation. Evaluations indicated 85% gained knowledge on Master Gardener online and print resources, 77% gained knowledge on proper presentation delivery, 77% gained knowledge on office administrative procedures, 85% gained knowledge on basic customer service principles, and 92% gained knowledge on handling difficult clientele. A follow-up survey conducted two months after the series found that 100% of participants have actually used the knowledge gained in clientele interactions.

#### **CREATING ALTERNATIVE FUNDING SOURCES FOR EXTENSION PROGRAMMING**

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Utah State University (USU) Extension recently began encouraging field faculty to diversify revenue sources beyond internal funding for programs not supported by grants or county sources. Part of this included USU eliminating \$10,000 of support for the Utah County plant disease and pest clinic that is open to the public. We immediately created a strategy that 1) implemented a \$2 fee per sample or visit; 2) with university approval, sought sponsorship from appropriate local agricultural and green industry businesses for the clinic; and 3) began charging attendees at Extension sponsored pesticide license continuing education events a \$10 fee. In total, we raised \$10,000 to support the clinic for the 2017 season without much effort. Having to use these funding strategies has caused us to evaluate our programs to determine their importance to local residents and their sustainability. Additionally, with clinic clientele mainly being over 50 years old, we will be able to shift such funding elsewhere within our pesticide programming if need for the desk eventually decreases.

#### **WASHINGTON STATE UNIVERSITY BLUE MOUNTAIN EXTENSION TEAM: DELIVERING IMPACTFUL PROGRAMS ACROSS A DIVERSE 5-COUNTY REGION**

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The Washington State University Blue Mountain Extension Team provides Extension programming to a 5-county region in Southeastern Washington with a population of 137,000. Agriculture is a major contributor to the local economies with 2,842 farms generating over \$937 million dollars in crops and livestock. Currently 5 WSU faculty provide programming and applied research in Asotin, Columbia, Garfield, Walla Walla and Whitman Counties.

Faculty meet on a quarterly basis to discuss emerging issues and develop programs in agriculture, natural resources, horticulture, 4-H/youth development, and economic development. Working as a team to deliver programming has become even more important since major budget cuts to Extension during 2008, and the retirement of a county faculty member in 2012 which was not re-filled. The informal team approach has also allowed WSU administrators, staff and on-campus Extension specialists to provide training to all faculty in the region at one location, resulting in a significant savings of travel time and money.

Several impactful programs have been delivered during the past year. Two day-long Soil Health workshops were attended by 185 individuals, generating over \$18,000 in fees and industry support. WSU Extension Grain and Legume Crop Variety Tours were held at 11 locations and attended by over 125 individuals. Pesticide Education classes provided re-certification credits to 191 individuals holding Washington State Pesticide Licenses. Grants have been submitted in 2017 to the Washington State Grain Commission to provide additional agronomic programs in the 5-county area. Regional Master Gardener training is held annually for over 60 certified volunteers who help answer questions on gardening and IPM. The two faculty with 4-H responsibilities work together to provide training and educational support to over 2,400 4-H members and 428 volunteers. Internal WSU funding was received to hire 2 WSU Summer Interns who coordinated five 2-4 day Robotics Day Camps across the region for youth in the 3rd-6th grades. Over 190 youth participated in Livestock Field Days targeting Life Skills Development and Quality Assurance Training.

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As a result of this informal model, Extension clientele from a large geographical area have been able to access high-quality Extension programming at the local level.

## Natural Resources & Aquaculture

### INCREASING NATURAL RESOURCES CAPACITY THROUGH CHANGES IN COUNTY EDUCATOR POSITION DESCRIPTIONS

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The original intent of the county Extension agriculture educator was to extend the knowledge developed at the land grant universities to the individual farmer. The educator was considered to be the local agricultural teacher, recognized as an expert agronomist whose advice increased farm profits and standards of living for those he served. Today, the job duties for the county agriculture educator have expanded to include supplying information on natural resources for farmers, landowners, gardeners, and businesses in rural and urban areas. While the role of the county agriculture and natural resources (ANR) educator has changed, the educational requirements for the position have typically not kept pace. The incorporation of natural resources into the job duties and position title is significant in that it better reflects the changing nature of Extension education combined with the evolving needs of an increasingly diverse clientele base.

County ANR educator position descriptions in Ohio were changed in 2013 to include natural resources as an educational qualification. This study examines three years of applicant and hiring data pre, and post position description change. Results indicate that both the percentage of female applicants and applicants with natural resources degrees increased as a result of the position description change. Accordingly, the percentage of hires with natural resources backgrounds increased, however the percentage of female hires decreased sharply. Potential reasons for the decrease in female hires include individual goodness of fit with the counties and more of an ecology/conservation focus versus more traditional agricultural experience.

### RETHINKING TEACHING AND LEARNING STORMWATER PRACTICES: A NATIONAL RESOURCE FOR PROFESSIONALS

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Motivated by the need for clean water, a lack of unified information, and a regulatory driver, a collaborative group of stormwater educators, researchers and professionals from across the country have been leading the effort to develop a national educational stormwater education program: A Stormwater Practices and Maintenance Core Curriculum: Introduction to stormwater, stormwater management practices and maintenance. The collaboration's goal is to develop publicly available uniform research based stormwater core curriculum that can be readily used by educators, local governments and professionals. We defined stormwater core curriculum as a set of nationally peer reviewed standards defining the knowledge and skills that learners need to have about stormwater practices such as the fundamental (science) of these practices, along with their design, construction and maintenance.

