National Association of County Agricultural Agents

Proceedings

106th Annual Meeting and
Professional Improvement Conference

July 6-9, 2021 **Virtual**

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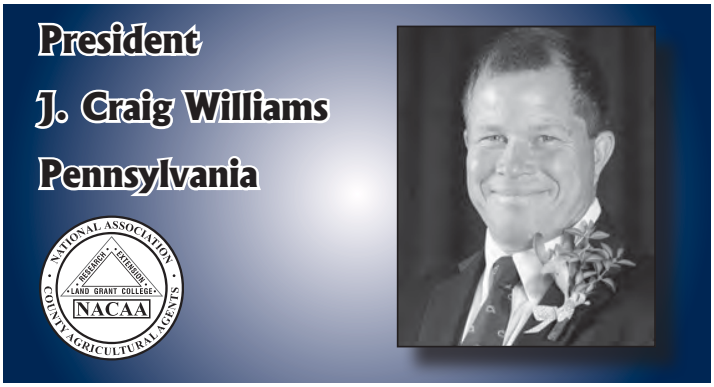
2020-2021 NACAA Report to the Membership



I started the year with these same words following the105th AMPIC and I will say them again. Good morning, I encourage you to grab a cup of coffee as we think about the upcoming and finish of the 106th NACAA Annual Meeting and Professional Improvement Conference.

Last year, we had changes put on us and this year as the situations became clear, we had to make our own path. The NACAA board looked early on to making decisions on the 2021 AMPIC being virtual as we weighted the university and nationwide responses to COVID. I will not review every meeting, but I will say that the board and I did not want to do any postponements. I would not say that the year has been the shortest term, as we have had many board meetings and discussions on the NACAA business and the AMPIC plans.

Soon into our first NACAA board meetings, we had to make our secondary plans become our primary plans. The board and the committee members worked hard all year for these 2021 changes. We held every board meeting virtual and all the JCEP meetings were held virtually. Many thanks to the NACAA Board, Councils Chairs, Committee Chairs and Vice Chairs and executive Director Scott Hawbaker for their hard work. Many of these NACAA members have not seen each other in a live meeting for the last 17 months since February of 2020. I thank you for your support, friendship, and hard work on behalf of NACAA and all that you all do to make this organization what it is and all you have done to make the AMPIC a success. Our board, our membership and our home locations are all across the country just like the map below of your NACAA Board.

The NE agents are thankful for the opportunity to host the AMPIC and welcome you to the Northeast. We have new items to do. The members have organized ten virtual tours and live exhibitor interaction time during the AMPIC. The NE members also are glad that the Scholarship auction activities are back for the whole week. As we like to say, “Bid high and Bid Often!”

This year, we worked with the Florida IT crew to repeat the 2020 Florida Teams schedule and to help with setup. We have a full AMPIC schedule. We have a Keynote tag team of Dr Sara Place and Dr Kevin Folta, who will also talk about the social media demands in agriculture. All of agriculture has had many changes in the past year. Following excellent full days of Professional improvement sessions. We will finish out the week with an agricultural capstone from Jennifer Schmidt of Schmidt farms in Maryland.

First Lady Ellen Williams and the Williams family welcome you to the Northeast. We welcome you on behalf of all the agents in the Northeast.

As we stand here with the Liberty Bell in Philadelphia, we do hope you will come see us again, next time to tour around and experience our Northeastern Agriculture.

Sincerely, see you soon.

President J. Craig Williams

Our National Board of Directors and Officers, Add in three Council chairs in Idaho, Georgia, and Ohio.

President-Elect
Bill Burdine
Mississippi

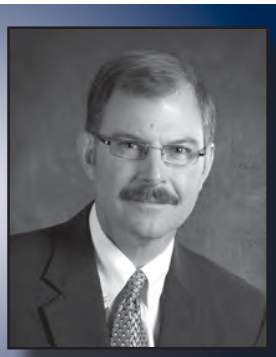
NACAA relies heavily on donors and sponsors to support our association. Without each one, we would not be able to provide the awards, meals, tours, and other aspects of the AM-PIC at the fee level we currently utilize. The President-Elect is responsible for working with current donors and soliciting new donors and funding avenues. While happy to tackle this task, I admit that Executive Director, Scott Hawbaker, has taken on 99% of this role. Scott and I felt it was the best course of action in the pandemic situation over the last 15 months. The NACAA Board explored every option in hopes of hosting the AM-PIC in our traditional fashion but it was not to be. With so many unknowns and no guarantee of a face-to-face meeting, Scott and I decided it was best for him to use his relationship with our sponsors and his expertise of what we could offer each one so that NACAA does not lose our valuable partners. Scott has does an outstanding job in that regard and we owe him our gratitude.

When we consider mandatory virtual AM-PIC's in 2020 and 2021, and how corporate mergers and acquisitions are reducing potential sponsorship, I saw a need to review the AM-PIC format. Are all functions necessary? Can we streamline some activities? Delete or combine some activities? Can we host certain events virtually to reduce hotel/meal costs and facility rentals? Will a restructured RFP better allow smaller states to host a quality meeting? President Williams agreed with my desire to evaluate the format and he charged me with leading a one year committee – Future AMPIC RFP Format. This committee has considered many options and is weighing how any change will result in cost savings, improve or reduce member benefits, reduce registration fees, entice more members to attend our meeting and more. We will present some changes at the Pre-Board meeting for a vote which, if approved, will affect the 2025 AM-PIC bidding process and meeting. Personally, I feel we can reformat to reduce costs to NACAA, host state and our members, reduce days away from home, and offer a free evening yet still provide the same professional development opportunities.

As your incoming President, I encourage our Association to continue adapting to this new climate. Another issue I plan to undertake is asking our respective universities to recognize and approve the professional development opportunities hosted by NACAA (in-person and virtual). Having our trainings accepted for in-service credit will help each of us in our promotion endeavors.

I am a strong advocate for tradition but also willing to change if for the best. Change is hard but the role of Extension is to teach new ideas, to change, to teach a better way. Mules gave way to tractors because it was a better way. I'm an old mule but hope to guide us to a better way with your help and blessings.

Vice President
Phil Durst
Michigan



has been my honor to serve with the National Board and Council Chairs this past year as your Vice President. Your leaders are men and women of great integrity and passion for the work of Extension and our association. I have learned much from them. Thanks to Keith Mickler, Dave Marrison and Scott Jensen for the privilege of meeting regularly with you. You do outstanding work!

And while we have a great association, it is important to evaluate it to see how it can be even better, reach more of our colleagues in Extension and be relevant to every member. In January, we initiated twice monthly educational webinars in the NACAA 365 Professional Development Series. The webinars are brought to you from our committees and have covered a variety of topics, from preparing a better entry for NACAA award and scholarship programs to topics aligned with the subject matter of the committees. The webinars have been rated highly by members and each is recorded and available on the NACAA YouTube channel: https://www.youtube.com/channel/UCzNBJf6zA4iMq5DoVrQ8y0w. I encourage the committees to continue to schedule webinars for our members.

On-line professional development helps to make our association accessible to more of our members, whether they work in Guam or Puerto Rico, Alaska or Hawaii, or in the heartland of this country. Our members share common experiences and needs and can learn from one another. We need to consider how well we serve the range and diversity of NACAA members.

In January, we established a DEI Advisory Group to the Leadership & Administrative Skills Committee. This group of 12 members, 3 from each NACAA region, is dedicated to the improvement of NACAA for all members and potential members. We introduced the members at the JCEP Leadership Conference, and they are now meeting monthly. Thanks to Kimberly Richardson, chair of the DEI Advisory Group and to Ed Martin, Chair of the Leadership & Admin. Skills Committee.

The committees, which are the backbone of this association, do their work with diligence and excellence. Thanks to you who are completing your term as a Council Chair, national committee chair or regional vice chair. We recruited a diverse class of qualified and enthusiastic members for Regional Vice Chair positions on the NACAA committees. This is often an entry point for NACAA leadership, and we are glad to have a great slate of candidates to present to the Voting Delegates at the virtual Annual Meeting. Thanks to all those who applied for positions and especially those who have taken the challenge for a second term.

I've taken the opportunity to meet virtually with the members in 7 states and I look forward to meeting in-person with some of you in 2021-22. I want to encourage all NACAA members to be involved in their state association; be a state committee chair and learn the role of the committees, serve as a state officer, support your state association at each meeting. I'd like to see every member of NACAA get involved with the national association in some way, whether it is watching a webinar, attending the AM/PIC (virtual or in-person), entering a competition, submitting an application for a scholarship or leadership position or submitting an article to the Journal of NACAA. The benefit you gain from this association will likely be in proportion to the investment you make in it.

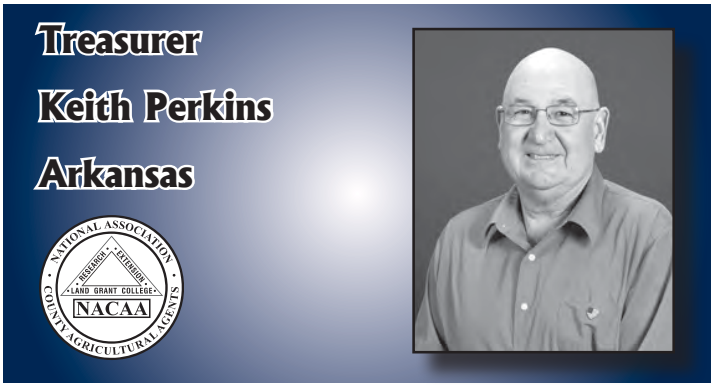
Thank you for the opportunity to serve you this past year, I look forward to the challenges of this coming year as President-elect. Together, we make this association better!

It has been both an honor and a privilege to serve a second term as your NACAA National Secretary. As Secretary I am responsible for taking accurate minutes of each board meeting. After each meeting, I found myself digging into policy and reviewing past secretary minutes to ensure the board was following the association by-laws and was making decisions in the best interest of our membership. Each set of minutes taken not only reflects the actions of today but will serve as part of our history, adding to our association's story for future members. Knowing this, I tried my best to accurately reflect the discussion and decisions by the board. After the minutes are approved it is my responsibility to get the approved minutes uploaded in a timely manner on the NACAA website.

One of the responsibilities of the Secretary is to chair the Publications Committee which has been responsible for one of the biggest investments and undertakings in this committee's history—developing a new NACAA website! A Website Advisory Committee was created to help assist the Publications Committee in evaluating and reviewing the many different intricate components which aid in creating our new website. I want to thank the following members of the Website Advisory Committee for all their help and input they have given me so far with the website: Lyssa Seefeldt (WI), Clifton Martin (OH), Scott Jensen (ID), JJ Jones (OK), and Phoenix Rogers (TX). I also want to thank Scott Hawbaker our NACAA Executive Director who has also spent countless hours reviewing the coding and other behind the scenes stuff which is very important and integral for ensuring our website will run without issues. Without the help of these individuals this would have been a very demanding and daunting task. The website is nearing completion and still needs to undergo additional review (committee members we still have some more work to do) before we can officially launch. We are eagerly awaiting the day we can begin utilizing our new website.

Adaptability has been the name of the game since the coronavirus pandemic began and disrupted the way we do business. Instead of being negative and focusing on what we are missing (in-person meetings) or cannot change (i.e. travel restrictions) the NACAA Board has taken this opportunity to examine what our Association offers to our members, what our members want from NACAA, and where do we go from here. Discussing the future of our association is vitally important. To start this conversation, President J. Craig Williams appointed a Future AM/PIC RFP Format Committee to review and evaluate the current RFP for AM/PIC. Committee members include Bill Burdine (chair), Connie Strunk, JJ Jones, and David Handley. A survey was created and sent to the membership for input. The AM/PIC RFP Format Committee has been reviewing the survey data and seeing what/where changes (no matter how big or small) can be made to the RFP. Now that this conversation regarding our future has started, we need to make conversations like this a priority for the long-term health of our Association. As Max DePree states, "We cannot become what we need to be by remaining what we are."

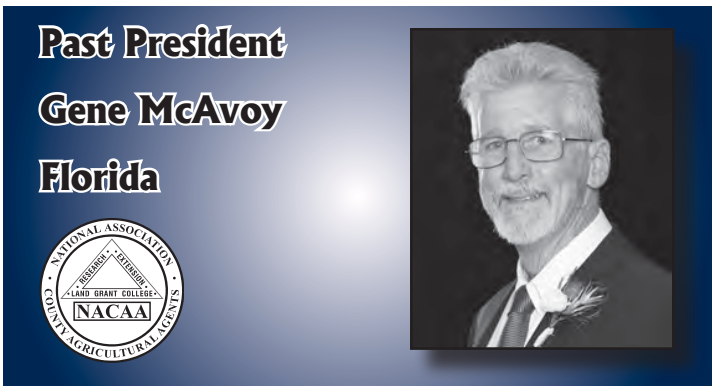
I want to say thank you for instilling your trust in me to serve as your NACAA National Secretary, and thank you for your support, encouragement, and friendship. I am looking forward to serving my third and final term as your National Secretary. If you have any questions about serving in a NACAA leadership position, please do not hesitate to ask. I am more than happy to visit with you about this or any other issue or question you may have regarding NACAA.



Hello from Arkansas! This is Keith Perkins, and it has been an honor to serve as your national treasurer this year. I appreciate all the support I have been given by the ACAAA, University of Arkansas administrators, and my county in this role. The NACAA is currently in a sound financial position, but we must work to keep it this way. The board of directors continually evaluate our financial investments, monitor our budgets, and work to receive continued sponsorship for the best of our organization.

As I reflect on the past year, I am reminded of how I have been personally affected by the COVID-19 pandemic, and how it has impacted our country and the NACAA. One example is that our programming has changed to a virtual platform at the county, state, regional, and national levels. This virtual format has given our members the opportunity to attend meetings with lower costs and less time away from home again this year. However, it does not fulfill the need for social interaction and networking that the NACAA national meeting has been known for. I am personally looking forward to our next in person meeting in West Palm Beach, Florida in 2022 to reunite with many old friends and to make new friends.

It has been a pleasure serving you this past year and I look forward to another year of working together to make the NACAA the best it can be.



with mixed emotions that I reflect upon my time on the NACAA Board, as my term as Past President comes to completion at the end of the 2021 Annual Meeting and Professional Improvement Conference. The privilege to serve in a leadership role in the National Association of County Agricultural Agents has undoubtedly been the highlight of my career as a County Extension Agent.

When I ran for the position of NACAA Vice President, I contemplated the legacy of the previous president from Florida, John Henry Logan, who served as president in 1949. Under Mr. Logan's leadership, several changes were initiated most notably the practice of moving the annual meeting to different states on a rotating basis and the tradition of family attendance at national meetings. I hoped that I would be able to emulate Mr. Logan by contributing positively to NACAA and leave my mark on the Association. Little did I realize at that time the tumultuous event that would unfold impacting our association and the entire world when a novel new virus emerged in 2019. The past two years have been difficult to say the least as the NACAA Board has struggled to cope with the daunting challenges posed by the Covid 19 pandemic.

During my term as president, after much planning for the 2020 AMPIC, scheduled to take place in Virginia Beach, the NACAA Board was faced with difficult decisions imposed by Covid related travel restrictions and university lock downs and successfully pivoted to the first ever virtual NACAA Annual Meeting and Professional Improvement Conference with the help of the University of Florida IT Team and Florida County Agents.

Going virtual has not only allowed NACAA to continue the tradition of holding our Annual Meeting and Professional Improvement Conference the past two years, but it has allowed many agents that might not have normally attended to participate. Last year, attendees came from all over the country and the meeting spanned nearly 12 time zones from Maine to Hawaii and the Territory of Guam.

Looking at some of the metrics from the 2020 AMPIC, we had 1440 people registered and around 1280 people in attendance, which compares well to average attendance at in an in-person meeting which has ranged from 900 – 1200 over the past few years. What is remarkable is that in a normal year, this number also includes spouses and sons and daughters in addition to agents. Looking at attendance in individual sessions we saw many which had 60 -75 people present – some had over 100 – again exceeding the typical seating capacity of seminars of an in-person meeting. The opening session had over 450 in attendance.

While Covid prevented much of the travel that normally occurs during one's time on the NACAA Board, state visits, spring, and winter board meetings, AMPIC, JCEP Extension Leadership Conference, JCEP Public Issues Leadership Development Conference and the Outstanding Young Farmers Conference, it will not diminish the fond memories, lifelong friendships, and outstanding camaraderie I experienced while serving on the NACAA Board.

It has also been my privilege to represent NACAA on the Joint Council of Extension Professionals (JCEP) board. This is a three-year term, as the board is comprised of the President elect, President and Past President of the 7 Extension professional associations: NACAA, ANREP, NACDEP, NAE4-HA, NEAFCS NAEPSDP and ESP. Each Association is different, but what they all have in common is to foster leadership, provide professional development for members and advocate for Extension.

In addition, JCEP also has representatives from the National Institute of Food and Agriculture (NIFA), the Association of Public and Land Grant Universities (APLU) and the Extension Committee on Organization and Planning (ECOP).

My time as NACAA President provided me with the confidence, background, and desire to continue in a leadership role and pay back for all that Extension has done for me during my career. This year I am privileged to be serving as President of the Joint Council of Extension Professionals.

While I did not get to attend the Outstanding Young Farmers (OYF) Annual Meeting due to Covid, I did serve as judge and worked as part of a team to evaluate the 10 Outstanding Young Farmer finalists this year. The talent, ability and dedication of those young farmers and their spouses was impressive and provided great hope for the future of American agriculture. NACAA has partnered with OYF for many years in identifying and nominating outstanding young farmers for recognition and many recommendations have come from NACAA members. I encourage you to keep your eyes open and nominate a noteworthy farmer that you work with. As an incentive, if you nominate one of the top 10 young farmers selected, NACAA will provide you with the opportunity to attend the OYF Award Banquet when the four national winners are announced.

Serving on NACAA committees and the Board has helped me grow personally and professionally, and I can truly say that I have gotten back so much more then I have been able to contribute to NACAA. I would encourage all NACAA members to consider taking leadership roles within the Association, I guarantee you will not regret the decision.

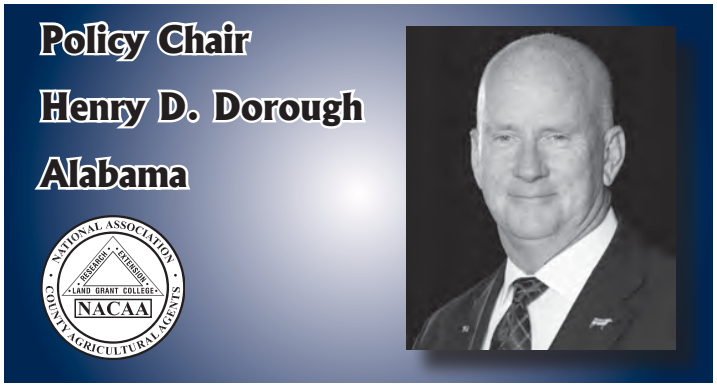
I will forever treasure the friendships and memories that Donna and I have made while serving on the NACAA Board.

I would be remiss not to acknowledge and extend my sincerest thanks to my colleagues in the Florida Association of County Agricultural Agents for their confidence in me and their encouragement to run for national office and continuous support, encouragement, and assistance during my tenure on the NACAA Board. I would also like to thank the UF/IFAS administrative team as It would have been nearly impossible for me to serve NACAA in these various roles without their encouragement and support. I hope I have represented you well.

Lastly, I would like to thank my wife Donna for being by my side, picking me up when I was down and her unending love which has made this amazing journey so much easier. I love you, Donna.

Although the last two annual meetings have been virtual and my time on the NACAA Board has come to an end, my involvement with NACAA will endure. In fact, I have been busy with the Florida Association of County Agricultural Agents over the past few years in planning the 2022 AMPIC. We look forward to seeing you in West Palm Beach in-person next year!

It has been a wild ride – not one that I would willing wish on anyone – but one that I will cherish forever. Thank you and God Bless.



An old proverb believed to date around 1374 says “There is an end to everything, to good things as well.” While not perceived by many as “good”, one could relate this phrase to the hopeful end of the COVID era. Putting behind us all the restrictions, online meetings, masks, elbow bumps, and terms like social distancing that became common place in our daily lives over the past year or so.

While the COVID-19 Pandemic will mostly be remembered by some as a time of disappointment, suffering and loss, there were also numerous doors of opportunity opened for Extension. Our adoption of alternate uses of technology to adapt our educational programs to online offerings expanded our audience to include citizens who previously knew nothing about us, thereby advancing the Extension mission.

Adopting educational program delivery methods through technology also created a new path to connect all our members to the wealth of resources of NACAA. And while maybe not the preferred location for our Annual Meeting and Professional Improvement Conference, the virtual meetings of 2020 and 2021 have afforded many more members an opportunity to experience the amazing professional development opportunities NACAA has to offer; members who otherwise may not have attended a traditional AMPIC.

This is the indispensable mission of NACAA; to provide a setting for Extension agents to share their skills and experiences to help develop those of their colleagues thereby advancing the purpose of Cooperative Extension across the country. And it does not matter HOW we meet, as long as we gather in some fashion to learn from each other.

Referring to the old proverb, I used the same opening in my 2015 Report to the Membership when I completed my term as NACAA Past President, noting my time on the NACAA Board had come to an end. Well, that wasn’t totally true. As a past president and active member, I have had the high privilege of serving one last two-year stint on the board as the Chair of the Association Policy Committee. This is an advisory role to assist the board with policy interpretation and guidance on things that policy may not address.

The Association Policy Committee was established to ensure our association remains on course with respect to mission and purpose and to bring a historical viewpoint to the table, guiding the Board of Directors for the journey that awaits them each year. The committee chair sits at the table with your Board but has no vote. The job is simple; listen and guide. Listen to the conversation, anticipate potential policy questions, and be prepared to provide guidance based on the intent and purpose of association bylaws and policies. Occasionally, the chair will carry a board question to the entire policy committee to gain a clearer perspective on an issue and make sure solutions remain in line with our guiding principles.

The policy committee is comprised of all past presidents who are active members and those who are life members within 10 years of the year they served as president. Your current Policy Committee members are: Chuck Otte, Stan Moore, Paul Wigley, Paul Craig, Henry Dorough, Mike Hogan, Cynthia Gregg, Mark Nelson, Alan Galloway, Richard Fechter and Gene McAvoy. Following the 2021 AMPIC, we will welcome J. Craig Williams as the newest member of the committee.

NACAA as an organization has been around for 106 years and over time the association has evolved to better serve member needs. As generations of members have passed through the organization, the way our association works for us has evolved as well. Consequently, the Association Policy Handbook undergoes constant review to ensure NACAA remains true to its mission and purpose while promising equal opportunity to learn and grow as an Extension professional so every member can develop leadership skills, and be recognized for the work they accomplish. It is the job of the Association Policy Committee to ensure the handbook is updated annually to reflect current practices, while at the same time preserving historical precedence and adherence to the NACAA's guiding principles.

Serving as the chair of the policy committee this year has been very rewarding, especially with respect to observing your Board of Directors calm approach to managing the issues during these unprecedented times in NACAA history. Up for review this year was Section III of the Association Policy Handbook dealing with general policy including expense rules, financial investments, participation in award programs, dues, delegate session guidelines, and other items. This thorough review included format and language updates, adding new board-adopted guidelines, and removing outdated policy and procedures that no longer align with current practice.

With the conclusion of the 2021 NACAA AMPIC, my time serving NACAA with the Board of Directors has truly come to an end. I am encouraged by the talent of those members in current leadership roles and I know there are many more talented leaders to emerge as time moves on. This association has a bright future serving the needs of agricultural Extension agents from all walks of life. Best Wishes to all.

Thank you to my Wisconsin colleagues and the North Central Region members for instilling your trust in me to serve as your North Central Region Director these past two years (and two years a Vice-Director). The experience has been fulfilling both professionally and personally. When I started as an extension agent 23 years ago, I was overwhelmed by the scope and responsibility of the position. Early on, I often asked myself, "who can do all of this?" It was because of great neighboring county agents serving as mentors and getting involved in our state association and NACAA that I continued to grow professionally and personally.

I have been around long enough to see the director rotation progress through all 12 North Central Region states. I started in extension when the North Central Regional Director was from Illinois and now prepare to pass the gavel back to Illinois as Teresa Steckler is set to serve as the North Central Director. Teresa will serve as an excellent director and voice for the North Central Region on the board of directors (if her research cattle can stay in their pasture!!)

As I exit the role as North Central Region Director, I can look back and fully appreciate all the opportunities our state associations and NACAA provide in leadership and professional development, a regional and national stage for our work to be recognized, and the endless networking with colleagues. I continue to believe the greatest benefit through membership in NACAA is the relationships and friendships built by being involved in your state and national association. Impact from ideas on programming development and delivery, research, and professional development are stronger and more widely felt when NACAA members reach across the region or nation to serve our clientele.

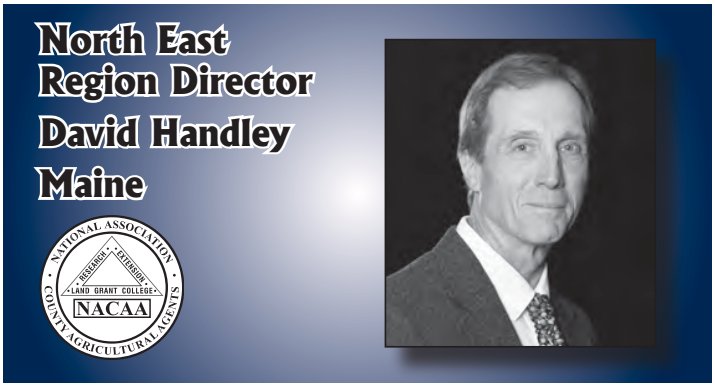
The Annual Meeting and Professional Improvement Conference (AM/PIC) is a great way to learn from your peers and observe the excellent extension programming and applied research occurring across the nation. I encourage you to attend the AM/PIC and participate in numerous professional development opportunities the committees have put together for you. I appreciate the variety of topics available from leadership development, to technical content for my work, to the ideas for programming in the county. When attending the AM/PIC, I would find it difficult to not find several ideas to bring back and implement into your local work.

The last year and half have been challenging and interesting as a county agent to say the least. We adapted and adjusted our programming and delivery literally overnight and found new ways to connect with each other. As your Regional Director, I lament the missed opportunities to visit your state and associations in person and see first-hand the programming, research, and agriculture in your state. I want to thank all the North Central states for inviting me to visit you virtually and allowing me to provide updates for you regarding the issues your NACAA Board of Directors were addressing.