The project received seed funding from the North Central Region Water Network to develop the first module with chapters focusing on Stormwater 101, stormwater practices fundamentals and maintenance. The remaining four modules have been developed in conjunction with a Technology grant from the University of Minnesota Extension. The full curriculum is anticipated to be available online in June 2017.

This presentation will showcase 1) the online curriculum development methods, 2) the final product 3) the results of the pilot program and stormwater professionals' responses and evaluations, and 4) how the national stormwater core curriculum may be accessed directly on the web as an online educational tool which can be tailored for local educational programming with private or public agencies.

### UTILIZING SWITCHGRASS TO MITIGATE OR REMOVE NUTRIENTS FROM CONVENTIONAL SEPTIC SYSTEM DRAIN FIELDS ON COASTAL PLAIN SOILS.

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The project served two purposes: 1) to determine through soil testing, plant tissue testing and biomass quantity measurements, if nutrient uptake in switchgrass (*Panicum virgatum*) planted over a septic drain field will utilize nutrients discharged, and 2) to determine through observation the effect of the switchgrass roots on septic drain field pipe systems. Best Available Technology (BAT) systems are being mandated in some area to reduce nutrient losses to the environment. These systems cost \$8K-\$12k plus annual maintenance and electric cost. Switchgrass would cost less than \$100 with limited annual maintenance.

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Two standard conventional septic system sets of drain lines were installed and a fertilizer mixture along with water was used to simulate the nutrients in a typical drain field. Switchgrass, Tall Fescue, and a mixture was planted over the drain lines. Biomass was harvested along with soil samples at 1,2,3,and 5 feet deep.

The switchgrass removed 43% more nitrogen and over twice as much phosphorus than tall fescue. Deep nitrate and phosphorus soil was 0.2 and 0.4 ppm at the end of the 2.5 year study. Organic matter increased in the switchgrass treatments.

Future work will be with “real” active septic systems. This is relevant for shallow septic systems in areas of the country that are suitable to grow switchgrass.

## **PENNSYLVANIA CONSERVATION PRACTICES SURVEY**

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The health of the Chesapeake Bay has been a concern in the Mid-Atlantic region for the last several decades. To prevent soil and nutrient loss into the Bay, farmers have implemented many conservation practices using cost-share programs through agencies such as the U.S. Department of Agriculture. However, there are many conservation practices that have been implemented voluntarily and are not been recorded. In 2016, an initiative was started to record those voluntary conservation practices and capture more of what Pennsylvania farmers are doing to help clean up the Bay. Partners in this initiative included Penn State University, PA Department of Environmental Protection, Conservation Districts, and several other agencies and organizations. A survey was created to ask farmers about conservation practices including nutrient and manure management plans, cover crops, stream bank fencing, riparian buffers, and manure storages. This survey was mailed out in early spring to approximately 20,000 farmers in Pennsylvania. A 35% response rate was achieved. In order to statistically analyze and verify the data, ten percent of the responses were randomly selected for on-farm visits. Penn State Extension Educators were trained in assessing conservation practices and conducted the on-farm visits in August. Preliminary results show that many voluntary conservation practices have been implemented across the state. A few notable results are: 210,565 acres of row crops covered by a manure management plan; 2,164 manure storages installed; and 40,170 acres of row crops covered by an agricultural erosion and sediment plan. The data has been submitted to the Environmental Protection Agency for inclusion in the Chesapeake Bay model.

## **AQUATIC INVASIVE PLANT SPECIES AND BREEDING MOSQUITOES - PERFECT TOGETHER?**

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Aquatic invasive plant species (AIS) are often blamed for providing better breeding grounds for mosquitoes than native aquatic plants. Research is scarce to non-existent, however, on whether or not AIS do create preferred breeding habitat for mosquitos. Proving or disproving an association of mosquito breeding and AIS could help to better direct habitat management measures conducted by lake associations, state and county lake managers and homeowners. Study was initiated to examine the attractiveness of different AIS to mosquitos. Mosquitoes are attracted by olfactory cues as well as structural habitat. Attraction of mosquito breeding sites based on scent was investigated in 2015 and 2016 using plant infusions derived from two AIS Hydrilla verticillata (hydrilla), and Pistia stratiotes (water lettuce), two native species, Elodea canadensis (elodea) and Nymphaeaceae (Lily), and tap water as a control. One experimental setup included ovitraps (black, plastic cups) filled with 320 ml of each plant infusion and control (20 replicates each) with foam board lining the inside of cups to provide oviposition substrate. Cups were emptied weekly, foam board collected, eggs counted and the location of cups changed to prevent location bias. A second experiment was conducted consecutively using the same infusion with baited gravid traps and the control. Gravid traps are rectangular bins with infusion water or control water. Female mosquitoes landing on the water to lay eggs are collected with suction, created by a fan, into a net. The gravid traps were emptied regularly and the females counted. Gravid traps in NJ typically trap *Culex pipiens*; ovitraps typically trap *Aedes albopictus*. In both sampling seasons (2015 and 2016), hydrilla had the highest total egg count in the oviposition cups but there was no significant difference between hydrilla and other infusions or the control for either year. The numbers of female mosquitos caught by gravid traps with hydrilla were higher for both years than the other infusions or the control. Hydrilla trap counts were significantly higher than elodea and tap water while water lettuce trap counts were significantly higher than tap water. This presentation will discuss the results with regard to aquatic invasive species and mosquitoes.