I think we have found new ways to interact with state associations and provide more communication with state leaders which may continue to be part of the new way of doing business. The Regional Director Newsletter, Virtual State Officers Workshop, and Meet the Candidates program are all new ways your regional directors attempted to connect with our membership. The past sixteen months have provided us the opportunity to do things differently and we can improve how we do business and communicate into the future.

The last two years have been a rewarding experience for me. I need to thank my wife and love Karen for supporting me these past two years. Although I did not travel as much as past Regional Directors, service to NACAA still takes a little time away from home life. Again, thank you to the Wisconsin association (WACAA) membership, Chippewa County Agriculture and Extension Education Committee, and the Division of Extension UW-Madison administration for supporting me in this role.

Associations are only as strong as their individual members and we need NACAA members to continue to make changes and encourage NACAA to explore new ways to do business. We need to stay relevant and attract new members to get and remain involved. NACAA provides many opportunities for you to get involved at the state, regional, and national level so get involved and continue to strengthen NACAA.



It has once again been my pleasure to represent the North East Region as a Director on the NACAA Board over the past year. Although the pandemic continued to affect how we approach our work and set our priorities, both we as Extension Agents and the NACAA Board, have adapted and maintained a forward momentum in this challenging time. It was with great regret that I was not able to attend any state meetings in person over the past year, but I was able to join with most of the Northeast state associations virtually, and was truly impressed with how well we have adapted our programs to help our clients in new ways and enhance the accessibility of our resources.

At the National level, it was another difficult decision to give up holding the in person AMPIC in Philadelphia this year. As Northeast Region Director, I was looking forward to our region hosting the National meeting, and having the opportunity to highlight our great states, farms programs and people here. I want to thank all of the folks who worked diligently on the planning committee of the conference, right up until the day that difficult decision had to be made to go virtual. Special thanks to Pete Nitzsche and Ginny Rosenkranz, Co-Chairs of the committee, Nicole Santangelo, fundraising chair, and of course NACAA President J. Craig Williams who worked so hard to make it happen in the face of so much adversity. While we are virtual once again, the committee stayed active and brought a Northeast flavor to the conference via welcoming presentations, tours, and trades show exhibits.

My term as Northeast Region Director ends this year, and I would like to thank all of the North East members for their support during my tenure, and their willingness to adapt during this challenging time, and ingenuity they've shown in carrying out our programs in spite of the pandemic. Also thanks to my fellow Directors, North East Vice Director Beth Claypoole, and President J. Craig Williams for their support and encouragement. I look forward to seeing NACAA continue to move forward in the coming year with new programs for professional development and additional resources for all our members.

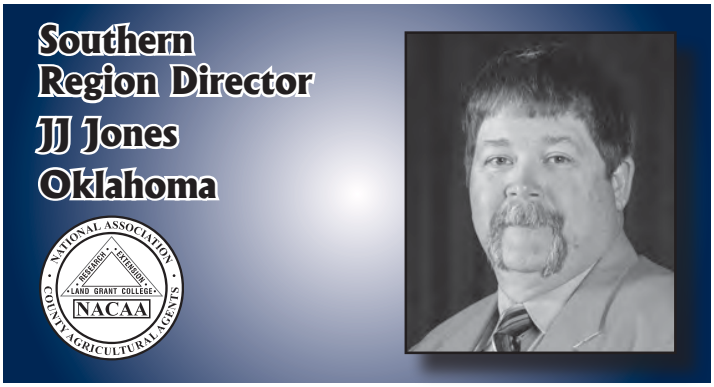
My journey as Southern Region director began with an air flight to the 2017 Salt Lake City, Utah AM/PIC and will end 4 years later at a virtual conference in front of a computer screen in my office. My commitment to serve in the Southern Region position began with few preconceived notions and very little knowledge about the job. In a Forest Gump like moment, I accepted the role at our Louisiana AM/PIC by simply being in the right place at the right time with no opposition to my appointment. Reality set in shortly after my coronation when future Hall of Fame winner, Allen Hogan started listing the 13 state visits, pre-board, post-board, winter and spring

board meetings, national AM-PIC events I had just pledged to attend. At that point, Allen pulled an administrator off to the side and told him that I would initially need some financial support for travel to attend some of the events. Second thoughts started to creep into my mind about the time and financial components of the job. How would I ever be able to explain this to my wife, Liz. She would not be real happy with my decision to voluntarily agree to attend more meetings, spend more time away from home and to possibly subsidize the entire endeavor.

My doubts were put to rest at the Salt Lake City meetings when everyone on the board made me instantly feel like we had been friends for life. This reassured me that I had made the right decision and this position would help me to grow professionally and personally.

Although Covid came along and disrupted the final year of my tenure, I was still able to get permission to attend state meetings in Texas, Tennessee, Louisiana and Alabama. Virtually I was able to attend JCEP, board events and other southern state meetings.

In retrospect, what started out as an overwhelming feeling of "what have I gotten myself into" comes to a close with a longing and a regret that Covid disrupted the greatest opportunity of my career to see the impact that extension makes in the lives in citizens of our great country.



As I come to the close of my first year as Southern Region Director, I look back throughout my membership in NACAA and the events that have led up to this time. From my first meeting in Nashville in 1996 I was sold on NACAA. Attending every national meeting, multiple JCEP leadership conferences, and PILD conferences. Applying and receiving multiple awards. Being a part of the SARE Fellows program. Becoming a committee vice-chair. Then national chair. Then council chair. All leading up to becoming the vice director candidate from Oklahoma. Being nominated and accepted was one of the proudest moments of my career and something I had looked forward to for years. The opportunity to help the NACAA to provide professional development to it's membership. The opportunity to help shape the future of the organization that has given me so much fulfillment.

Then Covid-19 happens and the wrld goes into pause, but did it really. A line from one of my favorite movies is "When things don't go as you planned, you improvise, you overcome, you adapt." As extension professionals, I feel that is something we do every day and we do it well. We did not just throw up our hands and say it can't be done. We improvised. We overcame. We adapted. It may not have looked like what we had planned, but it some instances it might have been better. We have just completed are second virtual AM/PIC. Thanks to the Florida IT personnel. Although we miss the face to face interactions, the socialization and hallway seminars, the virtual meetings have allowed for greater participation and the ability to see more professional development sessions. This pandemic has faced us to learn new methods of teaching and learning. Methods that combined with more traditional meetings will only help NACAA to become a better association.

Now as the world starts to return to the new normal. I am looking forward to going to state association meetings as the return to in person formats. I am thankful for the Oklahoma association and the Southern Region for allowing me this opportunity to represent them and serve NACAA.

Greetings from Colorado and the Western Region! It has been my honor to serve as the Western Region Director for the past year, and what a year it has been for all of us and the clientele we serve. The need for food and fiber continues, home gardening interest is exploding, and extension professionals are needed now more than ever.

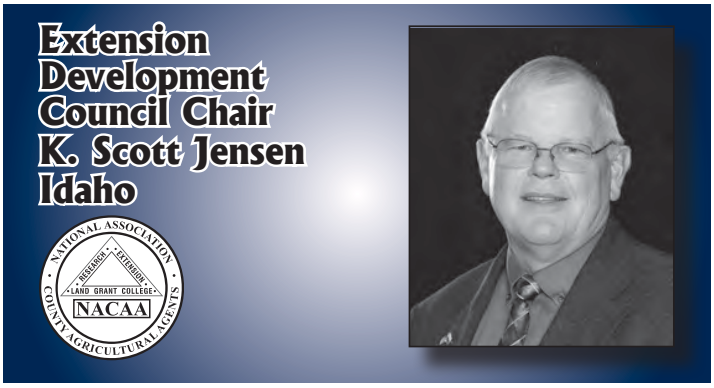
Your national board has worked countless hours on your behalf. What has never been lost in this board work is the need for professional development in everything we do. Though it was disappointing to make the difficult decision to move this year's AMPIC to a virtual offering, it was a well-thought-out process while keeping professional development at the forefront. The new NACAA 365 Webinar series is yet another way the board is working to expand professional development beyond that which is offered at our annual conference.

Colorado is pleased to host the 2021 Chad Reid Memorial Western Region PIC this October 4-6, 2021 in Grand Junction, CO. If you are looking for an excuse to travel west, I invite you to join us on the western slope; we would love to have you!

One of the key roles for the Directors in our association is our relationship with state associations. Your national board invests its resources to allow for Directors to join state association meetings in order for the board to hear feedback directly from members. I also utilize these meetings to

encourage members to participate in sometimes underutilized opportunities in our association. While I was able to join a number of states virtually this past year, I look forward even more to when we can be back in person during this next year.

Special thanks for my fellow members of the Colorado County Agents Association for their support as I serve in this important role and for their encouragement when I agreed to seek this position. I appreciate your support and friendship, and look forward to our next GOTO outing!



The purpose of the Extension Development Council (EDC) is to enhance the professionalism of our members by providing opportunities to strengthen their leadership and educational delivery skills. This purpose is fulfilled through the work of the four committees within the EDC. These committees are Agriculture Issues chaired by Cassie Yost from Pennsylvania, Early Career Development chaired by Danny Lauderdale from North Carolina, Leadership and Administrative Skills chaired by Ed Martin from Arizona, and Teaching and Educational Technologies chaired by Sergio Arispe from Oregon.

One of the important additions to NACAA professional development opportunities for our members was that of the NACAA 365 webinar series. The Agriculture Issues committee led off the webinar series by organizing the return of our 2020 AMPIC keynote speaker Michele Payn with a discussion of agriculture's future. Since that initial webinar in January 2021, there have been two webinars offered each month, hosted by several different NACAA committees. This webinar series has provided ongoing professional development for our membership.

There will be an excellent offering of EDC committee presentations to choose from as you attend the 2021 NACAA. Following are the numbers for each committee:

Agriculture Issues – 12

Early Career Development – 5

Teaching and Educational Technologies – 14

Leadership and Administrative Skills – 3

Additionally, the newly formed Diversity, Equity, and Inclusion (DEI) advisory group which is housed under the Leadership and Administrative Skills committee will be presenting the results of their discussions and work this year during the 2021 AM/PIC. We invite all NACAA members to sit in on this discussion.

While we are definitely disappointed to only be able to host another virtual national meeting, I am thankful for modern technology that allows us to meet together. I hope you will take advantage of the excellent professional development opportunities that the 2021 NACAA AM/PIC will provide!

I sincerely thank each of our national committee members for their service to our association and members. They put in considerable time and effort for the benefit of others. Your work on behalf of our membership is vital to the success of our association.

It has been an honor to represent the Agricultural Issues Committee as your National Chair this past year. A special thanks to the other Committee Vice-Chairs for your help and ideas along the way, North Central chair Katie Wantoch of Wisconsin, Southern chair Paul Pugliese of Georgia, and Western chair Tim Fine of Montana. We belong to a committee that represents a plethora of issues across the agricultural industry including topics such as farmer stress, rural health and wellness, farm safety, working with underserved groups, food labels and misinformation, local food access, agritourism, farm to table efforts, and much more! Educators across the country are doing outstanding work in many of these areas. If you have not ever submitted an abstract showcasing your work and ideas, please consider it for next year's AM/PIC. These presentations not only allow the rest of the members to see your tremendous efforts, but also gives other educators ideas and inspirations for programming in their own areas. Share your success stories and the great work you do for your Extension organizations.

In 2020, The Ag Issues committee was proud to kick off the NACAA 365: Professional Development Series of webinars with a repeat visit from Michele Payn, the 2020 Keynote speaker. Michele, CSP, and principal of Cause Matters Corp spoke on "Take Food Bullying by the Horns". In the January webinar, Michele took the virtual stage discussing the topic of "Translating Farm to Food". Michele talked about meeting at the intersection of farm and food and addressing who is influencing the decisions about how farmers are able to care for their land and animals. She highlighted how the Covid pandemic has proven the need for reliable and accurate information about food and translating today's agriculture to consumers. This recorded webinar can be viewed at https://youtu.be/wImLdpcOzbI.

The Ag Issues Committee has 12 presentations for our 2021

virtual AM/PIC. These presentations cover how Covid has affected programming efforts and food chain supplies, farmer stress, industrial hemp opportunities, women in agriculture, utilizing canines in agricultural biosecurity, and more! Thank you to all the educators that are willing to highlight their successful programs and ideas. As the disconnect between the consumer and agriculture continues to expand, it is these invaluable programming efforts that will help to close that gap and benefit both the consumer as well as the producer.

As this committee moves forward, any ideas and suggestions for future topics to be highlighted and addressed at future conferences are always greatly appreciated. Thank you for the opportunity to serve as the National Chair for the Ag Issues Committee. We look forward to the leadership of Katie Wantoch in the coming year.

Early Career Development Committee Members:

Danny Lauderdale (North Carolina), Chair and Southern Region Vice-Chair

Heather Schlesser (Wisconsin), North Central Vice-Chair

Greg Strait (Pennsylvania), Northeast Vice-Chair

Ashley Wright (Arizona), West Vice-Chair

The Early Career Development Committee is responsible for professional improvement education programs that will assist members who are early in their career to maximize and successfully complete their Extension education experiences. Mentoring is a major part of helping early career Agents achieve success. Although this has been difficult during COVID-19, I am confident that we are making advances we could not have made were we not managing these difficult times.

The committee has approved 5 presentations for the 2021 Virtual AM/PIC that cover topics related to on the job experience, managing chaos, branding your educational message, obtaining grants to fund programming, and publishing articles in the Journal of NACAA. All the presentations meet the mentoring requirement and provide information to help early career agents excel.

We have also surveyed NACAA State Association Presidents to determine the need for developing a database for finding reviewers for the promotion and tenure process. The committee will continue working with NACAA leadership to begin development of the database.

Finally, committee members Heather Schlesser and Ashley Wright are developing a presentation for NACAA 365 to be presented on September 22. Their title is “The Good, the Bad, and the Engaging Presentation”. The presentation will provide examples of good presentation techniques to use and bad presentation techniques to avoid in order to deliver engaging digital presentations that will enhance the learning experience for participants.

I encourage all members to reach out to new Agricultural Agents in your state and encourage them to get involved early in their State Association and NACAA. We will all be better off for it. I look forward to the possibility of seeing everyone who is able to make it in person to West Palm Beach in 2022!

This year, the Leadership and Administrative Skills (LAS) committee has been very productive, working on various issues and working to help NACAA members develop and grow professional skills. Our dedicated team helped accomplish all of this work, including Melody Rose, University of Tennessee Extension; Nicole Santangelo, Penn State Cooperative Extension; and Nathan Winter, University of Minnesota Extension.

This year, our committee embarked on the development and formation of the DEI Advisory Group. This advisory group was charged to address issues of diversity, equity, and inclusion within NACAA, both in membership and leadership roles. With the help of NACAA Vice-President Phil Durst, the LAS committee first sought out nominations from across the country to serve on the new DEI Advisory Group. We received nominations from all regions and worked hard to select advisory board members to serve. Following that, the DEI Advisory Group met, selected their advisory group leadership, and presented at this year’s NACAA AM/PIC. The presentation is just the beginning of what will be a continuing dialogue.

The LAS committee is also working to develop an in-house professional development leadership program. Committee members agreed that there many challenges and obstacles for members looking for more formal leadership programs. Many of the programs available carry a hefty price tag, while others do not necessarily address the membership needs. The LAS committee will be working to develop a program geared towards NACAA members.

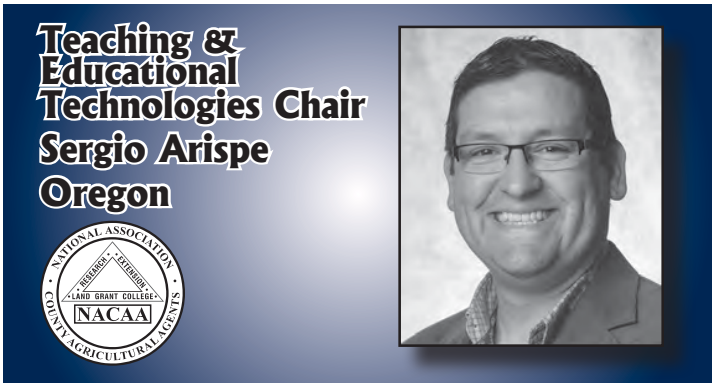
In addition to the DEI Advisory Group's presentation, the LAS committee also hosted a session at this year's NACAA AM/PIC that highlighted ongoing leadership and administrative activities happening across the nation. The presentations included:

A Different Perspective – Incorporating Farm Visits into Interviews - presented by Lee Beers, Trumbull County, Ohio; Ohio State University

Maximizing Your Leadership Toolbox – presented by Connie L. Strunk, Plant Pathologist Field Specialist, South Dakota State University

Leading Through Adversity: A Reflection of a Year of Extension Leadership in a Global Pandemic – presented by Nick Simmons, County Extension Director, Escambia County, Florida; University of Florida

At this year's NACAA AM/PIC, the LAS committee met to review this past year's work and make plans for the upcoming year. As always, we welcome any recommendations, comments, or input members might want to share. We look forward to continuing our mission of providing opportunities for our members to improve leadership and administrative skills.



The Teaching & Educational Technologies (TET) Committee focuses on developing programs to assist members in learning non-traditional Extension education skills. Areas of focus include electronic multi-media skills, computer networking, compressed video, electronic communications, distance education, and traditional adult education principles. The committee charge includes the development of professional improvement opportunities, securing resources to fund these activities, and promoting these activities to members. Professional improvement program ideas come from the NACAA membership through the State TET Chairs.

The TET Committee Chair and Vice Regional Chairs meet every other month to plan and discuss professional development opportunities for you. Earlier this year, we hosted two successful NACAA 365 Professional Development Webinars. Regional Vice Chairs Kelly McGowen (North Central) and David Yates (Southern) hosted *Zoom Tips, Tricks, and Tools* while Colt Knight (Northeast) and I (Western) hosted *Video Production to Maximize Extension Program Impact*. These webinars are available online at the NACAA YouTube Channel in case you were not able to attend the webinars. Additionally, I am pleased to announce that the TET Committee will host 14 virtual presentations at the NACAA Virtual AM-PIC this year.

It is an incredible privilege to serve as your TET Committee National Chair. The TET Committee endeavors are made possible thanks to leadership from committed Regional Vice Chairs including, Kelly McGowen (Missouri; North Central), David Yates (Tennessee; Southern) and Colt Knight (Maine; Northeast). Our team looks forward to serving you for another wonderful AM-PIC!

The Professional Improvement Council (PIC) is one of three Councils under our NACAA committee structure. Our mission is to provide subject-matter, professional development opportunities for our members.

The Professional Improvement Council consist of seven committees:

- 4-H & Youth chaired by Melissa Henry from Tennessee
- Agricultural Economics & Community Development chaired by Amanda Smith from Georgia
- Agronomy & Pest Management chaired by Ted Wiseman from Ohio
- Animal Science chaired by Mark Heitsuman from Washington
- Horticulture & Turfgrass chaired by Patrick Byers from Missouri
- Natural Resources/Aquaculture chaired by Ray Bodrey from Florida
- Sustainable Agriculture chaired by Laura Miller from Texas

Educational activities for the council this year are once again limited to oral presentations due to our AM/PIC being virtual. The Professional Improvement Council received a total of 75 presentations for consideration with 67 of them being accepted.

Number of oral presentations by committees:

4-H & Youth = 11

Agricultural Economics & Community Development = 9

Agronomy & Pest Management= 14

Animal Science = 8

Horticulture & Turfgrass = 17

Natural Resources & Aquaculture = 5

Sustainable Agriculture = 3

As an association, we were once again fortunate to have the capability to hold our AM/PIC virtually using Microsoft Teams. I hope many of you are planning to participate in the virtual AM/PIC. The 2020 virtual AM/PIC was considered to be a very successful adventure.

The role of Council Chair would be an impossible task if not for the excellent group of members who serve as chairs and vice-chairs. These members have worked very hard and put in countless hours fulfilling the duties expected of them. I want to thank each of you for your time, hard work, and dedication to the success of our association.

I wish to thank the National Committee Chairs who have endured my many email reminders of deadlines and followed through on meeting those deadlines. I truly appreciate your hard work and efforts. In closing, I wish to extend my appreciation to my fellow council chairs David Marrison and Scott Jensen along with Vice-President Phil Durst for the wonderful working relationship we had in fulfilling our duties during such trying times. My time as chair of the Professional Improvement Council is quickly coming to an end thus I welcome Sherry Beaty-Sullivan from Mena, Arkansas as the incoming chair for the Professional Improvement Council.

The 4-H and Youth Committee is charged with the responsibility of providing professional improvement opportunities for members in this area. This includes the development of professional improvement opportunities, securing resources to fund these activities, and promoting these activities to members. For the 2021 AM/PIC 11 presentations were submitted and all 11 will be presenting during the 4-H and Youth Presentation Workshop representing all four of the NACAA regions. We are looking forward to these presentations and the interesting Extension programs our presenters share with the membership. Each year applications for presenters is extremely competitive and the committee has a hard time choosing which presentation should be accepted. If you applied this year and were not chosen, apply again next year. If you have not applied, please do. The committee knows that our membership is doing some outstanding youth work that needs to be shared with others, remember it can be any youth related programming, not just 4-H activities. Some of this committee's goals for the upcoming year include to present a webinar on how to complete presentation submissions, explore ideas for programming roundtables at the 2022 AM/PIC, and possible youth-related tours for future AM/PICs. I encourage each state to make sure they have a contact for this committee, so your members don't miss any information from the committee. The committee would like to thank the NACAA board for their support of 4-H and Youth programming and providing these opportunities for the membership.

Committee Members:

Amanda Smith (Georgia), Chair

Richard Brzozowski (Maine), Northeast Region Vice-Chair

Madeline Schultz (Iowa), North Central Region Vice-Chair

Ashlee Westerhold (Idaho), Western Region Vice-Chair

Chris Prevatt (Florida), Southern Region Vice-Chair

The Agricultural Economics and Community Development Committee is excited to offer professional improvement opportunities for NACAA members during the 2021 Virtual AM/PIC. We have a full day of selected presentations planned for Thursday, July 8, 2021.

Each presenting member will have 20 minutes to showcase their Extension program during their presentation and spend 5-10 minutes answering questions. Since we are using the Microsoft Teams platform, presentations will be recorded for later viewing and you will have immediate access to the slide sets.

The presentations cover a variety of topics in the areas of agricultural economics and community development from each region of NACAA. Be sure to join us to get ideas for improving your Extension programs at home.

The following programs are slated to be presented by our members:

1) "Economic and Social Impacts of Agriculture in SW Idaho" Scott Jensen, University of Idaho Extension

2) "Iowa Annie's Project: Full Circle Logic." Madeline Schultz, Iowa State University Extension

3) “Agribusiness Basics Workshop Series.” Blake Carter, The University of Georgia Cooperative Extension

4) “Farm Office Live - Helping Ohio Farms and Agribusinesses Navigate the Coronavirus Pandemic.” David Marrison, The Ohio State University Extension

5) “Boots-2-Bushels: Boot Camp for Market Gardeners and Farmers.” Anne Devin, University of Maine Cooperative Extension

6) “Developing a Community of New Farmers Based on Needs.” Hannah Wooten, University of Florida/ Institute for Food and Agricultural Sciences Extension

7) “The Next Big Thing - How Do Educators Respond to New and Emerging Crops?” Lee Beers, The Ohio State University Extension

8) “Conservation and Economic Viability on Vermont Small Farms.” Mark Canella, The University of Vermont Extension

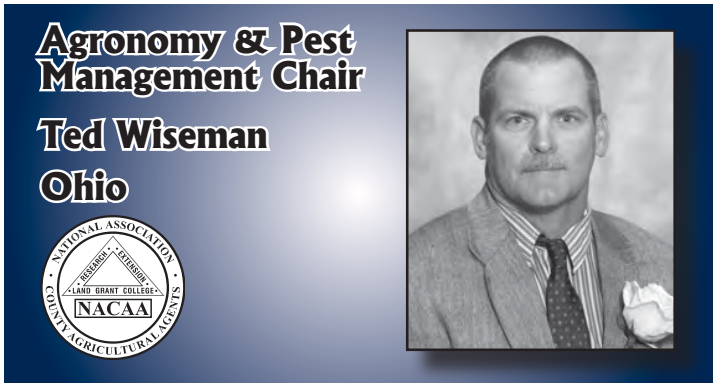
9) “Competing Land Use and Economic Development: Solar and Dairy.” Joseph Lawrence, Cornell Cooperative Extension

The committee hopes you enjoy the presentations and find some useful ideas to use in your own Extension efforts.

Although we had to cancel our originally planned super seminar, we were grateful for the opportunity to do the four-part Agility Series through the NACAA 365 Webinar platform in May and June. We partnered with Michigan State University Extension to conduct these webinars for our members. Thanks to those who were able to attend. If you missed a session, the recordings are available. You can find links to the recordings through the NACAA blog at https://blog.nacaa.com.

We also have plans to conduct at least two more webinars for members through NACAA 365 on the timely topic of resiliency after the AM/PIC. Stay tuned for more information to come.

We would also like to extend a special thank you to Dr. Laurence Crane and the National Crop Insurance Services, based in Overland Park, KS, for his continued support of NACAA and the efforts of this committee.



Committee Members:

Chair Ted Wiseman, Ohio State University Extension.

North Central Region Vice Chair: Travis Harper, University of Missouri Extension.

Northeast Region Vice-Chair: Andrew Kness, University of Maryland Extension.

Southern Region Vice Chair: Robert Goodson, University of Arkansas

Western Region Vice-Chair: Steve Van Vleet, Washington State University

This past year has had many challenges for everyone, but in Extension we adapt and move forward. Although we are meeting virtually again the Agronomy and Pest Management Committee is excited to provide several presentations for the 2021 AM/PIC. Presentations begin on July 7 at 2:00 p.m., topics include corn silage hybrids, population trials, interseeding cover crops, effects of stalk baling. Stem borer in soybeans and testing precision ag equipment will be the final presentations for the day. Thursday July 8 beginning at 12:00 p.m. wireworms in vegetable production, rhizoctonia in sugar beet and alfalfa aphids and insecticides will be presented.

The committee is looking forward to hopefully seeing everyone in person next year at West Palm Beach. I would like to encourage all members to consider presenting at this conference. Additionally, if you have a topic that would like for the committee to work on for a super seminar, please reach to any of the committee members. Now that all of us are Teams and Zoom experts, more than we would care to admit after these past long months, we can share information with NACAA members throughout the year as well.

Finally, I would like to thank the Agronomy & Pest Management Committee Regional Vice-Chairs for their service and leadership this past year. It truly has been a pleasure working with a dedicated group of extension professionals. A special thank you to Keith Mickler, Professional Improvement Council Chair and Scott Hawbaker NACAA Executive Director, for their guidance and communications in preparation for this years AM/PIC. Thanks to all fellow NACAA members who gave presentations at the 2021 AM/PIC.