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## **EXAMINATION OF THE RUTGERS ENVIRONMENTAL STEWARDS PROGRAM AFTER 10 YEARS**

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The Rutgers Environmental Stewards (RES) program is an informal adult education class focused on current environmental topics with a project-based volunteer component. The in-class lectures by local subject matter experts equip participants with the knowledge necessary to make an impact at the local level via projects of their choosing. The 60-hour volunteer project or internship is not required as part of the program, but must be completed in order for participants to become “certified”.

The RES program has been running in various locations across New Jersey for more than 10 years. Recently, an evaluation of the program was undertaken in order to understand the effectiveness of the programming and how to improve the overall delivery of the class. Direct observation, evaluation-specific survey data, and historical data were used to determine program integrity as identified by adherence to original expectations, dosage, quality of delivery, participant responsiveness, and differentiation from other programs. The evaluation provided key information for replicating and expanding a successful program and exploring areas in which positive changes could be made.

The evaluation indicated that the program, overall, had adhered to its original intent and objectives over 10 years and across various locations. The process of implementing the RES program relies heavily on the lecturers who contribute to the lecture series. The lecturers, as a group, were rated as very good across all years and all locations. Also, the lecture series, overall, was functioning well and had maintained program integrity. Internships were identified as an area in which program integrity, although maintained in theory, was floundering in process. The evaluation enabled the program coordinators to go further than simply identifying a problem. Starting the evaluation by examining program adherence showed the coordinators that the original requirements remained unchanged; therefore, the problems were in implementation of the internship program.

Long-term programming can be greatly improved after a “big picture” evaluation like this. Lessons learned from evaluation results can lead to reaching new audiences, expansion to new locations, and greater volunteer engagement.

## **AQUACULTURE IN ACTION**

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A growing number of educators in Maryland and across the nation are discovering that aquaculture offers an effective tool for teaching science and a vehicle for project-based learning (PBL). Aquaculture is highly motivational and generates interest across all learning abilities, allows for integration across various curricula by involving students in “hands-on” applications of biology, chemistry, math, and physics skills, and promotes improvement of environmental literacy. Maryland Sea Grant and University of Maryland Extension have developed an educational program called Aquaculture in Action (AinA) for K-12 science teachers that is grounded in practical application and pedagogy and has a direct connection to university research.

The goal of the program is to establish a network of teachers appropriately trained and equipped with the essential tools to incorporate aquaculture into their science classrooms and develop student environmental literacy. Since its inception in 1997, the program has offered 14 workshops to over 200 teachers, who have conservatively impacted 36,000 students. 50+ recirculating systems have been constructed for use in 22 different schools across Maryland and have resulted in the stocking of over 6000 native fish species to local waterways.

The evolution of the AinA program is driven by the researchers, teachers and students within our network who are providing leadership in PBL and best practices in aquaculture technology. The latest advances in content and technology include: 1) Water quality monitoring with micro-computing that provides a low-cost, continuous data stream to a computer, using Raspberry Pi technology, so that water quality can be assessed in seconds and potential problems can be detected well in advance; 2. Small-scale aquaculture design that allows for the use of aquaculture in space limited classroom and outreach venues; and 3. New data collection method, using ImageJ software, that reduces stress and the need for chemical anesthesia to collect growth data for fish species that are sensitive to handling.

## **UNDERSTANDING SOIL COMPACTION IN OCEAN COUNTY, NJ**

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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 is classified by the USDA as having a low resistance

to compaction making compaction more likely in these soils. As a method to manage soil compaction, this project started with research to assess the impact increasing plant density of a compaction-tolerant native plant species has on compacted soils under unmowed conditions. Three test beds with four different densities of switchgrass (*Panicum virgatum*; at 0, 9, 25, and 49 plants per square meter) were created and monitored for soil compaction and soil water content prior to planting and on a monthly basis from May to September in 2015 and 2016. Results indicate that plots with vegetation had compaction levels that were significantly different from plots without vegetation at the end of the growing season. The information obtained from this research was used to develop the 'Understanding Soil Compaction' program for the 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. The RMGs of Ocean County were instructed on the use of a soil compaction tester that was available to borrow on a voluntary basis to test their lawns, and to report their findings. The program's objective was to enable RMGs to answer the public's questions on compaction in their yards and grassed landscapes as well as use RMGs to take a snapshot of the state of compaction in Ocean County. Results from this effort indicate that home lawns vary in their level of compaction, which is influenced by the underlying soil types.

#### **EXPANDING THE DARK SKIES INITIAITVE ALONG SEA TURTLE NESTING BEACHES IN THE FLORIDA PANHANDLE**

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UF/IFAS Extension was awarded project funding to support coastal property owners in Bay, Franklin and Gulf Counties to expand dark sky areas in sea turtle nesting beaches. The goal of the project is to reduce artificial lighting impacts on Florida Panhandle sea turtle populations by assisting homeowners with educational outreach and providing equipment for the retrofitting of homes with sea turtle friendly lighting. The project includes properties within a 1,000 feet of selected conservation lands.