Committee Members

National Chair: Mark Heitstuman, Washington

Northeast Region Vice-Chair: Andrew Sandeen, Pennsylvania

North Central Region Vice-Chair: Karl Hoppe, North Dakota

Southern Region Vice-Chair: Steve Morgan, Georgia

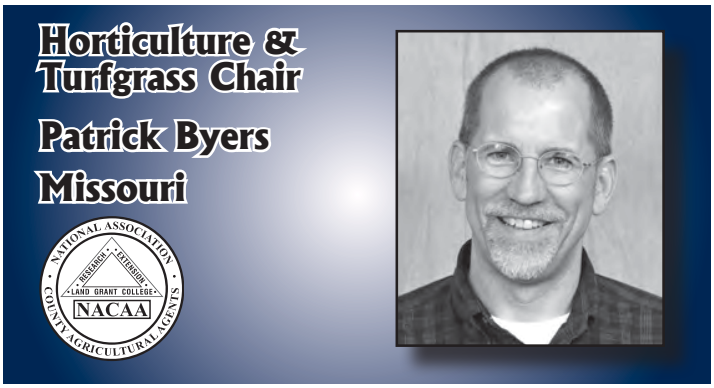
Western Region Vice-Chair: Betsy Greene, Arizona

I would like to begin by thanking the four Animal Science Committee Vice Chairs for all their hard work and support during the past year. And special thanks to each of the NACAA State Animal Science Committee Chairs for all that they do to promote animal science programming, professional development, and recognition at the State level. The Animal Science committee was very much looking forward to working with the Pennsylvania Agricultural Agents on the annual Animal Science AM/PIC Pre-tour and visiting historic Philadelphia during the 4th of July holiday.

The NACAA 365 Professional Development Series is a great example of how the NACAA has quickly adapted to continue to meet the changing needs of its members. In April, the Animal Science Committee hosted a webinar addressing "Changes to the Food System After Covid". University of Florida Livestock Economist Chris Prevatt discussed how COVID-19 has affected beef cattle processors, beef imports and exports, and the U.S. restaurant industry. And Dale Sandlin, Executive Vice President of the Georgia Cattlemen's Association, discussed the impact of COVID-19 on market volatility. Thanks to Steve Morgan of Georgia for securing the two webinar presenters. The webinar was recorded and is available on-line at https://www.youtube.com/watch?v=I9jvdaugQ-Q.

The Professional Development presentations are always one of the highlights of each AM/PIC. On Thursday of this year's virtual AM/PIC, the Animal Science committee will be hosting 10 outstanding presentations submitted by NACAA members. Topics to be discussed include presentations on Tribal Outreach programming, risk management tools, and creative ways agents reached out to livestock producers virtually during the past year. Please consider submitting a presentation abstract to the Animal Science Committee in 2022.

Finally, congratulations to Martin Carrasquillo Mangual from Michigan, who will begin serving as the North Central Region Vice Chair following the July virtual AM/PIC; replacing Karl Hoppe from North Dakota. Looking forward to seeing everyone in Florida in July 2022!



Committee Members: Patrick Byers, Committee Chair; Linda Chalker-Scott (Washington), Western Region Committee Vice-Chair; Timothy Daly (Georgia), Southern Region Committee Vice Chair; Kate Kammler (Missouri), North Central Region Committee Vice-Chair; and Julie Kikkert (New York), Northeastern Region Committee Vice-Chair.

The Horticulture and Turfgrass professional improvement committee is pleased to present this report to membership, as we reflect back on 2020-2021 and the upcoming 2021 NACAA AM/PIC. COVID-19 once again dictates that the AM/PIC will be virtual; while this is a disappointment, we are looking forward to an excellent program of professional development and fellowship at the 2021 AM/PIC.

Much of the committee activity in 2020 and early 2021 was focused on planning for the anticipated 2021 AM/PIC in Philadelphia, PA. As in 2020, we were excited to form a collaboration with the Sustainable Agriculture PIC to plan and help fund the 2021 preconference tour. We worked closely with Pennsylvania Cooperative Extension agent Emelie Swackhamer to plan the preconference tour, which included an exciting horticulture and sustainable agriculture itinerary. Among the planned stops were Longwood Gardens, Phillips Mushrooms, Lundale Farm, Ramsey Farm, and Octoraro Native Plant Nursery. Many thanks to Emelie for the collaboration. We also developed a relationship with Bartlett Tree Research Laboratories to sponsor a super seminar titled "Lawn Care Myths". Unfortunately, both the tour and the super seminar were cancelled when the in-person AM/PIC was cancelled. However, members who find themselves in the Philadelphia area would definitely find the tours sites worth a visit, and we look forward to an ongoing relationship with Bartlett Tree Research Laboratory.

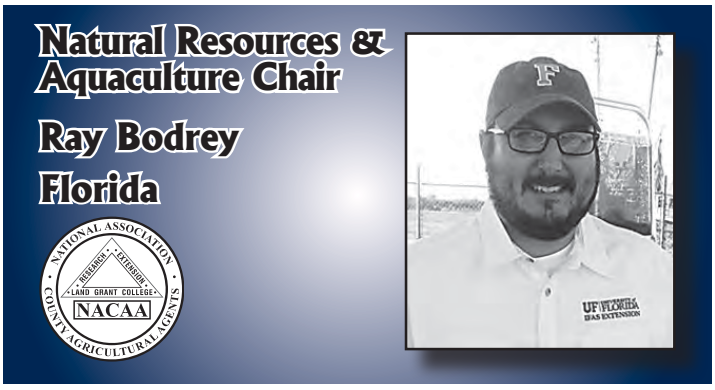
The Horticulture and Turfgrass PIC committee also worked to develop the horticulture and turfgrass oral presentation program for the upcoming 2021 AM/PIC. The process began in 2020 as we solicited abstracts through the state horticulture committee chairs, and we are pleased with the number and quality of the 2021 submitted abstracts. The committee evaluated the abstracts, organized the sessions, maintained

close contact with speakers, and will moderated the virtual sessions at the AM/PIC. Our thanks to the NACAA leadership team that successfully coordinates the oral sessions at the virtual conference, which will include 17 presentations on a wide range of horticultural topics. Thanks are certainly due to the NACAA members who plan to share such innovative and impactful programming.

The Horticulture and Turfgrass PIC committee held its annual meeting on September 21, 2020, in conjunction with the virtual AM/PIC, and plans to hold the 2021 annual meeting during the upcoming AM/PIC. Incoming and outgoing regional vice chairs will be in attendance, and the meeting is open to the NACAA membership. We will discuss the 2022 AM/PIC, scheduled at this time in West Palm Beach, FL, on July 17-22. Among agenda items are a planned preconference tour, a super seminar, and ongoing professional development opportunities during the upcoming year.

I would like to invite all members to attend the committee's national professional development webinar, scheduled for September 8 from 1:00-2:00pm. The webinar will focus on invasive species and their impacts on horticulture and turf. The committee hopes that this will be the first in a series of professional development opportunities.

I am nearing the end of my term as national committee chair, and I want to thank the regional committee vice chairs and the state committee chairs for your support over the past two interesting years. As national committee chair, I want to mention that NACAA members are always invited to share ideas with the Horticulture and Turfgrass Committee. In particular, we need ideas related to the upcoming preconference tour, potential super seminars, and professional development activities. Feel free to reach out to the committee regional vice chair that represents your state. The committee meets virtually monthly, and members are welcome to join our meetings. If any member is interested in a leadership opportunity with the committee, information on the application process is available on the NACAA website, or by reaching out to the committee.



Committee Members

Ray Bodrey, Committee Chair, Florida

Lindy Berg, North Central Region Vice-Chair, North Dakota

Anna Busch, Northeast Region Vice-Chair, Pennsylvania

Jody Gale, Western Region Vice-Chair, Utah

Ross Overstreet, Southern Region Vice-Chair, Mississippi

The Natural Resources Committee has been meeting periodically during the winter and spring months in preparation for this year's virtual AM/PIC. There will be five presentations in the oral session on Wednesday, July 7th from 2:00 – 4:30 PM ET. Presentation topics this year are compelling and diverse. Topics range from engaging youth in science through connections with nature; addressing COVID-19 concerns in a park system; wildfire dangers and abandoned orchards; teaching green infrastructure principles, virtually and team strategies in natural resource programming during COVID-19. Another NACAA professional development activity for natural resources is on the horizon, as well. Dr. Laura Tiu, of UF/IFAS Extension & Florida Sea Grant, will present webinar on, "How to Make a Fish Sandwich: Aquaponics" on August 25th. This will be an introductory talk on how to get started in developing an aquaponics Extension program. Please tune in!

Going forward, the committee will continue to work towards a long-term plan for professional development, including the Pre-tour for the next AM/PIC in West Palm. The committee is also looking at reinstating the Search for Excellence award and instituting a Super Seminar. The committee always welcomes feedback from membership. If you are interested in learning more about our committee or taking a more active role, please contact Ray Bodrey at rbodrey@ufl.edu or (850) 639-3200.

The Sustainable Agriculture Committee members are Laura M. Miller, Committee Chair; Heidi Rader (Alaska), Western Region Committee Vice-Chair; Christian Stephenson (Mississippi), Southern Region Committee Vice Chair; John Porter (Nebraska), North Central Region Committee Vice-Chair; and Liz Bosak (Pennsylvania), Northeastern Region Committee Vice-Chair. We welcome two new members at the 2021 AM/PIC and thank retiring members John Porter (past committee chair) and Heidi Rader.

Reading the Farm Super Seminar and Tour

The year began with planning for the Reading the Farm Super Seminar and Tour at the 2021 AM/PIC with Jason Challandes, Regional SARE Educator at Delaware State University who

served as a host for the 2018 SARE Fellows Tour, and the team of 2017 Fellows, Kurt Jones (Colorado), Anthony Bly (South Dakota), Naveen Kumar (Maryland) and Amanda Sears (Kentucky). Those plans did not easily transfer to a virtual format, but we hope to offer a virtual Reading the Farm experience from Colorado in 2021 and have begun to plan for the next in person Reading the Farm Super Seminar and Tour in Florida in 2022.

Professional Development Session

During the 2021 AM/PIC the professional development sessions address economic, social and environmental aspects of sustainability:

SUSTAINABILITY OF A HOMELESS SHELTER FARM: THE SIGNIFICANCE OF WOMEN IN MAJOR LEADERSHIP ROLES Suzanne Mills-Wazniak, Tia Turner, and Roger Reeb

BIOMASS AND NUTRIENT PRODUCTION OF COVER CROP MIXES FOLLOWING WHEAT AND CEREAL RYE FOLLOWING CORN OR SOYBEANS IN EASTERN NEBRASKA Gary Lesoing

EFFECTS AND ECONOMICS OF A LONG-TERM CROPPING SYSTEM, COVER CROP AND GRAZING STUDY Jennifer Rees

Sustainable agriculture topics cam come from all Extension program areas. NACAA members are encouraged to consider presenting the results of their projects and programs at the Florida AM/PIC in 2022.

SARE Fellows

NACAA members who want to improve their teaching and technology transfer skills to develop sustainable agriculture programs are encouraged to consider applying for the SARE Fellows program. https://www.sare.org/what-we-do/professional-development/fellows-program/

Like so many things, the Fellows program, which does involve travel, was put on hiatus and will begin accepting applications in March of 2022.

AMPIC Pre-Tour

With the able leadership of Yvette Goodiel and Hannah Wooten, plans are underway for a Sustainable Agriculture Pre-Tour in South Florida. You can see sustainability in a whole new way when you look at the principles applied to sub-tropical crops. We hope you'll consider joining us

The current structure for NACAA is built on three foundational blocks that are the basic components of NACAA's professional enhancement areas: Program Recognition, Extension Development, and Professional Improvement. The Program Recognition Council oversees the award-based programs that have been a long-standing tradition of NACAA.

The six committees which comprise the Program Recognition Council serve as the engine to recognize the efforts of our members for their professionalism, performance, creative works, and outreach to the communities they serve. Members can enter competitive contests that highlight their work. The six committees which make up this council are:

- Communications Committee chaired by Ron Patterson from Idaho
- Professional Excellence Committee chaired by Nicholas Simmons from Florida
- Public Relations & Ag Awareness Committee chaired by Tyrone Fisher from North Carolina
- Recognition & Awards Committee chaired by Joni Ross Harper from Missouri
- Scholarship Committee chaired by Donna Hamlin Beliech from Mississippi
- Search for Excellence Committee chaired by Amy-Lynn Albertson from North Carolina

Working from the grass roots up, the Program Recognition Council committees recognize the outstanding work of NACAA members in their respective states, regions and at the national level. Each year, committees review hundreds of entries to determine state, regional and national winners and to recognize members for their outstanding efforts.

Our council was extremely pleased by the number of entries submitted by NACAA members in 2021. These included:

- 846 Communications Award entries
- 108 Poster entries (69 Extension Education and 39 Applied Research)
- 100 Search for Excellence (SFE) applications in the 8 SFE categories
- 14 applications for the Ag Awareness & Appreciation Award.

Due to our gracious sponsors, our committees were able to present over $20,000 to members for their outstanding achievements.

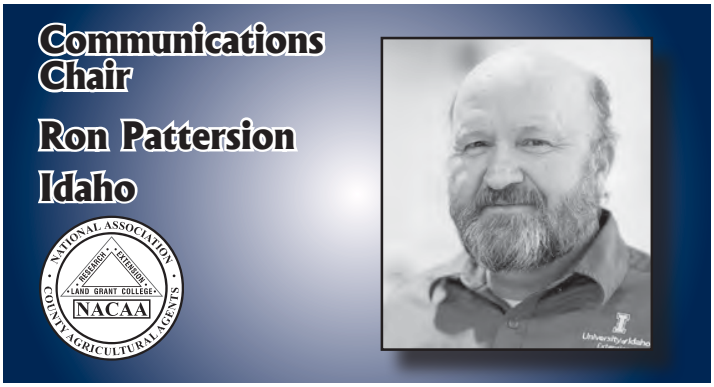
In addition to the creative and academic work competitions, 136 NACAA members were recognized by their peers for the career achievements. Sixty-six members from across the nation received the Distinguished Service Award and 70 received the Achievement Award. NACAA was also honored to present Donald Drost from Wisconsin, Mena M. Hautau from Pennsylvania, Mickey Cummings from Georgia and Dr. Ed Martin from Arizona with the 2021 NACAA Hall of Fame Award.

The NACAA Scholarship Committee was pleased that NACAA members and friends donated a total of $8,812 to the NACAA Educational Foundation Scholarship. These donations were extra special in 2020 as no scholarship auction was held. We were excited that the Scholarship Committee held a virtual on-line scholarship auction during this year's conference. Thanks to all who donated and purchased items on-line this year!

The lingering coronavirus pandemic required us, for the second year, to hold our annual meeting and professional improvement conference virtually via Microsoft Teams. Thanks to all the great IT staff who made this year's (and lasts) a wonderful experience.

I appreciate the hard work that each of the National Chairs, Vice-Chairs, and committees did to overcome every challenge which has been presented to them during the past two years. I also wish to extend my appreciation to the National Board, my fellow council chairs Keith Mickler and Scott Jensen, and Scott Hawbaker for their incredible dedication to our organization.

I look forward to a great upcoming year and look forward to seeing each of you next year in Palm Beach, Florida!



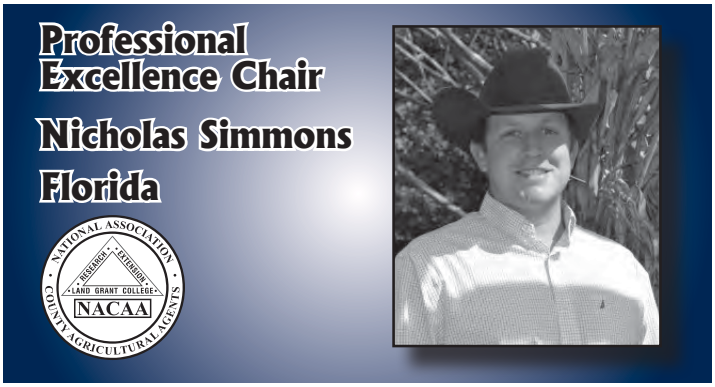
The Communications Awards competition provides a way for NACAA members to be recognized for their efforts to reach the general public. Congratulations to all our members for excellent Extension programming around the nation. The number of entries in the thirteen communication award categories, and the caliber of award entries was outstanding. There were several significant changes to the categories for 2021. We temporarily dropped one of the newsletter categories with the intent of creating a new category that will encompass some of the new technologies that don't fit into our standard categories. In order to help members be more successful in their awards applications, our committee held a virtual training in February 2021.

As we settled into the virtual world this past year we noticed a big shift in delivery methods. Educational Video Recording submissions grew from 86 in 2020 to 153 in 2021. What a difference a year makes. There were 846 total entries submitted by NACAA members from across the nation. The Southern Region led the way with 466 entries submitted, followed by the North Central Region with 245 entries, the Northeast Region with 85, and the Western Region with 50. Congratulations to the Florida Association for the most entries as a state with 122 total applications. Florida was followed in the top five by Georgia with 64, Ohio with 52, Arkansas with 44, and Texas with 40. The following is a summary of the entries made in each category.

- Audio Recordings had 57 entries
- Published Photo had 64 entries
- Computer Generated Presentation with Script had 53 entries
- Event Promotional Package had 61 entries
- Personal Column had 55 entries
- Feature Story had 55 entries
- Newsletter had 84 entries
- Educational Video Recordings had 153 entries
- Fact Sheet had 81 entries
- Publication had 68 entries
- Web Site/Online Content had 77 entries
- Learning Module/Notebook had 27 entries
- Bound Book/eBook had 11 entries

Because of the conference being virtual, and we did not have a time-slot to replace the traditional luncheon, the regional award winners, and national award finalists and winners were announced in a PowerPoint/Video presentation that can be found on the conference landing page (https://www.nacaa.com/ampic/2021/2021AMPICProgram.php).

The NACAA Communications Awards Committee is very appreciative of the NACAA Board for continued funding of this program. A hearty thanks to the Communications Awards state chairs and regional vice-chairs for their hard work in making this awards program successful. The NACAA Communications Awards Regional Vice-Chairs for 2021 were: North Central Region Vice-Chair – Heather Gessner (South Dakota), Northeast Region Vice-Chair – Laura McDermott (New York), Southern Region Vice-Chair – Brittany Council-Morton (Virginia) and Western Region Vice-Chair – Iris Mayes (Idaho). I welcome the new Southern Region Vice-Chair – Daniel Leonard (Florida), and Northeast Region Vice-Chair – Jeremy Jubenville (Michigan) to the committee. Without the state chairs and regional vice-chairs this program would not be possible. I would also like to thank David Marrison, 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 Awards Contest, please contact Ron Patterson at rpatterson@uidaho.edu or call 208-529-1390.



The NACAA Professional Excellence Committee is responsible for organizing and conducting the poster session before and during the AM/PIC. It takes a lot of dedication and work to make this happen. Without the regional vice-chairs, state chairs, and volunteer judges, the poster session would not be possible. Current regional vice-chairs are North Central Region, Gary Gao (OH); North East Region Megan Muehlbauer (NJ); Southern Region, Brian Haller (AR); and Western Region, Bonnie Hopkins (NM). The AM/PIC remained a virtual online format for 2021. Scott Hawbaker, Dewayne Hyatt, and the Florida IT folks were called upon again for their experience hosting a virtual conference. Presenting a poster is an excellent way for members to showcase their work in Extension Education or Applied Research, generate discussion during and after the meeting, and have their abstract published in the Conference Proceedings. This year we had a great number of accepted posters for judging or display in the Virtual AM/PIC, with a total of 108 (39 Research and 69 Extension Education). Florida IT set up a fantastic virtual poster display on "Teams" that included a virtual room to view the National Finalist and winners. Posters were clear to read and available at any time, so you did not have to miss any presentations. Due to Covid-19, the National Finalists were again judged virtually. The committee used independent pre-AM/PIC regional judging of state winners to select the 21 National Finalist posters. Two teams of four judges, comprised of NACAA peer members communicating virtually, judged the posters during August to determine the National 1st, 2nd, and 3rd place award winners. Judging criteria are found on the NACAA website can be reviewed under Professional Excellence to prepare for next year's contest.

The Public Relations and Agricultural Awareness Committee is in charge of organizing the Agriculture Awareness and Appreciation Awards (A4) program. The A4 program is a great way for NACAA members to spotlight educational programs that demonstrate the public relations component of Extension work. It is also an opportunity to showcase how Extension agents and educators enrich and inform the public's understanding of agriculture in their communities. This year the A4 program had 14 programs of outstanding public relations work representing every region of NACAA. There is a tremendous amount of great Extension work that many educators and agents are doing and this outreach makes an excellent way to share their success in the A4 program.

Congratulations to Sherie Shaffer and her team from Colorado. They are the Agricultural Awareness and Appreciation Award National Winners for 2021. Sherie presented their winning submission during the A4 Recognition Virtual Event on Friday, July 9th, 2021. Their topic was "Mountain Ag Fest". Congratulations also goes to our National Finalists Ginger Fenton from Pennsylvania, Sherri Sanders from Arkansas, and James Humphrey from Missouri and to all state winners and entrants.

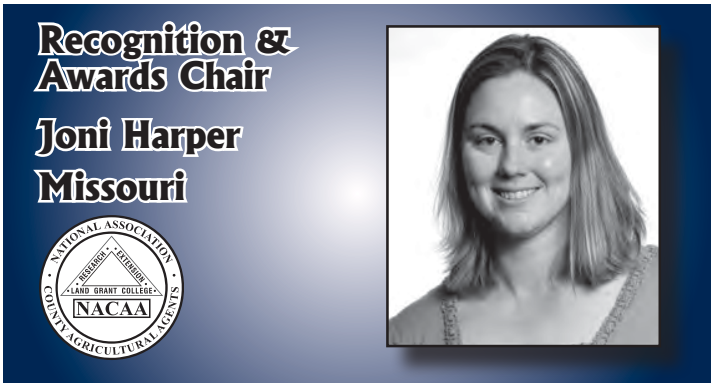
State winners include: Brooke Beam from Ohio, Wael Elwakil from Florida, Robert Soileau from Louisiana, and Michael Hiler from Texas.

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

The Public Relations and Agricultural Awareness Committee appreciated having entries from all of the four regions in 2021 and challenges every state in NACAA to submit an entry in one of the NACAA awards programs, especially in the A4 program in 2022. Let Extension shine in all the communities we serve!

We would like to send an earnest and special thank you Jim Hruskoci of Bayer Crop Science for sponsoring the Agriculture Awareness and Appreciation Award this year. It has been my pleasure to serve as the National Chair. I have enjoyed working with our Regional Vice Chairs and reviewing all of the great programming our Extension agents and educators are doing across the country on behalf of the agricultural industry.

We look forward in 2022 to hearing all of unique ways of reaching and educating audiences during the COVID-19 Pandemic!



Joni Harper, Chair of Recognition and Awards.

Recognition and Awards Committee Members:

North Central Vice-Chair – Edwin M. Lentz (Ohio)

West Vice-Chair – Kate Painter (Idaho)

Northeast Vice-Chair – Samantha Robison (Pennsylvania)

Southern Vice-Chair – Paula Burke (Georgia)

This year we have 70 Achievement Award, 66 Distinguished Service Award and four Hall of Fame recipients.

The Achievement Award is presented to members in each state who have less than 10 years' service. Each individual has been selected by their peers for their excellent work in Extension. Since 1973, NACAA has recognized 2,374 Achievement Award winners. American Income Life Insurance Company—Special Risk Division is the Achievement Award sponsor and has been a sponsor of NACAA for 53 years. The committee would like to thank Erin Bain, American Income Life, for their continued support.

The Distinguished Service Award is presented to members who have provided more than 10 years of dedicated service and outstanding Extension programs to people in their respective counties, parishes, regions, and states. They have been selected by their Extension peers. This is the 84th year that the Distinguished Service Awards been presented by NACAA. The 66 recipients have joined a very distinguished group of 7,519 NACAA members that have been honored with this award.

This is the 16th year for the prestigious Hall of Fame award. Four outstanding extension agents have been selected this year, each representing one of the four NACAA regions. Dr. Edward Martin (Arizona), Don Drost (Wisconsin), Mena Hautau (Pennsylvania) and Mickey Cummings (Georgia) are being recognized for a career of 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. The committee wishes to thank the Ag Pipeline Alliance for continuing their financial support for the Hall of Fame award.

Congratulations to all the Achievement Award, Distinguished Service Award and Hall of Fame Award recipients. Your national and state committee members are passionate about recognizing our fellow agents. We are happy to recognize the hard working and talented agents we have the honor to work with and know.

The 2020/21 scholarships timeline is always between NACAA AM/PIC's (VA - Oct. 1, 2020 and PA - July 6, 2021). The last day of an AM/PIC is also the deadline for a monetary contribution to count towards your initial $40 to $100 Scholarship vestment. Basically, only those who have reached the $40-$100 contribution milestone are eligible to apply for a Scholarship come June 2022.

The NACAA Scholarship Application is an on-line process with a June 1 deadline. The application can be found in the December issue of The County Agent publication. To view the application criteria, go to https://www.nacaa.com/scholarship/criteria.php then head straight to filling out the application which can be found at https://www.nacaa.com/scholarship/application.php

Scholarships awarded:

In 2020, the Scholarship Committee met via ZOOM to judge six (6) applications. Eight (8) agents benefited from the Scholarship Program; 5 individuals and 1 group. The original, scholarship amount awarded was $7,230.

One recipient declined the monetary award due to the conference going 'Virtual'. Two other's educational events were cancelled due to COVID lockdowns or postponed. Scholarship awards do not 'rollover', applicants MUST RESUBMIT with new dates and the application goes back through the judging process. The total amount paid by the NACAA Educational Foundation for 2020 Scholarships was reduced to $3,000**.** We appreciate and thank them for their financial support.

In 2021, fifteen (15) scholarship applications were received and will be judged by the National Scholarship Committee on June 24, 2021 via ZOOM. The total amount requested by these seventeen (17) agents is $16,800. More information about the Scholarship recipients will be available later this year.

Since there was no 2020 NACAA AM/PIC Auction or Raffle fundraiser, all contributions to the Scholarship Educational Fund were monetary donations (credit card or check) from individual members or state associations. Between May 15,

2020 and May 15, 2021, 209 NACAA members contributed $8,812 to the scholarship program.