Research has shown that adult female sea turtles avoid bright areas on the beach. This disruption causes discouragement in prime nesting areas. Adversely, hatchlings emerging from the nest tend to gravitate to the brightest light, which often leads them to roadways. However, natural light from the moon or stars reflected off the water, is a guide for sea turtles in their pathway to the ocean. Artificial lights from human sources can appear very bright in comparison and cause

disorientation. The sea turtle friendly lighting philosophy is to keep the light long, low and shielded. Long wave-length lighting includes amber, orange and red light, which are within a safe, visible spectrum to humans. Lighting should be placed low enough on a structure to be unseen from the nesting beach, but remain a safety factor for humans. Lastly, lighting fixtures that are in the line of site of a nesting beach should be shielded so that the bulb is not directly visible.

The scope of work for this project is supported by Natural Resource Damage Assessment (NRDA) funding in partnership with Florida Department of Environmental Protection (FDEP), Florida Wildlife Commission (FWC), University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) Extension and Florida Sea Grant. The purpose of this grant is to ensure the use of safe and proper lighting utilizing the most current wildlife friendly technology that will not compromise human safety and security. The sea turtle lighting retrofit is applicable to qualified property owners, who are within the conservation boundary and are willing to sign a pledge to install the equipment. Impacts of this project are both environmental and economical. Sea turtle friendly bulbs are high efficient - low watt, so property owners will experience a reduction in their energy and long-term maintenance costs.

#### **WSU WATER IRRIGATION SYSTEM EVALUATION (WISE)**

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As with many parts of the country, Washington state farmers have been adversely impacted by insufficient water, drought conditions and water use curtailments that have left fields under irrigated. Washington State University Water Irrigation Systems Efficiency (WSU WISE) aims to increase irrigation efficiency in the state by encouraging adoption of proven irrigation monitoring technology, irrigation efficient equipment and conservation practices through education and consultation. WSU WISE partners have been carefully chosen to incorporate the historically underserved populations of Veterans, (Growing Veterans) Latino farmers, (Viva Farms) and Native American farmers (WSU Colville Reservation Extension). Furthermore, WSU WISE has enlisted Extension support in hubs throughout the state to ensure all farmers have access to the program benefits: Western Washington (WSU Skagit County Extension), Northeast Washington (WSU Ferry County Extension and WSU Colville Reservation Extension), Central Washington (Irrigated Agriculture Research and Extension Center, WSU Prosser), Southeast Washington (WSU Spokane County Extension) and Southwest Washington (WSU Lewis County Extension). WSU WISE has received a USDA CIG grant for \$455,915 over the course of 3 years (2016 to 2019) to educate and enroll farmers in the Irrigation Scheduler Mobile (ISM) system. WSU WISE will increase water-use

efficiency by providing voluntary irrigation assessments, deliver a tailored compilation of recommendations for irrigation system improvements and quantify changes in water-use efficiency rates of participants. This program will facilitate the adoption of irrigation equipment upgrades by providing consultations and technical assistance for EQIP grant proposals. WSU WISE intends to be the catalyst for efficient irrigation upgrades by an averaged measure of 20% for those participating in assessments and consultations. With an average farm participant size of 50 acres, this will result in a water savings of approximately 300 million gallons over the duration of the program and continued water savings into the future.

## Sustainable Agriculture

### DEVELOPING A MASTER URBAN FARMER PROGRAM

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The number of individuals engaged in producing food in an urban environment continues to rise in most urban and periurban areas of the United States. What once appeared to be a fad is now an important part of many urban food systems. In an effort to train individuals to become profitable and sustainable farmers in an urban environment, we developed a Master Urban Farmer Program to provide the knowledge, skills, and experience needed to food production in an urban setting. In three years, more than 200 individuals have graduated from the Master Urban Farmer program which includes an internship component. The number of urban farms operating in Columbus, Ohio has tripled since the program was implemented in the. Participants have increased family income, increased yields, and are improved food safety practices as a result of participating in the program. This presentation will show participants how to develop effective educational programs for a new audience.

### LOCAL FARMS/ LOCAL FOODS TOURS REACH NEW AUDIENCE FOR OSU EXTENSION

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The nationwide trend of consumers seeking to purchase locally grown food continues to increase. The purpose of this educational program series is to increase the general public's understanding of the operations of local Fairfield County producers and to help market locally grown food to consumers seeking to purchase locally. Program participants also learned basic production techniques they could apply in their home setting. This task was accomplished by organizing a wide variety of Fairfield County producers to share their growing techniques and marketing methods for their products. The Local Farms/Local Foods series was marketed using local newspapers, radio, website and social media. Results to date have included increasing sales by local producers to local consumers. Local producers also benefit by sharing with each other and in some cases partnering with each other to produce value added products such as apple cider and linking to one another's websites. Tour sites and topics have included: Produce farms that sell at farmers markets as well as through Community Supported Agriculture subscriptions or CSA's, An aquaculture operation specializing in prawn production that involves the public during harvest, Two small orchards that produce apples, peaches and have combined efforts to press cider. A large wholesale orchard that sells only to large retail operations including Wal-Mart that requires third party audits and hiring migrant labor. A farm that is using a large array of solar panels to lower farm electric costs on grain bin fans. A pick your own berry patch that also sells locally processed lamb as well as two local vineyards with retail wineries.

Evaluations have been very positive and indicate many of the participants are new to OSU Extension programs. Over 500 OSU Extension Fact Sheets targeted toward the tour sites products have been distributed to participants. In 2016 two of the Fairfield County tours were included in the statewide Ohio Sustainable Farm Tour series. Ten farms have been visited to date with seven more slated for the 2017. Evaluation results, lessons learned and future plans will be shared.