This year, the Scholarship Committee is having an 'On-Line Silent Auction' fundraiser. The auction site is www.32auctions.com/nacaa2021 . Members had the entire month of June to donate items. Auction bidding is open from 6 am on Thurs., July 1 through 7 pm on Wed., July 7, 2021 (CST). The amount a donated item brings + reasonable shipping costs is what the donor will receive credit for, towards their contribution to the NACAA Scholarship Program.

Scholarship policy:

Member vestment will be $40 to qualify for up to $1,000 scholarship and a vestment of $100 (an

additional $60 contribution to the scholarship fund) to qualify for an additional scholarship award from $1,001 to $2,000 (no more than $1,000 in any one year will be awarded).

2021 NACAA Scholarship Committee consists of:

National Chair: Donna Beliech, d.beliech@msstate.edu

Regional Vice-Chairs:

Adele Harty, adele.harty@sdstate.edu (North Central Region)

Stephen Hadcock, seh11@cornell.edu (North East Region)

Sherry Beaty-Sullivan, sbeaty@uaex.edu (Southern Region)

Thomas Dominguez, tdomingu@nmsu.edu (Western Region)

The current Search for Excellence (SFE) committee is comprised of four regional vice chairs and myself. The regional vice chairs include Linda McClanahan from Kentucky, Chris Zoller from Ohio, Jesse Fulbright from Montana, and Amber Yutzy from Pennsylvania.

The committee held an organizational meeting by Zoom/conference call in December 2020. We discussed procedures for promoting SFE entry submissions and for scoring the entries to be received. The committee discussed rewriting committee handbook section on Search for Excellence to reflect how the categories are judged for the AM/PIC. During the conference call, we also confirmed the division of responsibilities regarding the SFE categories that each would lead, and preside over at the 2021 NACAA AM/PIC. They were as follows

Consumer or Commercial Horticulture- Amy-Lynn Albertson

Crop Production- Linda McClanahan

Environmental Quality, Forestry, and Natural Resources- Chris Zoller

4H and Youth Programming- Jesse Fulbright

Farm & Ranch Business Management- Linda McClanahan

Livestock Production – Amber Yutzy

Sustainable Agriculture- Amber Yutzy

Young, Beginning, or Small Rancher/Farmer – Chris Zoller

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, 2021. The committee also planned a 45 minute zoom session for February on how to apply for a SFE award for the general membership. Amber Yutzy took lead on planning this presentation "In it to Win it, How to submit a Winning SFE Entry.

There were 100 completed entries this year. The entries per category was as follows:

Consumer or Commercial Horticulture- 18

Crop Production- 11

Environmental Quality, Forestry and Natural Resources- 9

Farm and Ranch Financial Management- 7

4H and Youth Programming- 24

Livestock Production- 14

Sustainable Agriculture -6

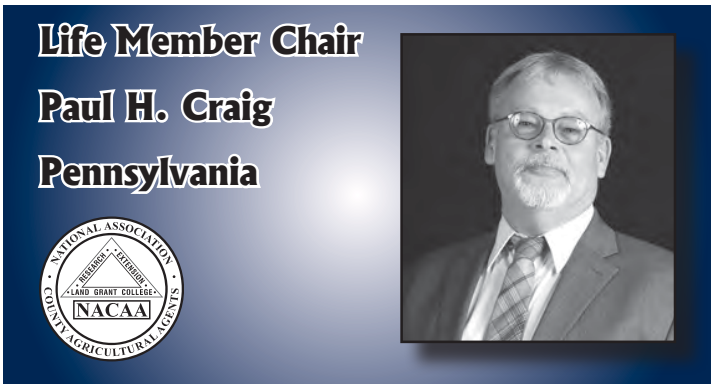
Young, Beginning or Small Farmers/Ranchers- 10

The total number of entries received was an increase of 12 over last year. There are a lot of opportunities for members to participate by submitting entries in SFE. The entries are easy to prepare and submit, and the program provides an excellent opportunity for individual and team recognition. Our 2021 winners and finalists were recognized during the SFE sessions at the virtual NACAA AM/PIC. The committee will continue to promote SFE awards program and encourage more applications next year.

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 other associated tasks of the committee.

Big thanks to my committee for supporting me as National Chair. It has been a pleasure to serve on this committee. I am very proud of the changes we have made and the work we have done during my term. Thanks to Program Recognition Council Chair David Marrison for his assistance and support during the year. Thanks to NACAA Board for their support of the Search for Excellence program. Finally many thanks to NACAA Executive Director, Scott Hawbaker for his support and assistance.



Finally, after not having a "real" or a virtual meeting in 2020 due to the Covid 19 crisis, the 2021 NACAA Life Member Team is looking forward to this year's opportunity. Thanks to the outstanding support from the agents in the NE Region and more specifically the efforts of 2021 AM/PIC Life Member Committee the NACAA Life Members will again be meeting in 2021. However, this year will be a first in that the group will meet using Zoom technology.

The NACAA Life Member Committee has four Regional Vice Chairs in addition to a National Chair. These include Herb Reed, MD; Dr. James Devillier, LA; SteveMunk, SD; and Susan Kerr, WA. Their support and contributions to the committee helped to make my job easier. I sincerely thank them for their leadership. Without a face to face meeting at the 2020 AM/PIC, phone calls and email became the methods of communicating. The group felt it was important to continue programming for Life Members at annual AM/PIC's and kept working toward that goal.

The NE Region 2021 AM/PIC Life Member Committee was chaired by Madeline Flahive Di Nardo, NJ; with great help and contributions from Tom Gallagher, NY and Gene Schurman, PA. I was invited to join this team. When planning began the traditional Life Member program was envisioned (speakers, tours, busses, meals, etc.) However by early 2021 it became apparent that 2021 would again be unlike any previous AM/PIC. Quickly plans were changed to have a virtual event. An outline of the program was developed to include a business meeting plus invited presentations of local interest for participants (Yeungling Brewery, Philly Cheese Steaks, Heritage Chocolate and PA Dutch Culture). The idea was then presented to the AM/PIC Planning Committee and the NACAA Board and Officers where strong support to include programming for the NACAA Life Members was encouraged.

When the virtual format for the 2021 Conference was announced committee vice chairs expressed interest in possibly participating in other activities of the active member meeting (Regional Meetings, Voting Delegates, Opening/Closing Session, professional development, etc.). The national board was very supportive and has provided a reduced registration fee for Life Members to participate in these virtual sessions.

Each year during the LIfe Member business meeting a memorial service is conducted to honor all NACAA Life Members who have passed during the previous year. Information on these individuals is collected by Life Member Committee Vice Chairs with welcomed assistance from state life chair contacts. The committee struggles frequently to get an accurate listing of these men and women. Annually each state association is asked to assign a member to serve as Life Member Liaison to assist in this effort. This task could not be possible with this local assistance.

Do you know that there are over 2700 Life Members of NACAA? I'll bet you didn't. Many of these men and women who made certain to include events and activities of NACAA during their careers remain interested in maintaining contacts with their old friends and meeting new ones at annual AM/PIC's. Many continue to serve their association on a national and state level.

This committee would like to encourage all states to be sure to include your Life Members in any activities you may be planning in the future now that Covid 19 restrictions are easing up. Many states include Life Members in activities annually during state association meetings. Some states have annual fundraising activities and invite these men and women to lend a hand. In other states Life Members gather for a luncheon, picnic or evening get together for socializing and friendship. A career in Extension can evolve into lifetime of associating and building friendships. These do not end at retirement and the NACAA Life Member Committee was formed, many years ago, to help maintain these contacts for our membership.

The Life Member Committee would like to encourage all state associations to pay the $50.00 Life Membership fee for the retiring members of their state association. This ensures that retired members remain "connected" to the state and national association and activities of interest.

Finally, my sincere thanks and a note of admiration to the present leadership of NACAA for all the continuing efforts you have given to support your membership, both active and life members. The challenges you have faced planning for the annual highlight of our professional association cannot be fully understood or appreciated by the membership who chose you for these positions. You have admirably faced those challenges and our association has strengthened as a result where many other organizations have struggled. Thank you for all you have accomplished.

Journal of NACAA Chair

Donald A. Llewellyn

Washington

It is indeed my pleasure to serve as Journal Chair and Editor of the Journal of NACAA. It is great to be able to provide this service to our membership that is so important for their professional development and instrumental in helping them facilitate a positive career trajectory. I want to thank Stephen Brown (a former Editor of the Journal of NACAA) for his willingness to work on the Fall 2020 issue for me in my absence because of the loss of our son Joseph. It is a testament to the goodness of the people of NACAA and I appreciate the words of kindness and support I have received from the membership. Scott Hawbaker has been awesome in providing technical support for the Journal and I will always appreciate that as well. As Editor, I have provided leadership for the Journal since the fall issue of 2019. The following are some highlights since last year for the Journal of NACAA:

- December 2020 issue had 14 manuscripts published
- June 2021 issue had 21 manuscripts published
- I have already received a manuscript for the December issue (authors are starting to see the value of getting their papers in early)
- In general, (although it varies by issue) the acceptance rate is running around 70% since I have been Editor
- As with most of our members, Covid has limited travel and our ability to promote the Journal beyond what is possible by Zoom and announcements to NACAA.
- I am giving a presentation at the 2021 AM/PIC during the Early Career Development section on publishing articles in the Journal of NACAA
- Over the course of 2020 and 2021, I have had good success in recruiting new reviewers for the Journal of NACAA, but many more are needed due to retirements and people's other commitments. Reviewer recruitment will continue throughout the year.
- Input from members to the Journal has focused mainly on two items: 1) being able to have a pdf converter for articles on the Journal webpage, and 2) being able to easily gain statistics regarding reading and downloading articles from the Journal webpage that can be used by authors for annual reporting and measurement of impact.

The Journal of NACAA provides a great service to our membership to support their careers by being able to publish a wide array of scholarship, and in doing so, supporting their Extension careers.

I am very much looking forward to seeing everyone in person in 2022.

Outstanding Young Farmer Liaison

Tammy Cheely

Georgia

As with everything, the National Outstanding Young Farmer program made some changes to the normal routine to address issues brought on by Covid -19. They could not hold an in-person awards congress. The Executive Board and Coordinators decided to do the next best thing and judge applicants virtually. The finalists of the Class of 2021 will be announced and honored at the 2022 Congress along with the Class of 2022. This unique Congress, honoring two classes at once, will be held at the Omni Hilton Head Oceanfront Resort on February 3 – 6, 2022.

It's time again to nominate your young farmers for the 2022 awards year. Eligible nominees must not reach age 41 by January 1, 2022. All of the information as well as the application is on the National Outstanding Young Farmer website: www.ofafraternity.org. The deadline is August 1, 2022.

The NOYF program selected the first group of national winners in 1955. This is an elite group that has stood the test of time! Please help keep it going with your nominations. Remember, if you nominate a national finalists, NACAA will contribute financially towards your travel to the Awards Congress. This event is a great experience! Do not hesitate to reach out to me for help and support with the application process.

Extension Journal Inc.

Melody Rose

Tennessee

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 for the past five years. I have thoroughly enjoyed serving in the capacity as the liaison to NACAA for Extension Journal, Inc. I am currently serving as President-Elect and look forward to continuing to assist with moving the organization forward as we continue navigating transitional changes in 2021.

Journal of Extension

As of January 1, 2021, the *Journal of Extension (JOE)* is published by Clemson University Press. Established in 1963, *JOE* is the flagship journal for Extension employees. As a refereed journal, *JOE* expands and updates the research and knowledge base for U.S. Extension professionals and other outreach educators to improve their effectiveness and serves as a forum for emerging and contemporary issues affecting U.S. Extension educators. Moreover, *JOE* provides a venue for professionals and students to publish original and applied research findings to share successful educational applications, scholarly opinions, educational resources, and challenges on issues of critical importance to Extension educators.

Through its commitment to author development, *JOE* also provides training and support for effective scholarly communications. *JOE* is a fully, open-access, quarterly journal included in the:

- Web of Science Core Collections Emerging Sources Citation Index (ESCI)
- Scopus (abstract and citation database)
- Education Resources Information Center (ERIC- full-text database)
- Cabells Whitelist

A Year of Change

2020 brought many changes to the face of *JOE*. Many of these changes were due to strategic planning implementation from 2019. Due to operating at a budget deficit for a number of years, the board explored options to increase revenues and reduce costs to produce the *Journal of Extension*. In 2019, in response to knowledge that EJI was experiencing financial issues, Clemson University Press submitted an unsolicited proposal to partner with EJI for production of the *Journal of Extension* and operation of the Extension Job Bank. The EJI board voted in 2020 to move forward with the proposed partnership. The new partnership allows EJI to save a minimum of $50,000 annually in operational expenses, thereby putting the organization back into the black financially. EJI signed an MOU with Clemson University Press on September 9, 2020, formalizing this partnership. Drew Griffin assumed the role as editor.

Upcoming Plans

The transition of the *Journal of Extension* and the Extension Job Bank from its past operating structure to the new structure in collaboration with Clemson University Press began the week of September 15, 2020 (during the EJI September Board meeting). The transition continues, but much of the structure of the new partnership was in place by the end of January 2021. The *Journal of Extension* is undergoing a rebranding, with new logos and a marketing plan being developed to raise the profile and awareness of the Journal. John Morgenstern (of Clemson University Press) is currently working with the EJI Marketing Committee to more fully integrate marketing components in the near future.

A fully expanded and more effective website (Journal of Extension | Clemson University) is currently in place and has so far proved invaluable to authors and peer reviewers alike. Although not current with submissions submitted during 2020, the team is working hard to get authors published as soon as possible; it is anticipated that turnaround time from submission to publication will be faster as soon as submissions are caught up from the transition time. A tab was added for Author Resources with a variety of information. Authors can now track where their manuscript submission is in the publication process and, after an article is published, authors receive informational updates (such as download rates and locations). The editor is reaching out to authors who submitted in the old system and encouraging them to create an account in the new system.

In addition, the Extension Jobs portal received a facelift. Check out the new site here: Extension Jobs – Jobs in Extension, Outreach, Research & Higher Education (joe.org)

Special thanks

Since joining the EJI Board in January 2017, 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 continues to both an honor and privilege.

Poster Session

Applied Research

2021 NACAA

106th
Annual Meeting
and
Professional Improvement Conference

Virtual

National Winners & Finalists

1st Place

COMPARISON OF SUSCEPTIBILITY TO TOMATO SPOTTED WILT VIRUS IN PVH 2310 AND NC 196 VARIETIES OF TOBACCO

Post, K. K.[1]; Reeves, B.[2]; Barnes, T.[3]; McLemore, J.[4]; Bertrand, P.[5]; Moore, J.M.[6]
[1]County Extension Agent, University of Georgia, Lakeland, GA, 31635
[2]County Extension Agent, University of Georgia, Nashville, GA, 31639
[3]County Extension Agent, University of Georgia, Pearson, GA, 31642
[4]County Extension Agent (former), University of Georgia, Douglas, GA, 31533
[5]Plant Pathologist - Retired, University of Georgia, Tifton, GA, 31793
[6]Extension Agronomist - Tobacco, University of Georgia, Tifton, GA, 31793

The leading tobacco disease in Georgia is spotted wilt caused by *Tomato spotted wilt virus*. Previous research has shown there is no difference in resistance to *Tomato spotted wilt virus* (TSWV) between common varieties of tobacco. No source of resistance has been identified or incorporated into commercial tobacco. However, trials conducted in 2018 and 2019 suggested that PVH 2310 may be more susceptible to TSWV than other popular varieties such as NC 196. PVH 2310 is often selected to utilize barn space more efficiently due to its early maturity and competitive yields. Thus, determining whether PVH 2310 exhibits higher incidence of TSWV compared to another common variety does have value to tobacco growers in South Georgia. Treated and untreated PVH 2310 plants were compared to treated and untreated NC 196 plants. Treatment consisted of Actigard® 50WG and AdmirePro® on separate occasions. Six trials sites were transplanted and visually evaluated for spotted wilt at two-intervals. The untreated PVH 2310 had the highest mean percent of spotted wilt across all trials (23.0%), followed by untreated NC 196 (15.8%), treated PVH 2310 (14.7%), and treated NC 196 (10.5%). The final mean percent of spotted wilt in untreated PVH 2310 was significantly different from the other treatments. The data indicates that PVH 2310 is more susceptible to TSWV than NC 196, regardless of whether it was treated or untreated. Growers should be aware of this when choosing PVH 2310 as an early-maturing variety to fill barns, and decide whether it is worth the risk. Breeders should also be aware that increased susceptibility to TSWV does exist and take this into account in planning crosses.

2nd Place

ASSESSING THE RELATIVE ABUNDANCE OF INVASIVE STINK BUGS (HEMIPTERA: PENTATOMIDAE) INFESTING RICE IN FLORIDA

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Florida's rice stink bug complex is comprised of three species; the native rice stink bug, *Oebalus pugnax*, and two invasive stink bugs, *O. ypsilongriseus* and *O. insularis*. Surveys in Florida rice in 2008 and 2009 indicated that the two invasive species remain in low abundance relative to the native rice stink bug; however Florida's rice industry has increased substantially over the past decade, warranting additional surveys to detect whether or not changes in stink bug relative abundance have occurred. Surveys were conducted in 2017 and 2018 to determine if increases in the relative abundance of invasive *Oebalus* spp. have occurred, and to determine population levels in non-crop hosts adjacent to rice fields. In both 2017 and 2018, sweep net sampling for *Oebalus* spp. occurred at eight locations over three time periods each, with a location consisting of a commercial rice field and adjacent transect of non-crop hosts. Three, 50 sweep samples were collected from rice and non-crop hosts at each location, bagged, and returned to the lab for identification. Across both years, *O. insularis* relative abundance was the highest at 53.3%, followed by *O. pugnax* (42.2%) and *O. ypsilongriseus* (4.5%). Numbers of *O. pugnax* and *O. insularis* nymphs and adults were significantly greater in rice compared to non-crop host plants. Populations of *O. pugnax* peaked in mid-summer, while *O. ypsilongriseus* and *O. insularis* peaked later in the summer. *Oebalus* spp. were observed feeding on 11 species of graminacious non-crop hosts, with fall panicum (*Panicum dichotomiflorum*) exhibiting the greatest abundance in non-crop transects. Results from this study indicate that the invasive *O. insularis* has exceeded the native *O. pugnax* in relative abundance for the first time Florida's history. Additional studies are needed to determine differences in feeding behaviors between the native and invasive species, to provide Florida rice growers with accurate economic thresholds.

3rd Place

EFFECT OF STARTER PHOSPHORUS AND MICROBIAL INOCULANTS ON CORN GROWTH AND YIELD AFTER A FALLOW PERIOD

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Wet weather conditions in the spring of 2019 prevented Ohio farmers from planting over 1.5 million acres. A decline in beneficial mycorrhizal fungi that aid in plant water and nutrient uptake may occur in absence of host root tissue in fields left unplanted. It is hypothesized that corn (*Zea mays*) planted into these fallow fields may exhibit nutrient deficiencies due to a reduction in mycorrhizal root colonization. This phenomenon is commonly referred to as fallow syndrome. Fallow syndrome is poorly reported in Ohio, and few on-farm studies have been conducted to justify potential remediation options**.** The objective of this study was to assess the efficacy of starter phosphorus applications and microbial inoculants on reducing the impacts of fallow syndrome in corn. Starter phosphorus fertilizer (7-16-3 at 5 gal/ac); 3Bar Bio-YIELD® microbial inoculant (*Pseudomonas brassicacearum*); Valent MycoApply® EndoPrime® SC mycorrhizal inoculant (*Glomus spp.*) was applied at planting in May 2020 to evaluate their impact on corn growth and yield after a year-long fallow period. Soil samples taken at planting revealed phosphorus levels of 26 ppm Mehlich-3. Aboveground tissue was collected from each plot between V4 and V6 growth stages to estimate biomass and nutrient uptake, and the trial was machine harvested in November 2020. Plots treated with starter phosphorus alone or in combination with either inoculant had significantly higher individual plant biomass and lower phosphorus tissue content than the control treatment where no phosphorus was applied. However, starter phosphorus and inoculants did not significantly increase yield when compared to the no-phosphorus control. There was no evidence of fallow syndrome at this site, despite soil test phosphorus levels being within the recommended range. Overall, these data will inform future management recommendations to growers planting corn after a fallow period.

National Finalists

CORN AND SOYBEAN OMISSION TRIALS

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Corn and soybean omission trials were established at the University of Missouri Graves Chapple Research Center located at Fairfax, Missouri. The trials objective was to show the impact of changing crop inputs within a management system and measure their impact on corn and soybean yield. Each omission trial had sixteen treatments with each having a high yield system compared to a standard system in an experimental complete randomized complete block design. Treatment one was the high yield system and treatment nine was the standard system in each trial. The other treatment factor design consists of replacing the high yield level of a factor by its standard system factor and replacing the standard system of a given factor by its high yield factor. The results of the high yield corn system averaged over a 16-bushel yield increase across the three years compared to the standard system. The high yield system had reduced yields when the standard system factors of corn population, nitrogen rate and defensive hybrid were inserted into the high yield system. The standard system had a yield increase of 15-bushels with the increase in population from the high yield system. The high yield factor of early planting resulted in a 15-bushel yield loss in the standard system. The results of the high yield soybean system averaged over 10-bushels per acre greater than the standard system across three years. The high yield system had reduced yields when the standard system factors of omitting the seed treatment and the use of 30-inch row spacing. The standard system resulted in increased yields by adding the high yield factor factors of ILevo seed treatment package, narrow row spacing and fungicide application.

PRIVATE PESTICIDE APPLICATOR SURVEY INDICATES FARMER WEED MANAGEMENT PRACTICES AND CHALLENGES

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Each year, farmers who attend Private Pesticide Applicator workshops across Minnesota participate in an Integrated Pest Management (IPM) assessment that is incorporated into the program. Private Pesticide recertification is on a three-year cycle in Minnesota, so the group surveyed every three years is similar (e.g. an average of 81% of the farmers surveyed in 2020 attended a workshop three years prior). Each attendee is handed a Turning Technologies ResponseCard at the beginning of the workshop to answer questions throughout the program. Participation is voluntary and anonymous. Survey results illustrate the challenges farmers are facing in weed control, with weed control being the most common top production issue in soybean from 2017 (42% of respondents) to 2020 (60% of respondents). Farmers are utilizing a number of non-chemical tactics to manage weeds (81, 81, 73, and 82% of respondents in 2017, 2018, 2019, and 2020, respectively), with altering the crop rotation (21, 29, 29, and 33% of respondents in 2017, 2018, 2019, and 2020, respectively) and hand-pulling weeds (24, 37, 30, 29% of respondents in 2017, 2018, 2019, and 2020, respectively) being the most common. Each year the vast majority of farmers report they believe they have herbicide-resistant weeds (80, 81, 83, and 83% in 2017, 2018, 2019, and 2020, respectively), with glyphosate-resistance being the most common issue (73, 77, 81, and 75% of respondents in 2017, 2018, 2019, and 2020, respectively). Likely in response to the prevalence of glyphosate-resistant weeds, farmers report they plan to use less glyphosate-only herbicide-resistant traits, while increasing use of the Enlist™ and LibertyLink®/ LL-GT27® herbicide-resistance traits. Results of this survey have been useful in guiding educational programming efforts around the management of herbicide-resistant weeds and prioritizing research and education efforts in the development of relevant, robust, and effective weed management systems.

ON-FARM TRIAL EVALUATING DRONE-SEEDED COVER CROP ESTABLISHMENT

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Cover crops are a key management tactic that farmers in Maryland have utilized for years as a means to reduce soil erosion and nutrient runoff into waterways. As a result, cover crops have contributed significantly to the Chesapeake Bay's recovery. Traditional cover crops are seeded in late summer/fall and persist until the following spring when they are terminated and a cash crop is sown in the field. Research has demonstrated that the earlier a cover crop is planted, more ecological and economic benefits are realized. In order to achieve this, farmers have aerial seeded cover crops into standing corn fields for several years now; however, the practice is typically only feasible on large, flat fields. Thousands of Maryland's farm acres consist of small, fragmented fields with rolling terrain, which are a challenge to seed with a helicopter or airplane. As a potential solution to this problem, interest is being garnered in aerial seeding cover crops with drones; however, little is known regarding the efficacy of this practice. In order to test the feasibility, we performed an on-farm trial by aerial seeding a cover crop of radish using a drone into a corn field on August 27, 2020. We evaluated cover crop stand establishment on October 21, 2020. Average radish plant population was 3.1 plants/ft^2. Canopy density was estimated by the Canopeo software and averaged 39.1% coverage. These data indicate that drones may offer a viable solution to seeding cover crops in challenging fields.

IMPACTS OF WINTER COVER CROP SEEDING RATE AND SOIL TYPE ON SOYBEAN PRODUCTION

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Research has shown that integrating winter annual cover crops into a cropping system can potentially improve soil health properties, however, information regarding the impact of seeding rates and specific soil types is limited. To address these questions, three broadcast seeding rates of tillage radish (*Raphanus sativus* var. L), cereal rye (*Secale cereale*), and crimson clover (*Trifolium incarnatum*) were planted into a Moreland clay and Coushatta silt loam soil at the LSU AgCenter Dean Lee Research & Extension Center in Alexandria, Louisiana. Cover crops were planted in October of 2016 and 2017 and terminated the following March. A group five maturity soybean was planted into cover crop residue approximately six weeks after termination. Data collected included plant heights, plant population, grain yield, in addition to estimating a simulated economic return for each treatment. Data was analyzed using Glimmix Procedure of SAS 9.4 and means were separated using Fisher's Least Significant Difference. Estimated net returns were calculated based on cover crop and soybean inputs, yield, and a USDA baseline projection of $9.56 per bushel for 2017-2027. Results indicated clay plant populations averaged 9,290 more plants per acre than silt loam, however silt loam plant populations were 4% greater than clay across

both years. Yield was different by soil type and year, with silt loam plots yielding 41% higher than clay (52.1 and 30.9 bu/ac, respectively). Although 2017 yielded 39% higher than 2018 (51.1 and 31.9 bu/ac, respectively), cover crop seeding rate had no impact on soybean yield in this study. Net return estimates suggested higher rates of tillage radish and cereal rye were less profitable compared with a fallow treatment for Coushatta silt loam soil (all other species and seeding rates were equal to fallow). In contrast, all rates and species were equally profitable to fallow in Moreland clay except for low rate of cereal rye, which suggests potential economic return may be species and seeding rate dependent for different soil types. Compared with a fallow treatment, low and medium cover crop seeding rates may provide equal or greater monetary returns, while not negatively impacting production.