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## **INCREASING AWARENESS AND EDUCATION OF THE LOCAL FOODS SYSTEM AND SUSTAINABLE ENTERPRISES**

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The use of social media, with the development of a blog, use of Facebook and Twitter; plus annual sustainable agriculture and diversified agriculture tours have increased the awareness and knowledge of the local food system and potential sustainable agriculture enterprises in Nebraska. This past year a blog was developed to highlight local food producers in Nebraska. Several of these farmers have participated in the Farm Beginnings® Program held in Eastern Nebraska the past several years. The blog usually includes an interview with the farmer followed by a photo tour of the farm with captions. The blog and Twitter and Facebook are also used to promote farmer workshops, conferences and farm tours. The blog has 499 followers. Nebraska Extension and Nebraska SARE have partnered together to hold annual tours of farms producing local foods and developing different value-added and sustainable enterprises. Recent tours visited urban farms, orchards on the rural/urban interface, a pasture poultry operation which included a CSA, a farm to table restaurant, an agro/eco- tourism enterprise and a new hops yard. Twitter and Facebook are used to provide glimpses of the farms during the tours. The past three years, over 150 people participated in these tours. Participants included: Extension Educators, Master Gardeners, farmers, consumers and students. A survey following each of the tours indicated over 75% of participants significantly increased their knowledge of the local food system and sustainable agriculture enterprises in Nebraska and Iowa.

## **AGRONOMIC COMPARISON BETWEEN ORGANIC AND CONVENTIONAL GRAIN CROPPING SYSTEMS**

\*Sundermeier, A.<sup>1</sup>

<sup>1</sup> Extension Educator, The Ohio State University Extension, Bowling Green, OH, 43402

In 2001, a field size experiment was initiated in Northwest Ohio to compare the agronomic response of certified organic grain cropping systems compared to conventional systems. The experiment is addressing ways to maintain grain production and economic viability while building soil quality. The treatments include three certified organic, a conventional no-till, and an integrated conventional grain

cropping system. All treatments consist of 5 replications that are randomized throughout a 30 acre field. Each treatment has utilized different soil improvement strategies to provide crop nutrients and improve soil quality. Analysis shows that organic cropping systems were able to equal or exceed conventional cropping system's agronomic soil values. Active carbon at 6-12 inch soil depths was significantly lower in conventional compared to organic cropping. Soil microbial biomass was also significantly lower in no-till. Soil phosphorus levels were significantly higher in 2 of the organic systems. Other soil measurements were equal. Economic returns were higher in the organic systems. Over a 6 year time period from 2007 to 2013, low input organic net returns were \$1,100 higher per acre compared to conventionally priced grain. In conclusion, tillage along with soil amendments in the organic systems can economically maintain soil quality compared to conventional cropping systems without these amendments.

## **ASSESSING SOIL HEALTH IN A BIOENERGY CROP MISCANTHUS X GIGANTEUS**

\*Sciarappa, W.<sup>1</sup>

<sup>1</sup> County Agent II, Rutgers University - NJAES, Freehold, NJ, 07728

A three-year study compared microbial soil populations in a well-established bioenergy grass crop of *Miscanthus x giganteus*. Beyond standard physical and chemical attributes necessary for sustaining farmland, well-functioning, agricultural soils also require biological processes that involve beneficial microbial populations within a healthy crop rhizosphere. Measurement of CO<sub>2</sub> release from soils directly correlates with the biomass of microbial population that can potentially mineralize organic matter to plant assimilable nitrogen. Our study tested the effect of annual fertilizer rates on indices of microbial biomass and estimates seasonal and annual nitrogen mineralization in the rhizosphere of sustainable crop. The randomized complete block design had three fertilizer treatments which were 0 kg, 60 kg. and 120 kg. nitrogen per hectare.

The Solvita CO<sub>2</sub> aerobic respiration test measured CO<sub>2</sub> release from the soil in the spring, summer and fall from 2013-2015. The soils of this perennial crop had an average CO<sub>2</sub> burst of 23 ppm over a 24-hour period. These high level releases from microbial sources can potentially return 25-35 lbs. of naturally produced nitrogen per acre per year. No significant effects were found from annual fertilizer rates of 60 and 120 kg/ha on microbial biomass compared to untreated controls. Minor soil changes over time in the higher fertilizer treatment were found related to soil chemistry and biology. No significant differences were found among the three treatments in regards to leaf tissue analysis of 13 nutrients. These nutrients were 2 to 3 times higher than those values in a nearby conventional corn field (*Zea mays*), despite *Miscanthus* biomass being three times higher in forage yield per acre. This study site has shown that synthetic fertilizer applications on a sustainable bioenergy crop

have not had a significant growth effect possibly because a healthy microbial community contributes 30+ lbs. N/A/Yr via natural processes of mineralization. The use of this relatively new biological assessment method may enable agricultural advisors to better recommend and/or adjust nitrogen rates.

### **DEMONSTRATING PETIOLE SAP TESTING AND SOIL MOISTURE TESTING AS WATER AND NUTRIENT BMPS**

\*Lollar, M.<sup>1</sup>

<sup>1</sup> Extension Agent I, University Of Florida, Marianna, FL, 32448

Situation: A large number of vegetable farms in Jackson County are within the Jackson Blue Spring Basin Management Action Plan (BMAP) Area. A BMAP is a science-based strategy for restoring impaired waters by reducing pollutant loadings to meet the allowable daily loadings. Objective: After attending a Nutrient and Water Management Workshop, attendees will increase their knowledge of better nutrient and water management BMPs and adopt these practices. Hands-on training will be provided for farmers using University of Florida/IFAS recommendations to refine inputs and increase yields. Methods: A 3-hour Nutrient and Water Management Workshop was held to introduce farmers to nutrient management techniques and equipment. A total of 43 farmers attended the workshop. Plant petiole sap testing was conducted on 3 watermelon farms in Jackson County representing approximately 54 acres in production. Petioles were tested on vines in these fields at the 6-inch length stage, the 2-inch fruit stage, and the fruits one-half mature stage. Results: The potassium readings were within range at the stages of growth tested. The nitrogen reading was slightly above optimum range on one farm and the issue was addressed with the operator. This same farm was also watering and fertilizing at rates that were in excess of crop requirements. These issues were addressed after agent recommendations. This 27 acre farm reported yields of 10,000 lbs./acre greater than had been recorded in past seasons. At a price of \$0.12/lb., this equates to an additional \$1,200 in gross sales per acre and an additional \$32,400 for this farm. If all of the 867 acres of watermelon farms in Jackson County increased their yield at this same rate, then the potential increase in gross sales would be more than \$1 Million. Conclusion: Through on-farm consultations, Jackson County producers utilized Extension as a point-of-contact for nutrient and water management recommendations with a long term objective of reducing nutrient inputs and increased yields. Farms continue to call on Extension for technical and practical expertise. The utilization of petiole sap meters and instant gratification has positively propelled Extension to a higher level of prominence in the farming community.

### **CULTIVATING SUCCESS IDAHO: TEAMING TO “GROW” A NEW CROP OF SMALL ACREAGE SUSTAINABLE FARMERS STATEWIDE**

\*Agenbroad, A. L.<sup>1</sup>; Mayes, I.<sup>2</sup>; DePhelps, C.<sup>3</sup>

<sup>1</sup> Area Extension Educator, Community Food Systems And Small Farms, University Of Idaho Extension, Boise, ID, 83714

<sup>2</sup> Extension Educator, Horticulture and Small Farms, University of Idaho Extension, Moscow, ID, 83843

<sup>3</sup> Project Coordinator, University of Idaho Extension, Moscow, ID, 83843

Idaho is a geographically large state, 83,570 square miles and 44 counties, much of it rural with a few concentrated metropolitan centers. Our small farmers and ranchers are critical to resiliency in rural areas and necessary to local food access in urban sectors. However, while multiple University of Idaho Extension faculty members across the state have percentages of responsibility in small farms programming, the total is less than 3.92 FTE.

How do we develop high quality, consistent education, outreach and support for small farms while attending to multiple programs and priorities? By embracing technology that connects, not isolates, by recruiting farmer and advocate partners who deeply understand the needs and preferences of our audiences, and creating a statewide culture of collaboration and communication.

Cultivating Success Idaho is a comprehensive beginning farmer program increasing the number and success of beginning small farmers and ranchers. University of Idaho Extension shares Cultivating Success with key partners Rural Roots, a food and farm networking and education non-profit organization, and a team of experienced farmers. Goals include education for new farmers, facilitating access to land, capital, and decision-making tools, and strengthening farmer-to-farmer mentoring. In early 2016, Cultivating Success launched a concurrent, multi-part hybrid course, delivered live via webinar, in-person facilitation and tours at nine different sites, engaging a team of 20 Extension Educators, staff, non-profit and farmer partners.

Multi-stage evaluations of both participants and team members revealed valuable lessons learned about our team capacity, effectiveness of delivery methods on meeting learner goals and objectives, and highlighted early indicators of impact on the Idaho small farm landscape. Participants overwhelmingly found the presentations and interactions with experienced farmers to be most useful in helping them increase their knowledge on the course topics presented, followed by webinar presentations (by farmers and Extension faculty). Over 66% of participants had established a personal relationship with a farmer they met in the course, and 91% planned to follow up with one of the experienced farmers in the future. Next in usefulness, and nearly equal to each other, were the selected reading materials, farm tours, Extension educators/other professionals, and in-class discussions and activities. Of lesser use but still valuable were the online components of the course.

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Upon completion of the 2016 course, 83% of participants surveyed had identified their farm goals, 86% had assessed their resources, 72% had evaluated an existing or potential enterprise, and 56% had drafted a Whole Farm Plan. Participants were more likely to begin farming in the next two years, add a new enterprise, or explore a new marketing option after course completion than they had been before.

By July 2017, we will be able to present course evaluation data from our second year of programming, our 8-10 month post course in-depth follow up evaluations with 2016 participants, and share additional informed conclusions about the efficacy and capacity of the Cultivating Success model.

## Teaching & Educational Technologies

### TEN DIGITAL SKILLS EXTENSION AGENTS NEED

\*Carutis, N.<sup>1</sup>; Bosak, L.<sup>2</sup>

<sup>1</sup> Extension Educator, Penn State Extension, Coudersport, PA, 16915

<sup>2</sup> Extension Educator, Penn State Extension, Dauphin, PA, 17018

The digital world has become a larger part of an Extension Agents responsibilities and daily tasks. A survey of Pennsylvania educators reveals the top ten skills used daily and from time to time to successfully develop, market, deliver and evaluate programming. It is difficult to choose where to spend limited professional development time learning new technologies. From choosing a social media platform to improving digital literacy, we review the skills it takes to be a successful Extension Agent in today's digital world.