SAFETY AND EFFICACY OF HERBICIDES IN BEARING AVOCADO GROVES IN SOUTHERN CALIFORNIA

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Currently there are only 10 herbicide active ingredient (a.i.) groups registered for use on bearing avocado *(Persea americana* Mill.*)* groves in California. Of these, paraquat is a restricted use herbicide and glyphosate is under increasing political scrutiny. Another consequence for lack of a.i. is the chance of increasing herbicide tolerant or resistant weed biotypes. The purpose of this study was to see if we could provide more chemical options for avocado growers. A study to evaluate phytotoxicity and efficacy of pre- and postemergent herbicides that are currently registered in California citrus. Herbicides applied in fall or spring were evaluated on bearing avocado trees in Riverside, CA. The experiment was a replicated complete block design with four replications. Treatments included: caprylic/capric acid, clethodim, flumioxazin, glufosinate, glyphosate, indaziflam, isoxaben, oxyfluorfen, pendimethalin, rimsulfuron, salfufenacil, simazine, s-metolachlor, and an untreated control. Herbicide applications were made using a calibrated CO_2 backpack sprayer. Following treatment applications, the pre-emergence herbicides were incorporated using temporary sprinkler systems to simulate 0.5 inch of rainfall. Weeds were 2-4 inches tall at the time of application. The primary weeds in the plots were tumble pigweed, common purslane, sow thistle, little mallow, and burning nettle. Although not a predominant weed hairy fleabane was also found sporadically throughout the orchard. Weed mortality and phytotoxicity were monitored at 1, 2, 4, and 8 weeks after treatment (WAT) during both seasons. First year's data from this study indicated that preemergents indaziflam and rimsulfuron have good potential for weed control in bearing avocado with very little to no phytotoxicity. Similarly, glyphosate and glufosinate, both postemergents, also provided excellent control, however, can have phytotoxicity concerns. We continued this project in fall 2020 and will spraying the last application in spring 2021. Preliminary results for this 2-year study look promising.

SOUTHERN REGION ENTRIES

LIQUID NITROGEN PLACEMENT IN NORTH CAROLINA CORN PRODUCTION

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Side-dressing equipment and technology is emerging to help farmers improve yield. But is it worth the investment in time and equipment? To assist producers in learning more about the benefits of side-dressing and to evaluate the efficacy of different application techniques in North Carolina, we conducted an on-farm research trial. The replicated strip trial was duplicated at a site in the Piedmont and a site in the Coastal Plain.

Treatments:

1) 0 lbs N (demonstration purposes only)

2) 150 lbs N pre-plant (control)

3) 150 lbs N sub-surface center applied with coulter;

4) 150 lbs N surface dribble 4-6" from the corn stalk (Ydrop)

The results showed that the Coulter and Y-drop were significantly similar in yield. While the Pre-plant treatment yielded significantly less. **This site showed that split applications increase yield and that coulter and Y-drop applications are similar.** Applying lay-by N also greatly improves ear leaf concentrations of N as compared to applying all N Pre. Field observations show that making a lay-by application using the Y-drop technology is a faster means of application than using a coulter. This project has been funded for 2021 and will include a cost-efficiency analysis of the different treatments

NUTRIENT UPTAKE AND FOLIAR FERTILIZER EFFECTIVITY IN MODERN SOYBEAN VARIETIES

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Modern soybeans, *Glycine max* (L.), are commonly grown throughout North Carolina. With increasing genetic technology, the influx of foliar fertilizer products, and increased production costs, producers need more research focusing on the ability of soybean plants to uptake nutrients through foliar methods. This study aims to monitor plant and soil nutrient levels over the growing season, assess the limitations of nutrient uptake on yield production, and identify the best growth stage to apply foliar fertilizers according to the nutrient uptake and accumulation of nutrients from the soil. The first year of this study was observational, and focused assessing the nutrient indexes of the soil and the plant throughout the growing season. This was done by taking soil samples (at plant, V2, V6, R2, R4, and R8) and whole plant samples (at V2, V6 R2, R4 and R8) from replicated variety trials in Union and Cabarrus counties. We identified that potassium is a potential nutrient that could be supplemented foliarly due to reduction in the soil index at certain growth stages with no increase to plant index at the same growth stage. Therefore, in the second year of the study, we identified 3 potassium based foliar fungicides to apply at V3, R1, R3, V3/R1 and V3/R3 to assess impact on overall K index and yield impact. A replicated, small plot study was established in Union County. Soil samples were taken at plant and after harvest, while plant samples were taken At the first trifolaite, V3 pre- and 2 weeks post-application, R1 pre- and 2 weeks post-application, and R3 pre- and 2 weeks post-application. We found that only one product at one application time (Smart KB at V3/R1) had a significantly lower reduction in K-index from pre-application to two weeks post-application while all other application timings and products had statistically similar reductions in K index. We also found that there was no significant impact of these products on yield at any application timing.

COMPARING TERRA-SORB TO UGA FERTILITY PROGRAM IN FIRST-YEAR PLANTED PECANS

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Applying 10-10-10 for non-bearing trees remains the standing UGA recommended program for non-bearing trees. There are other products on the market that may provide additional benefit to young trees. Terra-Sorb is a superabsorbent, hydrogel material that claims to increase water-holding capacity of the soil 150 times its weight in water. It has never been researched in Georgia pecans. A trial was conducted in Pierce County, Georgia on first-year planted Excel pecan trees to observe the difference between Terra-Sorb and the UGA Fertilizer program. The four treatments compared were: Terra-Sorb, UGA Fertilizer Program, Terra-Sorb + UGA Fertilizer Program and a control. These trees were planted in December 2019 with 1 pound of Terra-Sorb applied per tree. Tree height and caliper measurements were compared at the end of the season, along with leaf tissue analysis. In the first year, no statistical differences were found in height and caliper measurements, as well as nitrogen, phosphorous, and potassium content in the leaf.

DETERMINING PECAN GROWTH OF POST-PLANT INSECTICIDES DRENCHED ON 1ST-YEAR TREES

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Though Hurricane Michael has forced Georgia pecan producers to re-plant significant acres in southwest Georgia, southeast and northeast Georgia are also planting new acreage in pecan due to lower prices in forestry, livestock and hay agriculture. Newly planted pecan trees are under significant stress factors from bare-root planting to early pests. Products which increase the growth of the trees aid in the survival rate and early production of nuts. Both new products on the market and older products recently labeled for pecans may provide benefit in growth of young trees. This trial observed pecan tree growth on three sites in Georgia following the application of imidacloprid (Admire), flupyradifurone (Sivanto), spirotetramat (Movento), fluopyram (Velum Prime) just after planting. No difference was observed in both caliper and height in the first year. This may be due to only one year of data, to fully determine the impact of these products more data will be collected over the next two years

DOES PEPPER WEEVIL OVERWINTER IN SOUTH GEORGIA

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The pepper weevil, Anthonomus eugenii, is the key pest of pepper wherever it occurs. While the adults can feed on pepper foliage, this pest requires fruiting structures for oviposition and larval development. The primary damage results from grubs feeding within the fruiting structures which frequently causes fruit abscission. Larger fruit which do not abscise are unmarketable because of the presence of the grubs, pupae, insect frass and feeding damage. The adult female deposits eggs in the fruiting structures of pepper, with a preference for small buds and pods, but will oviposit in large fruit as well. The eggs hatch within the fruit and the grub and pupal stage all occur within the fruit. With all of the immature development period spent within fruiting structures, the only stage that can be effectively controlled with insecticides is the adult stage. Because the fruit is directly attacked and even a low percentage of fruit infested can render a field unharvestable, the tolerance for this pest is extremely low. The combination of an extremely low tolerance for damage and being able to only control the adult stage generally makes preventive control a necessity.

EFFECT OF POST-PLANT APPLICATION OF VYDATE L ON CARROT INFECTED WITH SOUTHERN ROOT-KNOT NEMATODE

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Vydate L was applied on a commercial carrot farm in Screven County, GA in a field which was infected with *Meloidogyne incognita*. Telone II (12.5 gal/acre) was applied preplant though field conditions showed lack of efficacy for unknown reasons. Carrots, seeded from 25 Sep to 1 Oct 2019, had stunted growth with nematode galls present on the roots approximately three months after planting. The trial was designed to have 3 treated plots directly adjacent to 3 untreated plots for side-by-side comparisons. Average number of root-knot nematode and stubby-root nematode *(Paratrichodorus, spp.)* before application of the nematicide was 2 and 8 nematodes/100 cm3, respectively. Two applications of Vydate L were made during the growing season on the 15 Jan and on 4 Feb 2020, just prior to rain events. Upon project completion, 1 foot of the twin rows from each bed was dug, carrots were washed and sorted by size and weighed. All treated and un-treated beds were rated on nematode galls on both tap root and fibrous roots at harvest. Three root samples were collected from each row and gall rating was done using a scale of 0-5. Soil samples (one composite sample per bed) were collected at harvest to examine the population density of the nematodes. No phytotoxicity was observed on plant foliage after first and second application of the nematicide. The population density of root-knot and stubby-root nematodes in nematicide treated plots were numerically lower but not significantly different than the nematode count in untreated plots. No statistical difference was found in carrot yield between treated and untreated plots treated

with Vydate L in comparison with untreated plots. Although a statistical difference was not found, based on economic analysis we can see an increase in pounds and financial return. There was a 15.8% yield difference per acre for the large carrots. Overall, the systemic activity of Vydate suppressed root-knot nematode development in infected roots resulting in relatively better nematode control and lower yield loss.

EFFICACY OF PIC-CLOR 60 AND ABOVE-GROUND FUNGICIDES FOR FUSARIUM WILT MANAGEMENT IN WATERMELON

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Fusarium wilt is the most economically important disease of watermelons (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) globally and causes yield losses up to 80% in many southeastern United States fields. With the loss of methyl bromide and minimal options available as labeled above-ground fungicides, it is critical to explore potential integrated pest management (IPM) strategies for the control of *Fusarium* wilt. To assess the efficacy of Pic-clor 60 at different rates, three post-plant soil-applied fungicides, and to investigate their interaction we conducted field experiments at a research park with known history of high *Fusarium* wilt incidence in Cordele, GA. Fumigation occurred at time of bed formation and gassed-off for 22 days before watermelons were transplanted. Prothioconazole (Proline), pydiflumetofen (Miravis), and a biocontrol agent were applied three times starting at-plant and continued at two-week intervals via either drench or CO_2 injection through the dripline. Results in 2019 indicate that on average, fumigated treatments numerically reduced disease incidence when compared to nonfumigated and nontreated check plots. Also, in 2020 plots treated with 300 lbs/A of Pic-clor 60 in tandem with a fungicide statistically lowered *Fusarium* incidence based on field symptoms and vascular discoloration when compared to every other treatment, including nontreated check, except Miravis and Proline alone. Overall, Pic-clor 60 at rates at least 250 lb/A and used in conjunction with Proline or Miravis show significant promise as an IPM strategy in the management of *Fusarium* wilt in watermelon.

EVALUATION OF EFFECTIVENESS AND ECONOMIC RETURNS ASSOCIATED WITH FUNGICIDE APPLICATIONS FOR CONTROL OF AREOLATE MILDEW

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Areolate Mildew (Ramularia areola syn. Ramularia gossypii) is typically a late season cotton disease that appears in the lower canopy, on the underside of bottom leaves. Although this disease appears late in the growing season, it can be of particular concern if it progresses into the mid and upper canopy of the cotton crop. Cotton producers question the potential yield loss from the disease and if fungicide application(s) are warranted. During the 2018 production season, we conducted an areolate mildew trial with the objectives of determining if fungicide applications demonstrated acceptable control of areolate mildew and if there was an economic return associated with fungicide applications and increased lint yield. The Brooks County areolate mildew trial evaluated applications of azoxystrobin (Abound), a Group 11 fungicide, applied at rates of 6oz. and 8oz. Plot treatments included both one and two Abound applications with 10 day spray interval. Single application plots treated at 6oz rate and plots treated twice sprayed with 6oz. and 8oz. application rates,

respectively. All treatments were replicated three times on rows running entire length of field, approximately 1400ft. The treatments were applied in 12 gallons of water at 60 psi with 003 Greenleaf spray tips. The plots were evaluated twice for efficacy of spray treatments and taken to harvest for lint yield. Trial results demonstrated effective 2 week areolate mildew control provided by Abound applications, as well lint yield increases associated with each Abound application.

EVALUATION OF HOST PLANT RESISTANCE IN PEANUT CULTIVARS TO PEANUT BURROWER BUG

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The peanut burrower bug Pangaeus bilineatus (Hemiptera:-Cydnidae), negatively impacts the quality of peanuts especially those produced on non-irrigated acres. In addition, peanuts grown using minimum tillage practices are at increased risk of burrower bug feeding damage compared to those produced using conventional tillage. Each year, significant peanut acreage is planted in non-irrigated fields and managed utilizing minimum tillage systems. Thus, it is important to develop effective management tactics that target burrower bug under these conditions. Host plant resistance has the potential to be a valuable tool against this important economic pest. Experiments were conducted in Brooks County, GA in 2018 and 2019 to evaluate the resistance of peanut cultivars to burrower bug feeding and pod damage. The trials were implemented in three non-irrigated, commercial peanut fields with a history of burrower bug damage. Eleven cultivars were tested over the two year study. The treatments were planted in 18 by 30 feet plots and were replicated four times. Burrower bug populations were monitored throughout the season using pitfall traps and light traps. Yield was determined at harvest, and a subsample of harvested pods was randomly collected from each plot for analysis of injury and grade. Burrower bugs were present at all test locations, but pest numbers and feeding injury varied by test site. GA-12Y had numerically lower injury than any cultivar in all three site years and sustained less than 5% damage in all field evaluations Measurements of the mean force required to penetrate the peanut hull suggest that GA-12Y's hull might be more difficult for the insect to penetrate than other cultivars. This finding will be reevaluated in future experiments. The results of this work provide some evidence that host plant resistance present in commercially available cultivars could play a role in managing peanut burrower bug.

INVESTIGATION OF COMMON MANAGEMENT PRACTICES IN PECAN ORCHARDS AGAINST AMBROSIA BEETLES

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Pecans are one of Georgia's top ten commodities with a farm gate value of $401M (Farm Gate Value 2017). Ambrosia beetles are wood-boring beetles that can cause damage to young pecan trees, resulting in tree death under severe infestations. However, these beetles do not feed directly on tree tissues but rather on fungi that they cultivate inside infested trees. It has been found that ambrosia beetle attacks are associated with stressed trees subjected to the following conditions: frost Damage, flooding, poor soil drainage, drought, and previous injury to tree (Ranger et al., 2010). In GA, the acreage of newly planted pecan trees are increasing (Wells , 2014), and more trees will be planted to replace orchards damaged by hurricanes. Thus, the number of potential vulnerable trees to ambrosia beetle attacks will increase. Pecan growers have existing cultural strategies in younger orchards that have anecdotally demonstrated effectiveness against ambrosia beetles. These tactics include painting with white latex paint, spraying insecticide right after painting the tree, covering with tree guard and spraying insecticide. However, none of these methods were tested for their effectiveness in the pecan system.

LAST EFFECTIVE BLOOM DATE FOR COTTON IN GEORGIA

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Cotton is Georgia's largest row crop with an average of 1.3 million acres being planted annually, and accounting for nearly $800 million in FarmGate Value. Most cotton is planted in the month of May in Georgia which allows cotton to fully mature prior to first frost. As growers increase acres or double crop cotton this planting window is being pushed later into the growing season. Delayed planting reduces the likelihood of the crop reaching full maturity. Cotton bolls

require 850 DD60s to fully mature from a white bloom. Growers typically use a date between September 5 to 15 as the last effective bloom date depending on location. The objective of this study was to determine the last effective bloom date in five cotton producing counties.

This year County Agent's from across the cotton belt in Georgia selected late planting, June 1st or later, commercial cotton fields and once a week starting the first week of September and continuing into the first week of October for a total five weeks tagged white blooms. On the day the Agent tagged the blooms the selected a single row and tagged twenty-five white first position blooms for that week. One week later they moved over one row and did the same for the duration of the five weeks. Once the cotton was defoliated and ready to harvest. The Agent came back and hand harvested all tagged open bolls while noting if the tags positions where harvestable, missing, or unharvest able.

Harvestable bolls from blooms tagged during the three weeks of September were not significantly different. Percent harvestable bolls ranged from 49 to 72 percent which is acceptable retention rates. Blooms tagged during the fourth and fifth week of bloom were the lowest and ranged from 13 to 29 percent.

In conclusion, the environmental conditions experienced during 2020 allowed blooms to mature through the third week of September. 2020 appeared to be a normal year and one year of data supports the hypothesis that positions which bloom between September 5 and 15 are likely to mature.

OBSERVATIONS OF GROWTH, SCAB CONTROL AND PHYTOTOXICITY FROM PHOSPHITE ON NON-BEARING TREES

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Phosphites are a reduced form of phosphate. In pecan production, phosphites are used as a fungicide and are very effective at controlling pecan leaf scab. With the greatest effect of scab on bearing trees, non-bearing trees do not need strict fungicide programs. In recent years, phosphites were researched for additional nutrient benefits. As a nutrient, phosphite is not available to the plant with its conversion in the soil found to be too slow to be agriculturally relevant (Thao et al, 2009). Phosphites were found to suppress the developmental response of plants with P deficiency as well as mimic P in some plants with P deficiency (Thao et al., 2008). In addition to nutritional benefits, this study was conducted to see if phosphite use translated into a horticultural benefit for non-bearing pecan trees. Four treatments of differing rates and intervals of K-Phitewere replicated four times on no-bearing pecans. Height and caliper growth were compared as well as leaf nutrient samples compared.

ON-FARM EVALUATION OF VARIETIES CONTAINING THE WZ GENETICS FOR BLACK SHANK RESISTANCE, YIELD AND GRADE

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Variety selection has long been recognized as a valuable part of a black shank management program. Considering the limitations of FL 301 genetics and the collapse of the Ph gene there is a constant need for new sources of resistance to black shank. One new source is the Wz genetics derived from Nicotiana rustica. Breeding lines and ultimately varieties incorporating this resistance have been field tested in Georgia. A test of Breeding lines in 2013 had seven entries including NC 1071 (a breeding line souhigh resistance to black shank in farm trials. Block trials (4-5 acres) grown at multiple locations have found both NC 1226 and NC 1960 are capable of producing tobacco with high yields and good grades. rce of the Ph gene), K 326, NC 71, and NC 196 that developed greater than 80% Black Shank. Twelve Entries incorporating the Wz genetics developed less than 10% Black Shank. The first variety released containing this resistance, NC 1226, was field tested in 5 locations across Georgia in 2017 and showed 92% control of black shank relative to K 326. NC 1226 and a second Wz variety, NC 1960 not yet released, have consistently shown resistance.

TESTING EFFICACY OF HYDROSHIELD PRODUCT ON THE REDUCTION OF ROT AND PHYTOTOXICITY OF EUROPEAN AND FRENCH AMERICAN HYBRID WINE GRAPES IN GEORGIA

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The objective of this project was to evaluate the effectiveness of the novel, food-grade, agricultural product "HydroShield", a hydrophobic plant cuticle supplement, to manage the pervasive wine grape rot complex 'sour rot'. Hydroshield produces a hydrophobic spray film around fruit, preventing water ingress during wetting events (rain or dew). It has also been reported to increase cuticular thickness and decrease spotted wing drosophila (SWD) penetration and oviposition in other commodities. Sour rot is a complex disease; drosophila insects, to include SWD, transmit yeast and acetobacter to damaged grapes where these pathogens establish disease symptoms – producing the equivalent of vinegar in the grapes and rendering them useless for wine production. Decreased drosophila activity in grapes would theoretically result in decreased sour rot. Therefore, two HydroShield formulations were tested for their effectiveness as indirect sour rot management tools in wine grape vineyards in north and west Georgia. Both Hydroshield formulations were applied at a 0.5% v/v rate, calculated to deliver 50 gallons of total spray volume per acre. At each location, five replications of each treatment were applied to a randomized complete block with a CO_2 backpack sprayer to runoff. An untreated control was included. Applications were initiated on BB or pea-sized fruit, depending on phenology at project initiation, and were conducted at approximately two-week intervals till shortly before harvest. All other IPM practices were those utilized and provided by the vineyard managers for each site. Test were conducted in Carroll, Fannin, Lumpkin, Union, and White counties. Where observed, sour rot incidence (% infected clusters) and severity (average % damage per cluster) were rated at commercial harvest on all clusters within an experimental unit. Efficacy of Hydroshield against sour rot was not consistently observed. No phytotoxic responses were observed on fruit at any location, but significant leaf damage was observed on Blanc du Bois and Vidal Blanc hybrids, and very minor damage was confirmed on Pinot grisio. Marginal leaf burn was observed with all three varieties where damage occurred, but other symptoms, such as yellowing and bronzing of leaves, was also observed on some varieties.

USING COW MANAGER TO UNDERSTAND BEHAVIORAL AND PHYSIOLOGICAL DIFFERENCES IN BEEF CATTLE DURING WEANING

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The Northwest Georgia Research and Education Center uses the CowManagerÒ System, which is a tag-based sensor system to electronically record animal movement. The objectives of this study are twofold. The first objective was to observe differences in cattle managed under two weaning environments. The second objective was to better understand the CowManagerÒ System's ability to be used in beef cattle research, During the 22 days of CowManager recorded activity pre-weaning, heifers with genetics for High Residual Average Daily Gain (RADG) spent an average of 390 minutes eating, while Low RADG heifers spent an average eating time of 334 minutes per day (P=0.001). The CowManagerÒ data recorded in this study suggests that selection for various carcass traits and performance traits such as RADG do impact an animal's physiological behavior. Additionally, behavioral systems, such as CowManagerÒ, can serve as an excellent tool in Extension education programs to illustrate the impact of genetic selection and animal management on animal behavior and welfare.

DELAYED HEXAZINONE APPLICATIONS UNVEIL IMPROVED BRUNSWICKGRASS (PASPALUM NICORAE PARODI) CONTROL

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Brunswickgrass (*Paspalum nicorae* Parodi), is a problematic weed in summer perennial grass pastures in the southeast. In Florida we have seen increasing pressure to control this weed contaminate as it is becoming a major threat to livestock and bahiagrass seed industries. This rhizomatous grass is refused by cattle and seed could potentially restrict sales of contaminated bahiagrass seed lots further. Bahiagrass seed contaminated with brunswickgrass has been denied distribution in Australia and other countries

where bahiagrass seed has been imported from the U.S. This presents a major problem for the bahiagrass seed industry with an estimated $18 million in annual seed sales. Currently, management options are limited; therefore, the objective of this research is to develop a management plan for Brunswickgrass in Bahiagrass seed production fields. In 2019, an application timing study was established assessing control differences between month and rate. Applications were made monthly starting in May until September at rates of 0.56, 0.84, and 1.12 kg ai ha^{-1}. In the timing study, there was no rate by month interaction at 30 or 365 DAT, however, both month and rate were significant. Hexazinone at 0.56, 0.84, and 1.12 resulted in 81, 85, and 95% control at 30 DAT. Application of hexazinone in May resulted in the lowest level of control (63%), but all other application timings resulted in control of at least 86%. At 365 DAT, 0.56 kg ha^{-1} resulted in 56% control, and at least 74% control was achieved with the higher rates. Similar to 30 DAT, the May application timing resulted in the lowest level of control by 365 DAT (34%), whereas all other timings resulted in similar levels of control of at least 71%. Overall, these results are promising in the fact that we are seeing some initial success using hexazinone for Brunswickgrass management. However, it is evident that multiple annual applications may be necessary to deplete the soil seed bank. Also, applications should not be made prior to June for optimal activity.

VIBURNUM DOWNY MILDEW CONTROL: AN ACTION PLAN FOR GROWERS

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Central Florida nursery growers have reported disease management challenges since 2004 impacting the production of ornamental *Viburnum* spp. Reported symptoms included blighting and rapid defoliation that were indicative of downy mildew. Growers indicated that common labeled fungicides failed to provide acceptable levels of disease management. Beginning in the spring of 2020, symptomatic plant samples were collected from local nurseries. Identification of isolated fungi, revealed the presence of multiple pathogens throughout the growing seasons (spring, summer, and fall), including *Plasmopara* sp., *Cercospora* sp., *Corynespora* sp., *Colletotrichum* sp., *Phoma* sp., *Phylosticta* sp., and *Pestalotiopsis* sp. Several isolates were collected and preserved for subsequent pathogenicity testing. Subsequently, two trials were conducted at a commercial nursery, to evaluate the performance of a range of fungicides. Both trials utilized natural pathogen populations present on diseased plant materials, with overhead watering and fertilization per grower standards. The first trial, conducted in July thru August, evaluated thirteen fungicides available to nursery growers. The second trial, conducted in September thru October, focused on seven fungicides. Both trials included a non-treated control, with all treatments replicated (n=6) and arranged in randomized complete blocks. Disease severity, based on percent symptomatic foliage, was rated weekly and used to calculate Area Under Disease Progression Curve (AUDPC). Initial plant samples collected in May, identified downy mildew (*Plasmopara* sp.), *Cercospora* sp. and *Colletotrichum* sp. as the primary pathogens. However, additional later sampling failed to find any sign of downy mildew. Rather, isolations recovered *Colletotrichum* sp., *Corynespora* sp., *Phylosticta* sp., *Phoma* sp., and a *Pestalotiopsis* sp. Leaf symptoms were similar to those commonly associated with downy mildew. Not surprisingly, fungicides that target oomycetes (i.e., *Plasmopara* sp.), containing ametoctradin, cyazofamid, dimethomorph, fluopicolide, mandipropamid, mefenoxam, and oxathiapiprolin, failed to statistically reduce disease severity relative to the non-treated control based on AUDPC. Benzovindiflupyr, difenoconazole, fluxapyroxad, and pyraclostrobin fungicides that typically target true fungi, statistically reduced disease severity. Copper sulfate and mancozeb, or a systemic fungicide, flutriafol, failed to reduce disease severity, while a generic phosphite gave an intermediate level of control. Results stress the importance of an appropriate disease diagnosis to avoid making an ineffective fungicide application.