### THE EDTECHLN: A KEY RESOURCE FOR COUNTY AGENTS

\*Richards, D.<sup>1</sup>; McBrayer, H.<sup>2</sup>

<sup>1</sup> County Extension Agent--Horticulture, Texas A&M Agrilife Extension Service, Austin, TX, 78721

<sup>2</sup> Regional Extension Agent, Alabama Cooperative Extension Service, Guntersville, AL, 35976

The Educational Technology Learning Network (EdTechLN) provides Extension professionals with a platform to learn from, teach, and support each other while integrating technology into their work. This network is utilizing a unique combination of blogging, social media, Twitter chats (Tweetups), videos, bi-weekly newsletters, webinar simulcasts, and in-person meetups to engage members across the country. Members of the Network are committed to working openly and to sharing resources with others to foster collaboration. The extraordinary impact of the Educational Technology Learning Network was recently recognized by the Joint Council of Extension

Professionals with the national Award for Creative Excellence.

As members of the Innovation Lab Advisory Council (which provides leadership and guidance for Educational Technology Learning Network activities), we have twice served as "Creative Coaches" for the first-ever Extension-focused innovation conference, "Innovate Ohio State University Extension." This unique event is a one-day "hackathon" style conference for OSU Extension professionals to come together, collaborate, and focus on finding ways to be more innovative in their programming. We are also serving as a resource for potential Innovate events in Oregon, Delaware, New Mexico, Alabama, and Texas. We participate in (and often lead) EdTechLN Tweetups, provide web-based presentations on educational technologies to Extension colleagues in both our own and other states, and contribute to the biweekly EdTechLN newsletter, "Three Bullet Thursday." Individually, we have served on the Innovation Task Force of the Extension Committee on Organization and Policy (McBrayer), and were awarded an eXtension Innovation Fellowship (Richards). Connecting with other Extension professionals from across the nation via the Educational Technology Learning Network not only assisted us with incorporating the newest tools in educational technology into our programming efforts, it changed the trajectory of our careers. We would like to share the resources of this network, and the amazing opportunities available through it, with our County Agriculture Agent peers.

### DEVELOPING A POWER POINT USING PROVEN TEACHING METHODS

\*Stumbo, S.<sup>1</sup>

<sup>1</sup> ANR, UK, Pikeville, KY, 41501

Have you ever sat through a Power Point (PPT) and wondered what they were saying or what they were trying to show. Or someone that puts so much on the screen that its impossible to figure out what you need to know. Or print that is so small you cannot begin to read the message. Or a picture that guides the eye out in space. Basics of «How to Develop a Power Point» using basic teaching methodology will be presented. Developing PPTs based on different learning styles to develop maximum learning in the context of Agriculture and Horticulture. Participants will learn to develop a PPT using the 3 most basic learning styles of the auditory, visual, and tactile learner, in a few simple easy to remember guidelines.

### ADOBE SPARK FOR PROGRAM IMPACT REPORTING

\*Yates, D. A.<sup>1</sup>

<sup>1</sup> Extension Area Specialist, University Of Tennessee Extension, Knoxville, TN, 37919

Sharing program impacts among stakeholders is an important part of Extension programming. Adobe Spark can be used to create short video projects that can be shared on many social

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media platforms. This mobile app or web-based platform allows content to be easily captured and then shared visually. All of this is free.

### **DEVELOPING AN EXTENSION PROGRAM USING A HYBRID TEACHING APPROACH**

\*Arispe, S.<sup>1</sup>

<sup>1</sup>Livestock & Rangeland Field Faculty, Oregon State University, Ontario, OR, 97914

Rangeland-based beef producers are daunted by rangeland monitoring techniques that would normally allow them to evaluate the effectiveness of land management decisions across the west. Therefore, our team developed an extension program to equip these landowners with geographic information systems (GIS) skills and rangeland monitoring awareness to enhance rangeland health using a user-friendly mapping platform—Google Earth Pro. Specifically, we implemented a hybrid learning approach to scaffold landowners through a series of four face-to-face (f2f) classes and three online modules that equipped seven landowners to develop a land management plan that would lead to improved rangeland health. The f2f classes taught complex GIS and rangeland concepts, whereas the web-based modules equipped participants with skills and knowledge that used nearly 40 videos produced by our interdisciplinary team. One landowner used the Google Earth Pro to record conservation practices that helped him secure \$80,000 of federal funding. The extension program content went through peer-review from content experts, and it was subjected to Quality Matters™ Rubric Standards to ensure a quality course. Ultimately, the extension program is replicable in that it is expanding into five additional Oregon counties and one Idaho county.

### **HIGH TECH AND HIGH TOUCH – USING WEBINAR TECHNOLOGY TO GROW AGRICULTURAL OPPORTUNITIES FOR WOMEN**

\*Schmidt, J. L.<sup>1</sup>

<sup>1</sup> County Director And 4-H Youth Educator, Washington State University Extension, Colfax, WA, 99111

To be successful as female farm operator, women need educational resources to help them improve their skills and make informed management decisions that will increase their farm profitability and quality of life. Through utilization of webinar technology and facilitated on-site discussion, women in the western region have the opportunity to participate in skill building presentations connecting through technology with experienced women farmers from locations throughout the United States. Originally, the Women In Agriculture Conference was a traditional place bound two to three day conference. When women participants were asked what they preferred, they said they wanted a one-day conference that was no more than a two hour drive from home to accommodate

for family and work responsibilities. Thus the evolution to the one day Women, Farm and Food Conference; offered in 31 locations, 5 states and 3 time zones in the Western Region reaching hundreds of women. Each site has a host contact who makes local arrangements and facilitates the program. A new theme and keynote presenter is selected each year using a thorough interview process. In 2016, the theme was “Power Up Your Farm – Power Up Your Communication”. Participants discovered their unique communication style and how to use it to build their business and personal relationships.

Other useful technologies employed for the Women, Farm and Foods Conference are Constant Contact for timely communications with all past participants, Brown Paper ticket for registration, a well-designed, easily navigable website and facebook. In a follow up survey, 53% of the respondents indicated they market to their farms strengths and 86% analyze their business for profitability. The Women, Farm and Foods Program is a unique and effective program in reaching women operators and providing them with the skills to be successful in their farming operation.

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# 2017 AM/PIC SPEAKER PROFILES

## **Kenneth L. White, PhD,**

**Utah State University**

*Vice President of Extension and Dean of  
Agriculture and Applied Science*



Dr. White is internationally known for his work in cloning and for being a key member of the team that created the first successful equine clones. His research interests include computer image enhancement and analysis of preimplantation embryos, identifying factors associated with activation of oocytes, and early embryonic development.

Agricultural and Technical State University with a degree in agricultural economics and a concentration in agricultural business, he began his career as an agricultural statistician in the NASS Florida and Illinois field offices. At headquarters in Washington, D.C., he worked as a survey statistician, national commodity analyst for soybeans and other special oilseeds, and Head of the Commodity Surveys Section responsible for national surveys. After serving as Director of the Virginia Field Office, he returned to headquarters as Chief of the Environmental, Economics and Demographics Branch, where he led a review of the agency's agricultural prices program, helped lead development of new energy-related programs, and served on several Department committees and teams related to energy initiatives. He also served on the North American Tripartite Committee on Agricultural Statistics and participated in international conferences and training activities in Canada, China and Ghana.

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## **LuAnn Adams**

*Commissioner of the Utah Department of  
Agriculture and Food*



LuAnn Adams was appointed commissioner of the Utah Department of Agriculture and Food in 2014. Credited with excellent organizational and collaborative skills, Adams is considered resourceful, conservative, trustworthy and self-motivated as she maintains constructive rapport with regulators, stakeholders and the public with a 'can-do' attitude when pioneering innovative projects. She is passionate for preserving and protecting the healthy growth of agriculture, food safety and economic development of agri-businesses.

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## **Don & Cheryl Hartman**

*National Outstanding Young Farmers  
of America*



Don and Cheryl Hartman raise onions, chile peppers, watermelons, grain sorghum, and durum wheat in Deming, NM. They farm about 500 acres all with drip irrigation. Raising some of the best green chile and the sweetest onions and watermelons you will ever taste is one of the perks to living and farming in the high desert of southern NM. Don has been secretary of Deming Soil and Water conservation service for almost 20 years. Don and Cheryl have been members of Luna County Farm and Livestock Bureau for 25 years where Don is the current president and Cheryl is on the NM Farm Bureau state women's committee. Don and Cheryl have been active 4-H leaders for 15 years. Don and Cheryl are Secretary of the National Outstanding Farmers of America and past winners in 2006.

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## **Kevin Barnes**

*Director of Western Field Offices for NASS*



Kevin Barnes is Director of NASS Western Field Operations, responsible for oversight of personnel, budget, facilities and overall operations of field offices covering 22 states. He has 29 years of service with the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS).

Barnes' work with NASS began as a co-op student in the agency's South Carolina and North Carolina field offices. After graduating summa cum laude from the North Carolina

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## **V. Philip Rasmussen**

*Emeritus Western SARE Coordinator*



See Bio on preceding pages under 2017 SERVICE TO AMERICAN/WORLD AGRICULTURE AWARD RECIPIENT

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# 2017 AM/PIC SPEAKER PROFILES

## Paul Genho, PhD

*Retired President of Farmland Reserve, Inc. and  
Chairman of the Board of AgReserves, Inc.*



Paul is an independent consultant to various agriculture firms. He also is a Visiting Professor at the University of Florida.

He retired June 1, 2014, as President of Farmland Reserve, Inc. (FRI) and Chairman of the Board of AgReserves, Inc. (ARI). He served in this capacity for 9 years (2005-2014). Prior to this

position, he was Vice President and General Manager of King Ranch for 7 years. Before moving to King Ranch, Dr. Genho managed Deseret Ranches of Florida for 17 years.

Dr. Genho has a PhD in Animal Science from the University of Florida and has served in numerous leadership positions within the trade, scientific, agriculture and academic communities. He has 50 years of experience in acquiring and managing agriculture properties worldwide. He and his wife, Meredith (deceased), are the parents of 9 children and 40 grandchildren.

ANNUAL MEETING AND  
PROFESSIONAL IMPROVEMENT FUTURE CONFERENCE DATES

2018

Chattanooga, Tennessee...July 29-Aug 2.

2019

Fort Wayne, Indiana....Sept. 8-12

2020

Virginia Beach, Virginia....July 19-24

2021

Philadelphia, Pennsylvania.....July 4-8