EFFECTS OF AMINOPYRALID HERBICIDES ON FORAGE BERMUDAGRASS YIELD

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Anecdotal evidence from county extension agents and farmers suggests that aminopyralid herbicides may reduce bermudagrass (*Cynodon dactylon*) forage yield. Those aminopyralid herbicides commonly used for broadleaf

weed control include: GrazonNext HL, Milestone, Chaparral, and DuraCor. The purpose of this research is to determine the effects of varied rates of aminopyralid herbicides on forage yield. The on-farm research site was conducted in a 'Greenfield' bermudagrass hayfield. The site had a dense stand of bermudagrass with limited weed pressure to ensure reduced variability due to non-uniform forage growth and the reduced yield that would have occurred if broadleaf weeds were present. Soil test results indicated the soil ph as well P and K were optimum. A standard treatment was included that contained 2,4-D amine, dicamba, and metsulfuron (Brash plus metsulfuron) to determine any lost yield due the reduction of broadleaf weeds. Treatments were randomized using a complete block design with 4 replications. Nitrogen was applied at 100 pounds per acre on June 16th, five days after the first hay cutting. Herbicides were applied June 24th, 13 days after the first hay cutting. Plots were harvested and forage dry matter yield was measured July 21st, 27 days after herbicide application. Yield response varied among the treatments. The 32 fl. oz/acre rate of GrazonNext HL reduced yield by 12% compared to the standard or control treatments ($P<0.05$). The forage yield did not differ between the control and all other treatments ($P<0.05$). To account for application accuracy, sprayer volumes were measured before and after application to determine actual active ingredient applied rates as compared to the intended rates. Further research is needed on other bermudagrass cultivars and in other environments. With the potential for high aminopyralid rates to affect bermudagrass yield, several implications can be a drawn: Sprayers should be properly calibrated. Weed populations should be at a threshold that necessitates an application. Use lower rates of aminopyralid if efficacy is the same for a particular weed species. Choose an alternative herbicide to aminopyralid if satisfactory control can be achieved.

IMPACT OF COVER CROPS ON PROFITABILITY AND SUSTAINABILITY IN COTTON

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Soil health is a term that is growing in popularity. This term is defined very broadly as "the continued capacity of the soil to function as a vital living ecosystem to sustain plants, animals, and humans" (USDA-NRCS) and can be interpreted very differently depending on the context of its application. What can be more easily defined is the implementation of "soil health" practices, which consist of not disturbing (tilling) the soil while keeping living roots growing in the soil for as many months out of the year as possible. In the Arkansas row crop setting, this consists of implementing no-till as well as utilizing cover crops during fall and winter months. Many benefits can be achieved according to which cover crops are planted including improved soil structure, increased water infiltration rates, increased water holding capacity, decreased erosion, increased soil nitrogen content, decreased weed pressure for the following cash crops, and to decrease the effects of sand blows. These benefits can have positive economic implications, especially in years when environmental conditions are conducive, and the cover crop is properly planned/managed. With a side by side comparison of a cover crop versus a non-cover crop practice, economic and management differences can be observed. To track the effects of management differences on each side of the field, soil samples were taken to measure the change in soil structure (bulk density/aggregate stability), nematode populations, and soil fertility. A farmer in Clay County implemented a three-year cereal rye cover crop demonstration on one half of his cotton field while the other did not receive a cover crop. The goal was to see if there is a benefit to the cover crop as opposed to not having one, and to promote the use of cover crops throughout Clay County.

WATERSHIELD WEED CONTROL IN PONDS

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Watersheild, *Brasenia schreberi,* is a leafy floating foliage that reproduces by insects or wind cross-pollinating the flowers. With very little to no physical or biological control methods, this plant can quickly takeover ponds and lakes if not managed. Floating leaved plants, which anchor into sediment and have leaves that remain at or near the water surface, can be difficult to control. Foliar treatments can be easily washed off the leaf surface with minimal wave action, Watershield being a good example of this issue.

A survey was conducted in May 2020 to evaluate and assess the impact of Watershield to a 16 acre, 200,000+ cubic yard pond. Watershield had covered over 75% of the pond. This pond is a significant investment for the producer and the detriment from the weed was collectively destroying this asset. The producer primarily utilizes this pond for recreational purposes.

Research on Watershield has demonstrated that it can be difficult and expensive to control. Prevention is not practical since it can be brought in, unknowingly, and established by various birds, small animals, humans, wind/ weather etc.

Demonstration plots were conducted on August 18, 2020 and were evaluated and rated on September 9, 2020. Reference supporting chart and photo materials.

Stingray @ 1 qt/acre, Aquatic 2,4-D @ 1 qt/acre, Aquatic Glyphosate @ 1 qt/acre, Copper Sulfate @ 1 lb/acre, and Imazapyr @ 1 qt/acre were evaluated. Our goal was to target a herbicide application that would not only be effective but that would not be cost prohibitive.

Our conclusion was that, depending on the cost that the producer was prepared to dispense versus the desired end results, Aquatic 2, 4-D or the Aquatic Glyphosate was the most practical control option.

Online social media platforms were utilized as educational resources as well as one on one consultations (Covid restrictions considered) to provide producers with the information needed to make educated decisions to combat this weed.

NORTHEAST REGION POSTERS

CHARACTERIZATION OF FATTY ACIDS FROM BLUEBERRY AND CRANBERRY FLOWERS AND THEIR EFFECTS ON THE FRUIT ROTTING PATHOGEN COLLETOTRICHUM FIORINIAE

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The bloom period is the critical disease control window in blueberry and cranberry, yet the biological factors underpinning this period are only now coming to light. Previously, aqueous and chloroform-based floral extractions were shown to stimulate secondary conidiation and appressorial formation in *Colletotrichum fioriniae*. Floral chemical signals also decrease wetness period requirements and temperature optima of *C. fioriniae*. Thus, it appears that plant signals produced or present during bloom play a critical role in the disease cycle of this latent fruit rotting pathogen. Initially floral nectar sugars were thought to be the main source of pathogen stimulation, however when compared directly to floral extracts, sugars were significantly less stimulatory. The next logical source of stimulation; the waxy cuticle covering the surfaces of plants, moreover the interface between host : pathogen. This surface composed primarily of cutin (hexadecanoic and octadecanoic fatty acid derivatives). In order to better understand the fatty acid composition within multiple blueberry and cranberry tissues, cultivars, and extraction types tissues were extracted with chloroform and subjected to a GC-FAME (GC-MS) procedure (characterization of C9:0 – C20:0 fatty acid derivatives). Identified and characterized fatty acid concentrations were estimated for each tissue by comparing to a standard curve. The samples clustered by crop, tissue, and extraction type. The aqueous extractions from both crops were found to have three compounds in common; hexadecanoic (C16:0), octadecanoic (C18:0) and decanoic acid (C10:0) fatty acids, meaning that cutin monomers were capable of being mobilized into water. Hexadecenoic acid was found to be most abundant during bloom. The bioactivity of fatty acids was assessed in a glass coverslip bioassay. Decanoic acid was found to stimulate secondary conidiation, hexadecenoic acid was found to stimulate appressorial formation and minimal conidiation, and octadecanoic acid was non-stimulatory. It appears likely that hexadecanoic fatty acid plays a crucial role in pathogen recognition of host surfaces.

ROLE OF NANOTECHNOLOGY IN PEST MANAGEMENT AND FOOD SAFETY

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A large numbers of plant pathogens have developed resistance against multiple insecticides, fungicides, and bactericides, which necessitates the use of higher concentration and repeated use of pesticides. We are proposing the use of zinc oxide (NZO) nanoparticles (NP) to manage fire blight (*Erwinia amylovora*) in apple, bacterial leaf spot (*Xanthomonas campestris* pv. *prun*i) in peach, *Escherichia coli, and Fusarium oxysporum* f. sp. *lycopersici* (FL) *and Fusarium solani* (FS) in soybean. NP interferes with the charge distribution across plasma membranes, promotes chelation of essential nutrients, and generates reactive oxygen species. Since the mode of action of nanoparticles is physical, pathogens cannot develop resistance against NP. We expect NZO can effectively manage selected plant pathogens at lower concentrations. *In vitro* studies were conducted using 0.25, 0.5, 1, 2, 3, 4, 5 mM concentrations of NZO (10-30 nm diameter) to suppress bacterial populations. Similarly, 5, 10, 15, 20, and 25 mM concentrations of NZO (10-30 nm; 80-100 nm) were used to manage fungal pathogens. Based on *in vitro* results, 25 mM concentration of NZO (10-30 nm) was selected to manage FL and FS compromised roots in soybean. This concentration completely inhibited the growth of FS (NZO; 10-30 nm) and FL (NZO; 80-100 nm) *in vitro*. Our results showed that 0.25 mM, 0.5 mM, and 2 mM NZO (10-30 nm) concentrations completely suppressed the growth of *Erwinia amylovera, Xanthomonas campestris* pv. *prun*i,

and *Escherichia coli* respectively. *In vivo* studies showed NZO (25 mM; 10-30 nm) mediated improvement in FS and FL compromised soybean roots. NZO treatment inhibited tissue senescence in primary root and increased the number of secondary and tertiary roots in soybean. NZO also increased the number of secondary and tertiary roots in control plants. We did not observe the negative effects of common zinc oxide (CZO) on bacterial and fungal strains at lower concentrations. NZO formulations can be used to manage these selected plant pathogens.

NORTH CENTRAL REGION POSTERS

SUSTAINABLE FUNGICIDE AND NITROGEN MANAGEMENT TO MALTING BARLEY

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Malted grains, principally barley *(Hordeum vulgare L.),* are essential raw materials for brewing. Demand is increasing for more sustainable crop production practices and locally grown brewing ingredients, including malting barley for a nationally expanding microbrewing industry. At the same time, climate change makes it imperative to identify new production zones and cropping systems for malting barley using sustainable production practices. Sustainable malting barley management added to an existing cropping system rotation such as corn, soybean, and alfalfa can provide an alternative crop in many of the cooler growing areas of the nation.

Purpose of the study was to determine sustainable economic application rates of nitrogen and fungicides. University of Wisconsin-Madison Division of Extension faculty investigated production practices of nitrogen and fungicide applications to malting barley varieties and their effect on yield. Trials tested specific varieties with nitrogen rates at 0, 30, 60, and 90 pounds per acre. The fungicide application trial investigated timing of application and fungicide product efficacy to malting barley for control of Fusarium Head Blight and the effect on yield. The study was conducted at two locations at Buffalo County and Chippewa County in 2018, 2019, and 2020. Results indicated significant differences within the nitrogen and fungicide applications to specific varieties during specific years and locations.

DETERMINING AN OPTIMUM SOYBEAN SEEDING RATE

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Soybean seeding rate trials have been conducted for three years in Tuscarawas County. The objective of these trials is to understand the impact of various seeding rates on final yield. Results are used by growers to determine how seeding rate may impact field-by-field profitability. Using a strip trial format, studies are replicated at least three times in the field.

Over the three-year period we have evaluated seeding rates ranging from a low of 80,000 seeds per acre to a high of 240,000 seeds per acre. During the growing season, regular assessments are made to observe emergence, growth, and the presence of weeds, diseases, and insects. At harvest, yield and moisture are recorded, and an economic analysis is conducted to determine return above seed cost for each treatment. A statistical analysis is also completed to determine any differences in treatments.

Our research has shown that reducing soybean seeding rates can be accomplished without negatively impacting final yield. We have determined that if farmers reduced their seeding rate by 20,000 seeds per acre, assuming no reduction in yield, Tuscarawas County soybean growers could save $17.12 per acre for a total savings of $246,528.

EVALUATING NITROGEN PLACEMENT METHODS IN CORN

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This on-farm research trial evaluated two nitrogen application methods to corn: coulters and Y-drops. Corn seeding rate was 31,000 seeds per acre. A total of 45 gallons of 28% nitrogen was applied using each application method and replicated four times in this 10-acre field. The objective of this study was to evaluate whether either method resulted in an increase in corn yield.

The corn was planted on May 17th and grew well, with little evidence of insect or disease pressure. While planted timely, this site received less than 1.5 inches of rain near the time of pollination and resulted in lower-than-expected yields. The results of this study did not show a statistically significant difference in final yield. Fisher's Protected Least Significant Difference (LSD) test at alpha = 0.1 calculated an LSD of 11.98 and a Coefficient of Variation (CV) of 3.68%.

Additional research over multiple years and various growing conditions is needed to further evaluate these nitrogen application methods.

GROWING MALT BARLEY FOR YIELD IN QUALITY IN NORTHWEST OHIO

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Two large regional malting facilities within a 100 mile radius of Northwest Ohio are anticipated to come online in the next 2 years to supply not only the 336 craft breweries (2018) but also the existing macro breweries in Ohio. These malting facilities will be looking to contract with farmers in the region to grow high quality malting barley. Additionally, farmers in the region are looking for crops to diversify their rotation, improve water quality and add profitability.

Since 2017, a malt barley peer learning group (research cohort) was established in Northwest Ohio. In anticipation of a growing demand for specialty malt to supply the craft brewing industry, a group of farmers worked with local Extension educators and other agricultural professionals to evaluate the possibility of growing high quality, high yielding winter malting barley in Northwest Ohio.

Farmers met regularly and shared concerns, questions and practices with each other. Whole fields served as both replicated and randomized data points to create simple averages. In 2018, a group of eight barley farmers produced baseline production data (simple averages) of 86.5 bu/ac dry grain yield, 13.5% harvest moisture, and a June 26th harvest date. Average quality data resulted in 11.6% protein, 87.7% plumpness, 98.5% germination and .5 ppm DON. In 2019, nine farmers with 12 field sites averaged 50.6 bu/ac dry grain yield, 13.7% harvest moisture, and a July 6th harvest date. Quality data from 2019 averaged 10.4% protein, 92.0% plumpness, 97.4% germination and 4.6 ppm DON. In 2020, 13 growers with 26 field sites averaged 71.7 bu/ac dry grain yield, 13.5% harvest moisture, and a June 24th harvest date. Quality data from 2020 averaged 10.3% protein, 78.0% plumpness, 98.4% germination and .2 ppm DON. Implications from the research indicate that farmers in the region can grow high quality and good quantity of malting barley if markets exists and the local weather cooperates.

Field tours, farmer panels, and regional research meetings were conducted to throughout 2018-2020 to transfer the knowledge from the research cohort to other farmers.

Cohort research data is shared on www.go.osu.edu/efields website and printed booklet.

IMPACTS OF FERTILIZER MANAGEMENT ON SOIL HEALTH OF SMALL FARMS IN STARK COUNTY, OHIO

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Fertilizer management is both a source of concern and an opportunity for ongoing education in Ohio as high nutrient loads in water bodies have led to harmful algal blooms in Lake Erie, the Ohio River, and lesser lakes and waterways. Many small farms produce both livestock and crops and typically include manure in their fertilization methods. A county-wide on-farm research project known as the Stark Sustainable Soil Initiative began in 2020 with the objective of determining how farm management practices affect soil health and crop production on small farms located in Stark County, Ohio. Of the twelve participating farms, five utilized manure or a mix of manure and synthetic fertilizer. All farms had the same soil type (Canfield silt loam) but differed in the amounts of fertilizer applied as well as the crops produced. Solid manure, including livestock bedding material, was the form of manure fertilizer used. Soil samples were collected in September of 2020 and analyzed for nutrient content and soil health properties. Soil samples were collected to a depth of twelve inches. Two of the fields sampled had more soil test phosphorus (154 mg kg^{-1}) than was recommended for crop production according to the Tri-State Fertilizer Recommendations. Three of the fields had less soil test phosphorus (13 mg kg^{-1}) than recommended for crop production. All other soil health parameters including soil organic matter, bulk density, and wet aggregate stability were similar. The two fields with high soil test phosphorus were located near livestock barns and resting areas. Producers took advantage of this convenience rather than haul manure to a more distant location or a designated manure storage facility. Identified fields with low soil test phosphorus also experienced an equipment issue where implements used for manure application did not have enough storage capacity for the high volume of manure to be applied resulting in multiple trips for manure application. These challenges coupled with a lack of soil and manure testing for nutrient content revealed both overapplication and underapplication of manure fertilizer. Funding for this project was provided by the Herbert W. Hoover Foundation.

MECHANICAL WEED CONTROL IN PASTURES

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Maintaining a quality pastures 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 can lower forage crop quality and productivity if left uncontrolled. Mechanically mowing pastures is one method producers can use if they do not want to spray herbicides. The purpose of this study is to determine if weed populations in pastured forages could be changed or reduced by varying the timing of 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 only mowing, (3) July only mowing, (4) August only mowing, (5) September only mowing, (6) June and August mowing, (7) July and September mowing, and (8) mown each month; June-July-August-September. The overall weed dry matter (DM) pounds/acre (lb/ac) shows that mowing in June or June/August were higher than all other treatments except for the July only. The June treatment also yielded the most forages of 8152.0 lbs/ac on a DM basis. Mowing pastures in June, July, August and September resulted in the lowest quantity of forages of 4878.0 lbs/ac DM.

SOFT RED WINTER WHEAT RESPONSE TO NITROGEN RATE ON AN OHIO LAKEBED SOIL

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Producers rely on university research to apply the proper rate of nitrogen for optimal wheat yields and to reduce the risk of nutrient loss into the environment. Few nitrogen rate studies have been completed in recent years in the Eastern Corn Belt. The objective of this study was to determine the nitrogen rate for optimal yields for soft red winter wheat. AGI 217B, a medium-maturity variety, was established in the fall of 2019 on the OARDC Northwest Agricultural Research Station near Custar, Ohio. Seven nitrogen rate treatments were applied as urea-ammonium nitrate between greenup and early stem elongation (Feekes Growth Stage 6). Rates included in the study were 0, 40, 70, 90, 110, 130, and 150 pounds per acre. All treatments received 30 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, and spike number were measured for each plot. Yields were 31.1, 45.7, 73.9, 84.3, 90.2, 88.2, and 86.9 bushels per acre for the 0, 40, 70, 90, 110, 130 and 150 nitrogen rates, respectively. The trend was for grain yield to significantly increase with larger nitrogen rates until the 90 pound per acre rate, $p<0.01$. Yields were similar for treatments larger than the 90-pound treatment. Thus, for this study, an optimal spring nitrogen rate occurred at the 90 pounds per acre nitrogen rate.

DRINKING WATER NEEDS ASSESSMENT OF THE MIDWEST

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Private well and drinking water safety have come to the forefront of rural water issues in the past few years, yet few educational resources are addressing the topic. As part of the North Central Agriculture and Natural Resources (NCANR) Academy (2019-2022) a group of four Extension Educators throughout the Midwest identified a need for specified resources based on drinking water. A Qualtrics survey was designed to assess what educational needs were specifically needed around the Midwest with much of the focus on Minnesota, North Dakota, Indiana, and Oklahoma. Seventeen questions were asked. The survey was sent out via a sharable link and advertised over social media, through group meetings, and local newsletters in specific locations, January 15th – February 7th, 2020. There were 271 responses. Forty percent of the audience used their water for human drinking water, and 38% of them had never tested their drinking water. Four main topics that the audience was most interested in were: How and when to test well water Factors affecting water quality, Aquifer formation, and groundwater location, and What to do if a drinking water test shows a contamination issue. The main source of information that

the audience used was from Extension and they preferred to get their information from physical handouts and online websites, followed by in-person presentations. The NCANR Academy group is working to address these educational needs and will be designing and deliver a program available in the summer of 2022.

Poster Session

Extension Education

2021 NACAA

106th
Annual Meeting
and
Professional Improvement Conference

Virtual

1st Place

BEGINNER BEEKEEPING SERIES

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Georgia is historically in the top five for number of honey bee (*Apis mellifera*) colonies. With honey bees facing a myriad of pest and disease challenges, Georgia is a prime location for educational programming related to honey bee physiology, health, and management. The Lanier and Clinch County Extension Agriculture and Natural Resources (ANR) Agent introduced basic beekeeping concepts to a group of primarily adult learners, with almost monthly classes to walk students through the seasonal needs of a honey bee hive. Classes included a hands-on hive building workshop, honey bee biology and anatomy, pollination, overview of pest and diseases, regional nectar sources, and a honey extraction demonstration with honey varietal tasting. Students were also given the option to purchase bees and equipment to start their own hives. Primary objectives of the Beginning Beekeeper Series were to increase awareness of the honey bee's contributions to agriculture and the food supply through pollination, lay a foundation of knowledge to be competent and responsible beekeepers, and be equipped with ways to contribute positively to honey bee health and well-being. An average of 11 students attended each of the six classes throughout the year, with sessions lasting approximately three hours. Pre- and post-evaluations with Likert scales were administered in January and September to gauge change in self-reported knowledge on beekeeping topics including woodenware, bee biology, installing packages, pests and diseases, floral sources and feeding, honey harvest, and fall and winter activities. Overall self-reported beekeeping knowledge increased by an average of 70.9% across all topics. Additionally, 100% of respondents agreed that the Series gave them a good overview of honey bees and the basics to get started in beekeeping. The Beginner Beekeeping Series enhanced participants' knowledge of honey bees as a complex biological system and how to care for them during their first season. The ANR Agent intends to continue to offer the Series in the future, as well as incorporate guest speakers for more advanced topics.

2nd Place

INTEGRATION OF VIRTUAL PROGRAMMING INTO BEEF CATTLE PRODUCER AND EXTENSION AGENT EDUCATION

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In-person events such as field days and workshops are historically fundamental to demonstrating hands-on management techniques and fostering communication with livestock producers. However, when faced with the inability to hold events during the COVID-19 pandemic, extension agents turned to alternative platforms for continued communication with producers. LSU AgCenter agents hosted a live webinar entitled "Sustainability during Turbulent Markets" to bring cattle producers information on management strategies during a time of great instability. This initial webinar included 41 active participants during the live event and an additional 40 views within one week of posting online. Importantly, responses from this event prompted creation of the Beef Brunch Educational Series. This online series includes live monthly webinars and bi-weekly news updates. It is designed to maintain engagement and bring pertinent information, further allowing agents to present research-based information, timely management recommendations, and industry news to clientele throughout the state. Webinars are hosted live at 10:30 a.m. on the second Tuesday of each month, offering producers the opportunity to engage with presenters. Webinars are also recorded for online distribution through the LSU AgCenter website, LSU AgCenter-Livestock YouTube channel, and podcast platforms such as Apple, Google, and Spotify. Bi-weekly news updates are released every other Monday at 10:30 a.m. on the same platforms. News updates feature weather and pasture conditions, market outlooks, management tips, events, and current topics in the beef industry. Webinar engagement on all media platforms averages 219 viewers. Similarly, engagement in bi-weekly news updates through all platforms averages 95 views. When asked, 50% of viewers strongly agreed and 35% agreed that information learned in the webinars would be applied to their operations. Livestock agents utilize this program for professional development, with 75% strongly agreeing or agreeing that webinars increased confidence to apply presented knowledge in their programs. Likewise, 70% stated they have or plan to incorporate news update content in their programming. Thus, increased views, positive feedback, and requests for more information illustrate an interest in continuing the Beef Brunch Educational Series beyond the COVID-19 pandemic and optimistically developing it into a leading informational source for beef cattle producers in Louisiana.

3rd Place

MONITORING ARIZONA RANGELANDS: AN EVALUATION OF COOPERATIVE MONITORING PROGRAMS

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Throughout the state, University of Arizona Cooperative Extension (UACE) has been involved in rangeland monitoring as part of a collaboration with the Bureau of Land Management and U.S. Forest Service since 2000. These programs assist agency staff and ranchers in collecting long-term vegetation trend data that can be used for adaptive range management or during the grazing permit renewal process. A recent evaluation of the cooperative monitoring programs found agency staff and ranchers value the monitoring programs because they provide information that aids them in making science-based management decisions. Multiple ranchers in focus groups expressed they felt the future of their ranches depended on having reliable monitoring data like that provided by Extension. Ranchers who were involved in UACE monitoring programs were more likely to participate in formal monitoring on their ranch that those not involved. Of the ranchers that received services, 88 % felt it had increased their knowledge and understanding of rangeland monitoring "a lot" or "somewhat," and 56% indicated that it had affected their ranch or range management activities. Cooperative Extension workshops were also listed as the second most popular source for information (76%) to improve ranching operations, second only to other ranchers (82%). Given the overall value and trust placed in Extension by both ranchers and agency staff, it is clear Extension plays an important role in the future of rangeland management in Arizona.

Finalists

PURDUE EXTENSION: REACHING A GLOBAL SMALL RUMINANT AUDIENCE

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[5]Extension Educator, Purdue Extension, Columbus, IN, 47201
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The small ruminant inventory in Indiana has increased, on average, by 120% since 2016 (National Ag Statistics Survey, 2016 and 2020). Many of these inventory numbers are from first-time sheep and goat owners that have many questions they want answered. In Fall 2019, the Purdue Small Ruminant team began "ruminating" on the idea of an online "lunch 'n learn" style program to deliver this needed information to our clients. With the onset of the coronavirus and quarantining, this idea quickly turned in to a successful international program.

The first ten programs took place March 26 to May 28 on every Thursday. Once this first set of sessions took place, we adjusted the schedule to once a month through the end of the year (and have continued on in to 2021).

Seventeen Small Ruminant Lunch 'N Learn webinars were delivered live to over 500 individuals from 22 different states and two Canadian provinces. 1,167 recorded viewings have taken place to date. Six Purdue Extension Educators, four Purdue University campus specialists, and one veterinarian delivered the programming in 2020.

Of the attendees:

73% owned/managed goats and 27% owned/managed sheep

33% had herds and flocks of 1-10 animals

20% had herds/flocks of 11-20 animals

10% had herds/flocks of 21-20 animals

7% had herds/flocks of 31-50 animals

12% had herds/flocks of 51-100 animals

As a result of the Purdue Small Ruminant Team Lunch 'N Learn presentations:

11% of participants planned or had implemented sanitary milking procedures

55% of participants planned or had implemented checking pastures for toxic plants

42% of participants planned or had implemented prenatal vaccinations of females and gathered birthing kits

75% of participants planned or had implemented forage tests on their hay

75% participants planned or had implemented matching nutritional needs with production stage of animals

50% of participants planned or had implemented selective deworming practices

10% of participants have reported a decrease in their costs associated with raising their small ruminants

35% of participants have increased their overall confidence in raising Small Ruminants

The Purdue Small Ruminant Lunch 'N Learn series is continuing in 2021.

TAKING FARM SHOW DEMO PLOTS TO A VIRTUAL TOUR

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Extension success is about change and adaptation to the current conditions and needs of our clientele is critical. 2020 was a year of unknowns and hopes that we would soon be back to in-person field days and events around the next corner. Each year, as part of Farm Science Review (FSR), the OSU Agronomic Crops team works to provide a demonstration area showcasing agronomic crop research being conducted all across Ohio. This area can hold up to 100 un-replicated demonstration plots and has a tent for tabletop demonstrations and literature resources. As conditions continued to change throughout the spring, the planning committee continued to plant these demonstrations in hopes of a traditional show. In mid-July it was announced that FSR would be held as a virtual event. The committee decided to do a 360º virtual tour of the plots and include short educational videos. An online platform called Kuula was used to build the plot tour using images taken with a GoPro Max 360. The tour's home page on the Kuula website has had over 11,000 views. The virtual tour has been viewed more than 2,000 times of which only about 1,000 of those views came during the 3-day virtual FSR event. The rest came from people exploring Kuula. The tour included embedded educational videos and posters that explained the research results being demonstrated in the various areas. Individual video views ranged from 89 to 500+ views as part of the tour. They were also shared through other social media channels such as Youtube and Facebook, receiving an additional 300 views through these postings. This virtual tour has allowed us to reach a much wider audience compared to the traditional in-person show. The plot tour can be viewed on the Kuula web platform at go.osu.edu/virtualcroptour.

YOUTH GRASSLAND SUMMIT: HANDS-ON EDUCATION ABOUT PASTURE PRODUCTION

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Pastureland makes up approximately 16% of Missouri's land use area (Milhollin et al., 2018). Further, pastureland and grazing education increases Missouri's beef industry by $125 million annually (Milhollin et al., 2018). In collaboration with local FFA advisors, a necessity for youth education on pasture management was discovered. In addition, the majority of 4-H members in south central Missouri tend to quit 4-H as they enter their high school years. To address these needs the Youth Grasslands Summit was developed. Area FFA students participated in a one-day summit covering the fundamentals of rotational grazing management along with how to protect the environment. Grassland experts from University of Missouri Extension, Natural Resource Conservation Service, and Missouri Department of Conservation presented the material. Hands-on activates were incorporated to promote participant engagement, learning, and retention (Hein, 1991; Hein, 1987). From year one to year two, participant numbers increased 42%. Students excelled in plant identification activities, along with soil sampling, and wildlife considerations. In addition, students were able to learn from experts with careers in grasslands, and students indicated that they enjoyed learning about careers in agriculture, which was an unintended benefit. After attending the Youth Grassland Summit, the West Plains FFA Grassland team placed third at the District Grassland Competition which qualified them for the state competition. In the survey, 100% of FFA advisors who attended said the summit was a good use of time for their students and they would return.

SOIL WORKSHOP: APPLICABLE SOIL SCIENCE EDUCATION, DEMONSTRATIONS AND WEB RESOURCE PRACTICE

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Soil quality and fertility is critical to agricultural productivity, profitability and sustainability. This program

provided an introduction to soils for beginning farmers, as well as provided more experienced farmers with a deeper look into soil science and an opportunity to learn about recent developments in soil conservation and online soil tools. Topics discussed included how soil fertility and plant growth are related to soil properties, improving soil quality using conservation practices such as cover crops and no-till, using online soil resources such as Web Soil Survey, taking soil samples to accurately represent your land, and understanding and interpreting soil test reports. The program objectives included 1) increase farmers' knowledge of soil quality and fertility, 2) emphasize the importance of soil quality through interactive demonstrations, 3) provide farmers with training and computer assistance in using web soil resources, and 4) increase adoption of soil conservation and fertility best management practices. To accommodate diverse participants, the program was offered three times in Somerset County, MD—as a daytime workshop, as an evening workshop series, and as a workshop for high school agriculture class/FFA field-trip. There were a total of 40 attendees between the daytime and evening workshops, and 20 attendees at the high school field-trip workshop. Of the farmer attendees, approximately half had been farming five or less years and half had been farming over 15 years. Workshop surveys indicated that participants gained knowledge about soil productivity and fertility as well as best management practices and conservation as a result of the workshop. As a result of the workshop, the majority of participants cited that they would use best management practices for conservation and have their soil tested. Finally, 25/26 respondents rated the class as good or excellent overall. Participant comments indicated that they particularly benefitted from the interactive components of the workshop such as the soils demonstrations and online soil resources training.

HEMP EDUCATION IN ALABAMA: CREATING AN EXTENSION PROGRAM FOR "NEW" CROP

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Hemp was once a major crop in the United States. However, following restrictive laws and the popularity of other less expensive fibers like cotton, production came to a halt in the middle of the 20th century. The 2014 and 2018 Farm Bills made research and commercial production of hemp legal once again, which resulted in numerous universities and producers growing this 'new' crop. But without a long history of hemp production in the modern era, growers were left without research-based information to optimize their operations. This knowledge gap, paired with the sudden interest in hemp, provided Extension programs a unique opportunity to connect with new growers and deliver educational programming. A needs assessment across the southeast indicated that growers were losing yield to major pests and struggling to navigate the volatile market. Further, only a small percentage of growers were utilizing their local Extension services. Therefore, the Alabama Cooperative Extension System (ACES) sought to increase grower awareness of Extension resources, document major pests of hemp, and develop an integrated pest management plan for hemp in Alabama. To achieve this, we organized meetings throughout Alabama to educate stakeholders on the basics of hemp production including economics, agronomics, greenhouse production, and pests (insects, weeds, and diseases). When COVID-19 forced us to go virtual, we used webinars, fact sheets, social media, and virtual meetings to continue meeting with producers and disseminating information. ACES also worked to educate the general public on hemp and it's various uses. As a result of our meetings, growers reported saving an average of $106 per field, with several reporting they saved their entire investment. The majority of respondents reported a knowledge gain (89%) and that they will use the information (98%) we provided. Our new hemp Facebook page reached over 7,500 people and connected with growers throughout the region. In fall 2020, we published the first Integrated Pest Management Guide for Hemp in Alabama. Finally, we conducted on-farm research with Alabama hemp growers and developed collaborative relationships. This work will continue in 2021 with a bimonthly webinar series and on-farm research with local growers.

ASIAN CITRUS PSYLLID AND HUANGLONGBING OUTREACH AND EXTENSION IN SOUTHERN CALIFORNIA

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The Asian citrus psyllid, *Diaphorina citri* (or ACP), is a tiny, mottled brown insect about the size of an aphid that poses a serious threat to California›s (CA) citrus industry—including those grown in home gardens. The psyllid feeds on all varieties of citrus (e.g., oranges, lemons, and mandarins). The insect is a vector of the bacterium *Candidatus* Liberibacter asiaticus, associated with the fatal citrus disease huanglongbing (HLB), also called citrus greening disease. HLB can kill a citrus tree in as little as five years, and there is no known cure which has caused Florida to lose at least 70% of their citrus production. ACP is widely distributed throughout CA and is becoming more widespread in southern CA. HLB was found in 2012 in a

backyard tree in Los Angeles County. The presence of HLB in pockets of southern CA means it is now even more important to keep the psyllid populations low so they don't spread the disease. The objectives of this outreach program was: 1) to be pro-active and familiarize local growers, homeowners, and other citrus stakeholders in effort to manage and reduce the potential impacts of HLB in southern CA by extending research-based and educational informative handouts, presentations, and offer hands-on learning opportunities; 2) to conserve commercial citrus groves in southern CA by reducing the spread of HLB/ACP; and 3) to properly teach stakeholders how to scout and identify all the life stages of ACP in the field. The ACP/HLB outreach program included information for the general public; however, to establish a strong program foundation and have rapid impact, three general target audiences were identified for immediate outreach: 1) public land managers and relevant industry professionals (e.g. citrus growers, nursery, arborists, etc.); 2) tribal environmental representatives and 3) community gardeners and volunteers. A total of 291 participants had access to free workshops, lectures or field days. The University of California Cooperative Extension has developed a strong network of collaborators from previous invasive pest program work and was well-positioned to create a successful ACP/HLB outreach program and thus meet our goal of sustaining southern California citrus industry.

EVALUATING AND IMPLEMENTING PRACTICES TO CONTROL THE PIUTE GROUND SQUIRREL EPIDEMIC IN SOUTHERN UTAH

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The Piute Ground Squirrel, (*Urocitellus mollis*), populations on agricultural lands are increasing in southwest Utah. It is a small gray squirrel found mostly in the Great Basin. It eats alfalfa, grasses and other agronomic crops. The reduction in alfalfa and other crop yields and the cost of controlling Piute ground squirrels to farmers in western Utah exceeds hundreds of thousands of dollars annually. Squirrels have increased in infested areas and are showing up in places not previously found. Previous control programs such as shooting, flooding, treating with zinc phosphide and gopher bait have not been effective. Utah State University Extension has conducted trials to determine which baits are most accepted and when is the best time to apply the bait. This information has been taught to the farmers in workshops held in January of each year. The research has shown that Piute ground squirrels are not attracted to whole grain baits. They prefer a small pelleted bait. Because of the research conducted the State of Utah has issued a Section 24(c) Special Local Need Label for the Rozol Vole Bait (0.05%Diphacinone) for the control of the Piute ground squirrel. This label allows for bait station baiting and spot baiting. The research has shown up to 75% control when applied before the alfalfa greens up in the spring. This education program has helped many farmers save money by reducing the number of squirrels that are eating their crops. In this project we have strived to educate all the farmers in the area on the importance of controlling the ground squirrel and have given them a program to help them accomplish this. Evaluation of each of the workshops have shown that 95% of the attendees indicated that they learned how to better control the ground squirrels. A YouTube video that we produced on ground squirrel control methods has had 27,047 views. In 2019 and 2020 the number of grounds squirrels found feeding in the crop ground was reduced by over 25%.

WESTERN REGION POSTERS

PIVOTING DURING A PANDEMIC: TRANSFORMING MASTER GARDENER TRAINING FROM AN IN-PERSON TO VIRTUAL FORMAT

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Washington State University and University of Idaho Extension have collaborated for 18 years to deliver regional Master Gardener (MG) Training in the Lewiston-Clarkston Valley. Surrounding counties do not have the staff resources to offer MG training, so residents in those counties are invited to participate in our regional training as well.

The two-hour one-way commute was a barrier for Whitman County residents interested in becoming certified WSU volunteers. Walla Walla County certified Master Gardeners were interested in participating in the regional training to meet their Continuing Education Requirements.

Planning Team members met with WSU Extension IT to explore possible technologies to connect the three physical sites via technology. The recommendation was to purchase a Meeting Owl Pro, which integrates a 360-degree camera, microphone and speaker into one portable unit. The Meeting Owl also works well with Zoom, the cloud-based video conference service used to deliver the classes to the remote locations. With this tool in place, the 2020 classes commenced like any normal year on January 28th. When

the COVID-19 was declared a pandemic in March, in-person meetings ceased. After cancelling the March 17th class, classes pivoted to 100% virtual delivery via Zoom for the 5 remaining trainings.

While many MG trainings were cancelled, this program was able to flourish as we already had technology in place to create a successful learning environment for participants. This presentation will showcase what we learned from "pivoting" from a hybrid to a totally virtual model during a pandemic.

Following the trainings, a Qualtrics evaluation was sent to all participants. Seventeen of 48 participants responded to the survey (35% response rate). 82% of the respondents (N=14) indicated that their knowledge of gardening increased either a lot or very much. 59% (N=10) said their knowledge of environmental stewardship increased a lot/ very much. 65%% of respondents (N=11) said they were confident in finding answers to most gardening questions. Evaluation comments included "I would recommend a Zoom component even after the pandemic ends". And "I immediately started using plant identification resources and information on native plants to increase the use of these in my garden".

WASHINGTON STATE AGRABILITY: BUILDING A NEW EXTENSION PROGRAM DURING COVID-19

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Affiliated with the National AgrAbility Project, the USDA-funded Washington State AgrAbility Project (WSAP) based at Washington State University Skagit County Extension serves farmers, ranchers, and agricultural workers throughout the state inhibited by injury, illness, or disability. The program helps ease the return to work and daily living activities and reduce the rate of secondary injury. In early 2020, WSAP was developing assistive technology lending library kits and home/worksite assessment protocols while delivering trainings and demonstrations in person. At these events, WSAP was presented alongside the topics of farm stress, agricultural behavioral health and suicide prevention. With the emergence of COVID-19, in-person outreach was severely limited. Initially, we intended to embed coexisting farm stress and behavioral health programming into WSAP outreach. However, with an elevated focus on behavioral health and excessive stress brought on by the pandemic, farmers and stakeholders were eager for behavioral health messaging which opened the door for WSAP to present to more audiences. For example, WSU Skagit County Extension was invited to share behavioral health information at Washington Farm Bureau PPE giveaways which provided opportunity to promote WSAP as well. At these events WSAP distributed bilingual Spanish-English information on the program and approximately 500 First-Aid kits including suicide prevention wallet cards to farmers and farmworkers from multiple counties. WSAP also gave presentations to County Farm Bureaus in WA Farm Bureau's Safety & Claims division, reaching over 140 individuals. Additionally, WSAP partnered with the Department of Veterans Affairs and non-profit Growing Veterans, delivering webinars and an in-person outdoor presentation following social distancing guidelines, including an assistive technology demonstration. Given the difficulty of developing an outreach-based program under the circumstances of COVID-19, WSAP's resiliency relied on a diversified and well-connected Extension system and seizing relevant opportunities to collaborate. We anticipate that WSAP will continue to be resilient and utilize its position and knowledge of holistic agricultural health to further the WSU Extension mission of "engaging people, organizations, and communities to advance knowledge, economic well-being, and quality of life by fostering inquiry, learning, and the application of research."[1]

USING VIDEO EDITING SOFTWARE TO ENHANCE ONLINE LEARNING

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In 2020, I had over thirty in-person community education classes scheduled to be presented by staff and Master Gardener volunteers though my local community horticulture program. Restrictions for in- person learning due to COVID-19, combined with skyrocketing interest in backyard gardening, required us to pivot and investigate ways to offer remote learning opportunities. Simultaneously, there was the need to continue training Master Gardener volunteers remotely. This lead to Oregon State University staff developing a series of online courses covering a variety of advanced skill topics for volunteers statewide. I decided to use high quality videos to address the needs for both community horticulture and for training volunteers. More

specifically I wanted to maximize the use of videos as a teaching tool. I developed a Master Gardener course on using a new web-based tool (ECCO), using video lectures. In an effort to make the course delivery more lively and engaging, I learned how to use video editing software called Camtasia and produced ten short video lectures. Camtasia can be used as an Add-in with PowerPoint presentations or alone, and allows the user to incorporate premier audio and video effects to enhance and focus the learner. A survey of volunteers completing the ECCO course, in part by watching videos, shows that 98% of respondents (n=45) reported an increase in confidence level in successfully using the new web-based tool. Additionally, I have used this software to produce a remote garden tour event (320 views on YouTube) and "how to" videos that have been placed on YouTube and Facebook. Verbal feedback from Master Gardener volunteers and community members suggests the use of video, and in particular video enhancement in remote learning, as an effective way to learn. Positive feedback for using videos suggest continued use of this editing software for this type of online program delivery going forward. Additionally, after reviewing some of the work I delivered, a colleague purchased the same video editing software for use in her own future projects.

OLD CUCURBIT PEST MAKES NEW APPEARANCE IN CALIFORNIA CANTALOUPES

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During the spring 2020 melon season, a 'new' caterpillar pest was discovered tunneling in the outer rind of cantaloupes from multiple fields in the Palo Verde Valley of far eastern California. Entomologists in the low desert with 30+ years of melon experience did not recognize the pest. Adults reared from caterpillars were determined to be omnivorous leafroller (Platynota sultana), a pest of Arizona melons in the 1930s-1950s. Low pest pressures during the 2020 spring production season resulted in fewer insecticide applications targeting lepidopterous pests, thought a factor in establishment in local cantaloupes. Data on tunneling was collected, as such information was not readily available. Tunneling damage was noted in a small percentage of cantaloupe rinds at harvest, but omnivorous leafroller caterpillars were no longer in rinds at harvest during 2020. This was a major concern due to export markets to other counties. This poster was developed to provide information on this 'new' pest, and has been made available via multiple sources (newsletters, internet) and shared with others involved with pest management throughout California and Arizona.

SOUTHERN REGION POSTERS

USING A TEAM APPROACH TO VIRTUAL COMMODITY MEETINGS IN SOUTH CAROLINA'S FRUIT AND VEGETABLE INDUSTRY

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The worldwide pandemic brought significant challenges to program delivery for Extension Agents across the nation in 2020. As the year moved into what was traditionally the season for local commodity meetings, Clemson Extension commercial fruit and vegetable agents made the decision to work cooperatively to bring statewide virtual meetings to the growers of South Carolina. This decision was well received and a calendar of programming with division of duties was quickly produced. Agents formed small teams based on content expertise, grower connections, and preference to plan, implement and evaluate each commodity meeting. A statewide marketing schematic was developed to ensure meetings were seen as a cohesive unit of the larger Clemson University Cooperative Extension system. All registrations, links and QR codes were directed to the team blog page at SCGrower.com. While initially viewed as a crutch only to be used during the pandemic, virtual programming quickly enabled agents to reach double the audience from the previous season, triple the number of programs offered, provide excellent cutting-edge content from thirty-six specialists across the United States, and to increase grower interaction on the team blog site by an average of more than 300% each month. The team also initiated a live weekly chat session, 'SC Grower Exchange' for growers discussing current field situations which is also available on-demand as a podcast. Additional monthly virtual workshops, 'CU'ltivating SC Growers' are now offered that cover timely

field topics and offer pesticide credits to growers. Virtual programming may not be considered ideal for this type of training, but due to the success of the Clemson Extension Commercial Fruit and Vegetable Team during the 2020-21 commodity meeting season, virtual aspects will be added to all in-person trainings in the future.

AUXIN TRAININGS IN NORTH CAROLINA: WHAT HAVE WE LEARNED?

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Auxin tolerant crops and labelled products were introduced to the market for the 2017 growing season. Depending on trait package, these crops are either tolerant to dicamba or 2,4-D products. Due to widespread herbicide-resistant weeds in North Carolina, high adoption rates of this new technology was anticipated. However, non-tolerant crop are highly susceptible to low rates of these products, so issues with off-target movement due to physical drift and volatility were also expected. In an effort to limit these incidents, North Carolina adopted 24(c) special local needs labels for these products, requiring annual training by NC State University extension specialist on their proper use. All attendees at these trainings have been offered a survey since 2018. These surveys have helped extension track the adoption of this technology, as well as the attitude growers have towards both the technology and training requirements. We were also able to track off-target movement complaints by attendees, and see if training efforts were having the desired effect of reducing these incidents. After three years of surveys, we can see that adoption of the technology has been increasing each year among growers in attendance. While reports of off-target movement to sensitive varieties of soybean and cotton crops has been variable, we have observed a steady decline in reports of off-target movement to tobacco, North Carolina's highest value crop. Growers have been overwhelmingly supportive of the training requirements, with 83, 88, and 91 percent of attendees reporting the training is worth their time in 2018, 2019, and 2020 respectively. The support we have gathered from growers, as well as decreasing reports of off-target movement, show that the auxin training program in North Carolina has been very successful.

EDUCATING FARMERS AND LANDOWNERS ON THE OPERATION OF RENTAL WALK BEHIND TRACTORS

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At the 2018 NC Small Farms Field Day hosted by North Carolina A&T State University a delegation of small farmers from Warren County, NC saw the BCS two wheeled tractor demonstrated for the first time. They were so impressed by its performance they requested that one be available for small farmers and landowners in their county. They equipment was purchased by the Economic Development Commission and Warren County Cooperative Extension was tasked with leasing the equipment out, and educating those who wished to lease on how to operate it. Warren County Cooperative Extension delivered the program through: 1). Newspaper article, 2). How to video, 3). Demonstrations 4). One-on-one demonstrations at point of delivery. Each educational method successfully increased knowledge of the BCS tractor, and how to operate it. Through observation and participant feedback it was determined that of the 4 program delivery methods one-on-one demonstrations was the most effective and preferred method. For many leasing the BCS tractor was the first time using extension services.

HENDERSON COUNTY EXTENSION MASTER GARDENER VOLUNTEERS CREATE AND EDUCATE BY CREATING A DESTINATION GARDEN; THE FLAT ROCK PLAYHOUSE THEATRE GARDENS

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Extension Master Gardener Volunteers (EMGV) have led a team of garden volunteers at the Flat Rock Playhouse Theatre since 2008. The Flat Rock Theatre is the state theatre of North Carolina. It is a very high profile facility that is visited by over 60,000 patrons per year.

Master Gardener Volunteer Tamsin Allpress started the 'FRPH Garden Volunteers' a dozen years ago when the playhouse grounds were mostly neglected. The 14 volunteers work together two times a week, from March to November. Since the pandemic started, social distancing has been easy to do on so large a campus.

Despite the cancellation of the Flat Rock Playhouse's 2020 season due to COVID-19, patrons are being encouraged to take time to enjoy the lush gardens on the grounds of the historic campus. In fact, the gardens have become a popular tourist destination locally.

Visitors needed labeling in place so they could get information on the hundreds of plants that volunteers lovingly tend each week. FRPH personnel are often asked about the plants in the gardens. The FRPH gardeners created and maintained a printed plant guide to hand out to patrons. Still, plant labelling was needed.

STEM IN THE GARDEN

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Wilson County has an unemployment rate of 5%, 11% higher than the national average. The high school graduation rate is 78.5% but only 17.9% attain a four-year degree. Employers in STEM (Science, Technology, Engineering, and Math) fields have difficulty in hiring qualified employees. The goal of STEM in the Garden is to educate middle/high school students in STEM fields by using horticulture, agriculture, and environmental stewardship principles. This program provides youth with hands-on exposure to STEM principles in an outdoor setting. The activities were developed to support and extend the state curriculum. Activities included: solar ovens implementing critical thinking skills, solar energy limitations and/or a negative impact on biodiversity; weather station readings of relative humidity, precipitation, and dew point to indicate water vapor factors; weather patterns and the effect on global climate change; wind power principles on increasing turbine efficiency, how wind flow patterns work, and how aerodynamic force converts to electricity; and hydroponic growing systems with discussion on media, sustainability, and as a possible solution to climate change. Outcomes were measured by conducting subject matter pre and post-tests and conducting follow-up surveys to judge program value. Outcomes demonstrated that 75% of students showed a better understanding of alternative energies, renewable resources, how wind and solar energy are used, and what an anemometer is used to measure. 72% of students showed a better understanding of how plants can be grown without soil, how hydroponics differs from traditional growing systems, how nutrients are supplied in hydroponic systems, and what can be grown in a hydroponics system. The student evaluation indicated that they would share new learning with others, the curriculum met their expectations, and they highly recommend the program. In addition, teachers expressed a high level of satisfaction with the program's alignment to the State standards and the utilization of STEM principles.

4-H20 CAMP EDUCATING TODAY'S YOUTH ON GEORGIA'S WATER RESOURCES

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With the ongoing water wars between the state of Florida & Georgia, it is important to educate our youth about the importance of water conservation. Water plays a vital role in South Georgia agricultural production. 4-H20 camp began in 2008 in collaboration with Mitchell County 4-H and C.M. Stripling Irrigation Research Park in Camilla, GA. The camp is three days packed with educational and fun hands-on activities that focus on water quality, water conservation, water usage, and global water issues. Scientists, researchers, and field-related personnel present materials in an outdoor classroom setting. 4-Her's have gone to various locations in the past such as the Flint RiverQuarium in Albany, George Andrews Lock and Dam in Jakin, Water World in Dothan, AL, Stripling Irrigation Research Park in Camilla, and many others as they learned the importance of irrigation and water conservation to agriculture and the importance of a clean water supply for recreational purposes in Southwest Georgia. 4-Her's also learned about other various water related topics such as aquifers, personal water use, hydration, plus waters and animals of the Gulf. The program started out with just 15 participants in 2008 but has grown since then to include as many as 13 counties from across Southwest Georgia. The camp has hosted as many as 252 participants, which was a record in the year 2019, and has seen over 2,000 youth and adults over the 12 years the program has been around.

BACKYARD FRUIT WEBINAR SERIES CONNECTS PUBLIC TO EXTENSION AMIDST THE COVID-19 PANDEMIC

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During the height of the COVID-19 pandemic, food security became a concern, and homeowners began looking at their backyards as venues for food production. To reach the public when face-to-face programming was not an option, the agent coordinated the Backyard Fruits Webinar Series, a 4-week online program covering various small fruits and tree fruits that can be grown across the Southeastern United States. The Program launched on May 13 and ran twice a week through June 5, 2020. Each session featured different fruits and involved speakers from UGA Extension, LSU Extension, NC State Extension, UT Extension, and Auburn University. Over the course of the program, 2,152 client contacts were made, 28 states were reached, and attendance ranged from 85 to 74 percent of those who registered, approximately 269 participants per session. During the pandemic, teachers were seeking opportunities to acquire professional development hours, thus 43 Certificates of Completion were furnished to teachers who attended all eight sessions – a total of eight hours of online learning. Each session was recorded and uploaded to the UGA Extension YouTube Channel. As of November 2020, the videos have been viewed 1,528 times. Regarding satisfaction of the program's overall management and deliver, 100% of the program participants reported that they were satisfied. When asked about remote delivery versus an in-person format, 84% of participants cited the online learning option as preferred over in-person. Additionally, 100% of the participants who attended all 8 sessions of the program reported they gained a better understanding of the major factors that impact successful backyard fruit production, and planned on using the information presented.

BEEF CATTLE 101: EDUCATIONAL CATTLE WORKSHOPS FOR BEGINNING AND NOVICE FARMERS

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Over the last five to ten years, middle Georgia has experienced farm turnover. New farmers have moved to the area, and the number of cattle producers has continued to fluctuate. Cooperative Extension and the Natural Resource Conservation Service have seen a drastic increase in beginning farmer cattle management questions. There have been approximately 35 new (out of county) famers moved to the area and about 80% of the current farms have experience turnover, generationally. This has led to the need for an increase in beef cattle management programming. The purpose of the Beef Cattle 101 Educational series was to meet the educational needs of new cattle producers in the middle Georgia area. The programs were hosted to provide the necessary background information to start or take over a beef cattle cow/calf operation. The series was a 10-month program that educated local (beginning, veteran, and novice) producers on the ins-and-outs of beef cattle production. The focus started on forages, moved to equipment, and then finished with animal science topics. The topics included: Getting Started (GATE Card, FSA Programs, Record Keeping), Grazing Systems for Cattle, Planning Your Grazing System (Establishment, Renovation, Management), Weed Management/Sprayer Calibration, Forage Review, Structural Practices/Equipment, Cattle Nutrition/Selection, Herd Health, Beef Quality Assurance, Meat Science, Summary and Review. The Beef Cattle 101 program series was a success with a total of 219 participants throughout the entire course: 65% beginning farmers, 14% veteran farmers, and 21% established farmers. Participants were not expected to attend all sessions, but majority chose to. Participants ranged from multiple counties including but not limited to, Upson, Lamar, Pike, Monroe, and Crawford. The series grant sponsor made it possible for each attendee (of the first night program) to get up to ten free soil samples each. With those results, we were able to help come up with a game plan for pasture renovation, establishment, and management throughout the first five months of the program. As a result of the program series, 100% of the participants have continued to utilized FSA, NRCS, and Cooperative Extension in their perspective counties and regularly check-in regarding available educational materials.

BUILDING CAPACITY IN LOCAL FRUIT PRODUCTION

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Home fruit and vegetable gardening is foundational to Extension's role in communities across Georgia. Fruit gardening is often more challenging for hobbyists and homeowners. The perennial nature of the plants requires sound decisions be made prior to planting and maintenance be performed throughout the life of the plants. A knowledge gap exists in critical elements such as variety selection, pruning, and pest management. Cherokee County Extension Agriculture Agent, Josh Fuder, presented at two field days organized in collaboration with UGA Extension Agriculture Agents in Dade and Walker counties. One field day was held in Dade and one was held in Walker. The field day trainings each included a half day of theory on variety selection, site considerations and pest management, and the second half of the training was hands-on with stations on pruning, spray equipment and safety, and pest identification. The two field days collectively reached thirty-nine individuals from three counties. Of the respondents who participated in the evaluation component, 100% improved their knowledge of various fruit tree topics and 100% indicated they felt more confident in taking several actions to improve their home orchard.

CHEMICAL MOWING TO REDUCE LABOR AND EQUIPMENT COSTS IN RICHMOND COUNTY MAINTAINED TURF AREAS: BAHIAGRASS SEED HEAD SUPPRESSION

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The City of Augusta Parks and Recreation, the Richmond County Board of Education and the Augusta Regional Airport own and maintain over 2000 acres of open field space. These open areas include parks, cemeteries, ball fields, retention ponds and general non wooded open space. The majority of these areas are a base mixture of bahiagrass (Paspalum notatum) and bermudagrass (Cynodon dactylon).

Bahiagrass is a widely used industrial turfgrass that performs well in a wide variety of environments. Its resistance to drought, disease, and various insect pests has led to wide-spread usage. The drawback is bahiagrass is that it produces an abundance of seed heads from June to September. These seed heads are unsightly and require constant mowing during these months. After bahiagrass is mowed, seed heads can reappear within 4 to 5 days. In the Augusta area and in highly visible areas, bahia turf has to be mowed weekly.

With a huge cost for labor and equipment to constantly mow these open spaces, there is an opportunity to decrease labor time and equipment cost with the implementation of a growth regulator product. The application is referred to as chemical mowing. Bahiagrass and bermudagrass respond to the chemical by suppressing foliar and seed head growth. With chemical mowing, seed head production in the bahaigrass is profoundly reduced for 10-12 weeks after application. This procedure can cut mechanical mowing from 3-4 times a month to two times per three months.

A meeting was set up with the the Deputy Director of Parks (Gary Hegner), the Assistant Director of Facilities Safety with the Board of Education (Chad Jordan), a representative from Bayer Chemical and UGA Weed Specialist (Associate Professor Dr. Patrick McCullough) at the Richmond County Extension Office to discuss utilizing this method.

The Richmond County Board of Education designated acreage and hired a commercial firm to apply Derigo, a product by Bayer, during the 2019 growing season.

FULTON FRESH: ADDRESSING FOOD INSECURITY, NUTRITION, AND STEM EDUCATION DURING A PANDEMIC

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UGA Extension Fulton County's Fulton Fresh program is a multigenerational nutrition education program, which integrates youth, agriculture, and family and consumer science programming in an urban community. The purpose of Fulton Fresh is to increase awareness and consumption of in-season, local produce through hands-on educational programming and the Fulton Fresh Mobile Market. Prior to 2020, the Fulton Fresh Mobile Market focused exclusively on adult participants and did not provide educational programming for youth. To meet the additional needs of Fulton County youth, Fulton County 4-H launched the Fulton Fresh Kids' Market in the summer of 2020 to provide healthy living and STEM educational programs coupled with access to fresh fruit to youth in K-12th grade. Agents worked together across program areas to create virtual farm tours, promote Georgia Grown produce, produce recipe demonstration videos with local produce, and other

STEM education strategies. Altogether, this program was effective in not only promoting healthy eating habits and access to healthy food, but also increasing agricultural literacy in the metro-Atlanta area.

GIVING BACK: EXTENSION DEMONSTRATION GARDEN IN MCDANIEL FARM PARK PROVIDING PRODUCE FOR LOCAL FOODBANKS

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Gwinnett County, GA, has a population of over 900,000 and continues to grow. One rising issue of concern is food insecurity. According to the Community Foundation of North Georgia, 10% of the population lacks proper nutrition access. The Georgia Department of Public Health estimates the number of residents living in food deserts, where people do not have convenient access to healthy food, which is 8%. UGA Extension Gwinnett addresses the issue by donating fruits and vegetables harvested from the demonstration garden at McDaniel Farm Park in Duluth, GA. The site is an old homestead that dates back to the early 1800s. Gwinnett County Government purchased the land and developed it into a passive park with the original house, barn, and other structures. The garden grows the types of vegetables that the actual farmers grew in the 1930s. The produce is donated to the food banks at Hands-of-Christ Ministry in Duluth & the Southeast Gwinnett Co-op (Grayson). Since 2018, 3,103 pounds have been harvested and delivered to the food banks. The Master Gardeners have volunteered 2,815 hours worth an estimated $64,026 and have made 1,801 contacts in the garden. Visual from walking trails and accessible for questions when volunteers are present. The garden has received a total of $1,500 in grant money from the local Master Gardener organization to purchase a drip irrigation system and install new raised beds.

GROWER EDUCATION ON THE EFFECT OF TILLAGE PRACTICE RELATED TO PEANUT WATER AVAILABILITY AND USAGE

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Strip-till is the most commonly used minimum tillage systems implemented in Brooks County conservation tillage planting programs. Benefits of strip-till production include: improved soil health, decreased soil erosion, and reduced trips across the field, resulting in savings of both time/money. Strip-till systems have been applied in the production of numerous crops, including peanuts. However, peanut producers have questioned yields achieved with strip-till programs compared to typically higher harvestable peanut yields acquired through conventional tillage systems. In addition, the role of season long water availability, consumption, and usage by the peanut plant has not been defined in a strip-till management system. A commercial peanut field research trial was conducted for analysis of the comparison between soil moisture in conventional tillage compared to conservation tillage and the resulting peanut yields. The main objective was to implement an applied research trial in both irrigated and dryland commercial peanut fields to evaluate the effect of conventional tillage and conservation tillage, as it relates to: plant water availability, usage, consumption, and yield. Peanuts were planted with two field cultural practices; bottom plow utilized for the conventional tillage treatment and strip-tillage for the conservation tillage treatment. Plots were replicated as strips three times within each field. AquaCheck capacitance soil moisture sensors (SMS) were installed in each replicated plot to monitor the difference in soil moisture at soil depths of 8, 16, and 24 inches. Soil moisture data were collected hourly during the entire season. Plots were mechanically harvested and weighed by treatment strip to determine yield. The trial results revealed an increase in yield with the bottom plow tillage treatments over the strip-tillage treatments. However, no significant differences in season long soil moisture was observed or recorded between the conventional and conservation tillage systems. Nonetheless, there were variations in available soil moisture within replicated plots located across the field. Therefore, peanut yield increase with conventional tillage was not attributed to available soil moisture and usage. In addition, soil moisture data indicates that differences in soil type and variations within a field are closely associated with soil water availability, independent of cultural practice implemented at planting.

IMPROVING FORAGE PRODUCTION PRACTICES OF CATTLE PRODUCERS

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In fall 2019 I was selected to be a part of the grant “Unless You Test, It’s Just a Guess” led by state specialists. This opened the door for me as a first-year agent to “cold-call” cattle producers in my community that I had not yet reached in my role. I visited their operation and conducted a free hay sample. While conducting these samples, I learned many Dade farmers were not properly managing

their pastures and hayfields. This led me to the idea of providing this forage information with the end-goal of improving farmers' operations. Although UGA Extension offers forage programs such as Grass Masters, I realized my folks in Dade need more focused information catering to the Dade environment, their level of forage knowledge, and to-the-point-how-to information. I developed the idea of a 12-month forage management series to meet these needs. This concept evolved into the D.A.D.E. Grass Class. The point of the series is to walk through, month by month, an entire year of forage management for pastures and hayfields. The goal is to provide timely, how-to information to farmers in advance to when they need to act on their pastures/hayfields. This is accomplished through monthly presentations by myself or fellow colleagues, and through to-the-point "cheat sheets" reflecting the main points of each presentation. In total, 43 registrants are enrolled in the 12-month program. Although the series caters to Dade county farmers, registrants are from neighboring counties as well. The series began in January 2020, and is currently in a virtual format due to COVID-19. Feedback I have received from producers in the series includes, "Thank you so much for doing something for us Dade farmers," "We have been starving for this sort of information," "This is the greatest idea, you know, the month-by-month concept, thank you."

RIVERWOOD PLANTATION POLLINATOR OUTDOOR CLASSROOM

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Riverwood Plantation is a large community consisting of 3,000 acres and 1,500 homes that highlights nature, family, and a strong sense of community. In May of 2019, the Riverwood Home Owners Association, Georgia Power, and Columbia County Extension approved the Pollinator Garden project and began clearing the proposed site of Bahiagrass, brambles, and saplings. The 4,500 square foot space was an underutilized right of way located between residential developments and adjacent to Greenbrier elementary, middle, and high schools. Locating the garden centrally in the community was key to successful educational efforts on the importance of pollinators, beneficial insects, and proper plant selection. Once cleared, the garden began to take shape as Master Gardener Extension Volunteers added donated plants from local business and grant funding. The garden has become a hands-on outdoor classroom that engages its local population, challenges visitors to develop a better understanding of pollinators and instills a strong sense of community pride. The impact to the community can be measured by its involvement in the garden. The garden serves as a Great Georgia Pollinator Census site and a Certified Monarch Watch Waystation. Each year between 3 and 5 educational programs on pollinator conservation are held with an average of 38 attendees annually. Additionally, the garden has received over $12,000.00 in in-kind donations from local businesses and homeowners and has received over $32,000 in support from the Riverwood Home Owners Association. The UGA Extension office and the Master Gardener Extension Volunteers all take pride in the Riverwood pollinator garden by being dedicated to the ever-changing opportunities that are presented to us daily.

SCOUTING PROGRAM FOR SILAGE GROWERS

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Silage is the largest acreage and highest value row crop grown in Wilkes County. Annually, approximately 3,000 acres of corn or sorghum silage is grown with a total value of over $4 million. In Wilkes County, there are no local crop consultants which leads to growers relying heavily on UGA Extension Agents for proper pesticide recommendations and insight on local agronomic issues. The Wilkes County Extension Agent started a local county silage scouting program to increase Extension's presence in the local farming community, increase grower knowledge of problematic pests found within the County, and to provide recommendations for control. In total, the 2020 Silage Scouting Program increased overall corn and sorghum silage yields through better agronomic practices, identified and recommended control of major pest in crops prior to significate injuries that would have resulted in yield losses, and led to actual grower saving $3,425 through not recommending grower applications of pesticides on field that had not reached an economic threshold. Growers who participated in the program rated the program as excellent and requested the program be continued next year.

SMALL FLOCK EDUCATION FOR HOBBY PRODUCERS

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In the United States from 2012 to 2017, there was a 16% increase in number of hobby flocks and 20% increase in number of backyard laying hens, according to the National Agricultural Statistics Service (NASS). Backyard flock owners

often lack essential knowledge and experience in poultry husbandry. The objective of this program was to develop and deliver hobby flock education to small flock owners. Two independent programs were held in 2020 to target hobby flock owners with educational opportunities. A four-week seminar series was developed and presented locally in Lincoln County, Georgia, followed by a five-week webinar series presented via Zoom. Lecture topics including but not limited to flock housing, nutrition, and bird health were presented by University of Georgia Extension Agents and Poultry Specialists. Seventeen residents attended the in-person program and the webinar series had 141 registrants from 10 states and 2 countries, with an average attendance of 40 individuals per session. All participants indicated an increase in knowledge across all topics. The virtual series was evaluated as excellent 70% of the time, with respondents indicating they learned something new in 95% of the sessions Ninety eight percent of participants intended to use the materials from the program in their operation. Six months after the program, participants were surveyed to determine resulting behavior changes and economic benefits. All respondents (n=21) indicated changed behaviors as a result of the series. Changes made included improving coop design (30%), altering feeding programs (28%) and taking steps to improve bird health through biosecurity and vaccinations (14%). As a result of these behavioral changes, respondents reported economic impacts including: increased productivity of meat and eggs (35%), reduced feed, health care, and replacement bird expenses (31%), decreased bird mortality (19%) and increased profit from meat and egg sales (8%).

STEPHENS COUNTY SMALL RUMINANT PRODUCTION MEETING

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The annual Farm Gate value for small ruminant production is valued at $116,250 here in Stephens County and growing. The majority of these producers either sell show quality stock or raise animals for meat production in local markets. In addition to the established producers in the county, many new farmers are beginning in small ruminant production. Many see this as a cheaper entry into farming when compared to raising beef cattle as the average cost for an adult goat is 133% cheaper on average than an adult cow. Educating small ruminant producers in the county on the basics of pasture management, animal health, and animal selection makes established producers more profitable and sustainable while also ensuring newer producers have a positive first experience with farming. The Stephens County Agriculture and Natural Resources Agent in collaboration with the Small Ruminant Specialist at Fort Valley State University held a Small Ruminant Production meeting on December 4th, 2019. 25 producers from 4 Georgia counties and 1 county in South Carolina attended the meeting. The Stephens County ANR agent spoke about the importance of soil sampling, proper soil fertility, and forage management for small ruminants operations. The Fort Valley State Small Ruminant specialist spoke about animal nutrition, maintenance and health, reproduction, and selection. A post program evaluation revealed that 86% of the participants found the information shared to be useful and interesting. The evaluation also revealed that 81% of the participants had an improved knowledge of small ruminant production practices.

WATER QUALITY FOR GEORGIA LIVESTOCK

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Georgia livestock drinking water sources can vary, providing choices for farm resource management. Livestock production relies on acceptable water quality for health, reproduction, and adequate consumption. A water sample survey was conducted in northeast Georgia to assist farm managers with livestock drinking water considerations and compare different water sources and delivery. Parameters that can cause animal health issues and reduce water consumption were analyzed, including

iron, manganese, sulfate, molybdenum, chromium, calcium, arsenic, selenium, cadmium, lead, copper, sodium, fluoride, chloride, phosphate, soluble salts, total dissolved solids, turbidity, nitrate, nitrite, pH, fecal coliform bacteria, and water temperature. Thirty different farms participated, and 53 different livestock watering sources were sampled, including well-water troughs in pasture or corrals, ponds, and streams. Physical elements were within the recommended livestock drinking safety limits for 77% of all well-water trough samples. Only 25% of ponds and 18% of stream samples were free of all physical contaminants. The most common elemental contaminants above the limit were iron (32%), manganese (26%), and pH (13%). Fecal coliform levels were higher than recommended in 87% of all samples. Some of the highest fecal coliform counts were from troughs in high density corrals. Troughs in pasture that were cleaned at least 2 times per year had lower fecal coliform contamination. Water temperatures were above the 80° F recommended limit 0% of the time for streams, 16% for troughs, and 38% for ponds. Our results indicate that fecal coliform contamination is the greatest concern for livestock drinking water quality in northeast Georgia, followed by iron and manganese palatability issues, and water temperature. Providing acceptable water sources for livestock depends on surface and groundwater quality along with delivery, maintenance, and animal access. Temperature, fecal coliform counts, and pond/stream turbidity change frequently, requiring additional monitoring, trough cleaning, alternate water sources, or management strategies. Participating farms were able to use the water test results and our consultation to determine the best management actions for providing the safest water possible to improve livestock health and production.

"JUST DON'T BREAK THE LAW": VIRTUAL PESTICIDE CEU CLASSES AT THE DAWN OF COVID

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COVID-19 disrupted several Florida agricultural and landscape sectors, including the state's pesticide licensing system. Lockdowns began during a historically active period for new licenses and license renewal with Continuing Education Units (CEUs). Applicators nearing license cancellation were without a way to obtain renewal credits and certain landscapers were unable to meet testing requirements. Objectives: This program was developed to provide emergency online pesticide training under existing legal requirements to maintain continuity of existing licenses and job creation with new licensees in categories with education requirements. Methods: The Central District Pesticide Training Team, a multi-county training effort, consulted the Florida Department of Agriculture and Consumer Services and the UF/IFAS Pesticide Information Office and modified teaching and attendance verification methods to exist within the Zoom videoconferencing platform. Migration required new training of the team as well as the attendees. Attendance verification for each module was solved with a combination of time-limited actions to be performed by attendees. Following the first successful class, we were approached by other county Extension agents for training in adapting their own programs. Results: 193 people attended virtual pesticide classes from April through November 2020. 76% attended for license renewal CEUs to maintain employment. 28% reported salary increases. Year-to-year surveys showed an average 4.8% increase in knowledge gain despite the shift to an unfamiliar format. However, behavioral change dropped by an overall average 1.6%. 100% of new license holder respondents believed the training helped them pass their exams to gain or maintain employment. Conclusions: The digital move was well received by clientele. Steps taken by the Team resulted in uninterrupted continuity of service with little lost in the translation.

DEMONSTRATION OF DRONE TECHNOLOGY TO IMPROVE VEGETABLE CROP MANAGEMENT

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With a rapid development of artificial intelligence, the application of drone systems has shown great potential in agriculture. However, growers need to understand the fundamentals, i.e., why it works, how it works and the benefits. The objectives of the program will be to help local growers understand better about the new technology, the affordable cost, advantages, the operation, the government regulation, and the scale of its application. The combination of two field day events for an on-site demonstration with one workshop for data processing and application was conducted with pre- and post-tests for the program

evaluation. Participants were able to watch the procedures in site selection, the flight parameters chosen, the drone autonomous flight setup and the operation from the field demonstration, and to learn the data processing and application from the workshop. A total of 58 participants attended the events and 45 (78%) completed the pre- and post-tests. The result showed that 91% (n=41) had knowledge gain with an increase of 35% in understanding the application of drone technology; 82% (n=37) believed that the application of drone technology would save their time and improve the crop management with an increase of 42%; and 71% (n=32) would change their practice by implementing the drone technology with an increase of 30% from the post- vs. pre-pest; and 100% (n=45) believed that the various Management Zones derived from NDVI (Normalized Difference Vegetation Index) based on crop health could provide timely information for their crop management to reduce the yield loss. Therefore, the demonstration of this up-to-date technology has provided a platform to help local vegetable growers improve their Best Management Practice (BMP) for the sustainable agriculture.

EXPERIENTIAL LEARNING TO SUPPORT HORTICULTURE INDUSTRY DURING COVID-19

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During the COVID-19 pandemic, many Central Florida horticulture operations saw increased demand for products due to heightened interest in at-home gardening as many people transitioned to working from home. However, statewide shutdowns left horticultural professionals with limited in-person opportunities to learn critical skills and sustainable management techniques, many of which are best learned through practice. The horticulture industry quickly adapted to following COVID-19 precautions to continue business throughout the pandemic. Educational programming also needs to evolve so that stakeholders can safely participate in valuable experiential learning opportunities. The objectives of this program were to increase knowledge level on sustainable integrated pest management (IPM) strategies and increase adoption of these practices using an in-person training that accommodated CDC guidelines on COVID-19. Three class sessions were held with 19 participants. Classes were conducted in a large auditorium, an outdoor pavilion and two local nurseries to accommodate social distancing. Instruction included interactive educational lectures, hands-on laboratory activities, and field visits with instructors teaching both in person and virtually. The classes were designed as introductory and interdisciplinary trainings for horticultural professionals on scouting and integrated pest management (IPM) with the goal of increasing economic and environmental sustainability at their horticultural operations. A post-workshop survey was used to assess both perceived and measured knowledge gain, as well as the adoption of various practices learned. In post-workshop evaluations, 92.3% of thirteen survey participants claimed that they increased their knowledge level on one or more topics related to scouting and IPM. On knowledge-based questions, participants answered an average of 79.5% of questions correctly. Moreover, 76.9% of participants indicated on the post-training survey they have already implemented one or more IPM practices at their operations by the end of the third class. Overall, the educational program was successfully adapted to accommodate safety precautions during the COVID-19 pandemic, while still providing hands-on training to horticultural professionals. Despite the challenges associated with COVID-19, the classes resulted in knowledge gain and the adoption of sustainable scouting and IPM practices.

FLORIDA-FRIENDLY LANDSCAPINGTM VIRTUAL PROGRAMS INSPIRE CHANGE

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Sumter County is home to the main area of The Villages, the largest retirement community in the country, which is growing exponentially with new homes and arrival of new residents. Attending Florida-Friendly Landscaping™ Programs, offered virtually during 2020, include Florida-Friendly Landscaping™ for New Residents of The Villages, repeated monthly, and Gardens Grow with Extension, offered weekly. While participants have attended from Sumter County, surrounding counties and even other countries, the main objective of both programs is to inspire participants to adopt best management practices for their own landscapes to protect Florida's fragile resources. Programs included topics on watering lawns and landscapes efficiently, drought tolerant plant selection, attracting pollinators or wildlife, and managing pests responsibly. For example, thirty-three percent (n=34)

of respondents noted they would manually turn off their irrigation system always or most of the time when it rained; and nineteen percent (n=44) of respondents fertilize only when the grass is actively growing. One issue noted with virtual programming on the Zoom format for both Florida-Friendly Landscaping for New Residents™ and Gardens Grow with Extension, participants may register to attend, but may not consistently show up. These programs are advertised in the local paper, on Facebook and through the Mailchimp service.

FOOD PRODUCTION SUCCESS & SUPPLYING LOCAL GROWERS DIRECTLY

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Situation: North Central Florida's climate and pests create a challenge for both small farmers and gardeners alike. A lack of actionable knowledge and reduced availability of well-adapted plants further compound the challenge local growers experience. The objective is for local growers to acquire and implement knowledge as well as make available plants directly from the extension agent that otherwise would not be available. Methods: Over the past year, nine programs were offered which consisted of a presentation and time for questions and answers. Topics detailed key variables associated with food crop production. The agent made a bulk purchase of sweet potato slips to be distributed to local growers. To advertise the sweet potato slips, posts were made on social media, flyers distributed, and program attendees were notified of the sale. A sweet potato fact sheet was also created and provided to everyone who purchased sweet potato slips. Additionally, bulk purchases of passion fruit plants were made and distributed to local growers. An EDIS publication was created about passion fruit production. Results: Programs were well attended (n=2,210). Post-program surveys (n=105) indicated that all participants gained knowledge and 92% specifically stated at least one aspect of the program they had implemented. A total of 332 passion fruit plants were purchased, most of which by local small farms. More than 2,500 sweet potato slips were distributed to approximately 95 individuals. Completed post-harvest surveys (n=26) indicated two and a half pounds of sweet potatoes per slip planted. Conclusion: This programmatic effort successfully helped participants gain knowledge and use that knowledge to begin fruit and vegetable production which likely would not have occurred if the plants were not directly supplied by the extension agent. Due to the high demand and program participant adoption of program objectives, this effort has helped to grow the local food system.

GARDENING 1.0 VIRTUAL WORKSHOP

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Background: Gardening Camp 1.0 was presented to youth virtually utilizing ZOOM in Charlotte, DeSoto, Glades, Hardee, Hendry, and Miami-Dade counties. Objectives/ Purpose: The program was a collaborative effort to engage and provide plant science education and hands-on learning to youth who were at home during the COVID-19 Pandemic. Gardening is an inexpensive way for youth to be outdoors promoting physical health and well-being while growing a nutritious commodity. Gardening can increase one's self-esteem, self-confidence as well as provide a sense of gratification. Method: Gardening Camp 1.0 was held on Tuesday's and Thursday's for three weeks for one hour. The topics included: Plant Basics, Why are Plants Important, Vegetable Gardening, Fun with Plants, Food Safety and the Future of Plants and You. A hand's on activity complimented each presentation topic. Conclusion: An average of twenty-six (26) youth represented in six (6) counties attended the Gardening Camp 1.0 program. A pre- and post-question test was designed for each topic to determine the success of the program. Of the respondents, 100% indicted they learned something new as well as 100% indicated the program met or exceeded their expectations and needs. With the success of this program, Gardening Camp 2.0 will be presented as the next program.

GOOD FOOD CONNECTIONS

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Growers across the Treasure Coast of Florida are often faced with inventory issues due to the nature of their perishable commodity. In 2019, Extension completed a food systems analysis that identified current resources and suggestions for system improvements, and this information was shared with local stakeholders and decision makers. To start addressing inventory issues, Extension partnered with the Martin County Agriculture and Natural Resources Advisory Committee to offer an in-person food system networking event in October 2019. Based on stakeholder feedback, the team planned to offer the event again the following fall. Local growers then faced drastic changes in their distribution outlets due to the pandemic, further exposing weaknesses in the local food system. Considering

the need to strengthen food system distributions, Extension implemented a monthly virtual meet-up event, "Good Food Connections", for local producers and users to share information, express needs or desires for their operation and offer available resources. Monthly events have been attended by local growers, representatives of local and out of state food banks, food product producers, retailers, industry organizations, Florida Department of Agriculture and Consumer Services, distributors, and Extension faculty. Participants have made the intended connections at each event and, with the events being offered monthly, continued and expanding connections have been possible. After participating in the December 2020 event, 100% of survey respondents (n=12) said "definitely yes" (42%) or "probably yes" (58%) they were able to make at least one new connection. Connections have included:

- Growers learned of packinghouse and processing facilities;
- Retailers shared with growers they are seeking to purchase local produce;
- Growers seeking skilled labor connected with a pantry offering student internships at their production garden; and
- A grower seeking trained chefs/cooks for farm-to-table dinners connected with non-profits engaged in hospitality workforce development.

At an individual scale, for a skilled hospitality or agricultural worker to find employment, the benefits can be life-changing. For business owners, having skilled workers makes a huge difference. When growers connect with packing, processing, and retail opportunities, they have more options for market outlets and product offerings. Good Food Connections can help to build a stronger food system.

GROWING TOGETHER FROM A DISTANCE: CENTRAL FLORIDA LIVESTOCK AGENTS SEIZE ON OPPORTUNITIES TO VIRTUALLY PROGRAM TOGETHER DURING ERA OF PHYSICAL SEPARATION

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In response to the public health threat posed by the novel corona virus, Extension Agents in Florida were asked not to travel or conduct in-person events, unless absolutely necessary. This meant that starting in March 2020 routine site visits and in-person meetings suddenly became far less routine. Still, life marched on as normal for the livestock in Florida and livestock producers continued to encounter problems that they needed the help of their county agent to solve. To meet the ongoing needs on their clients, while at the same time protecting public health, members of the Central Florida Livestock Agents Group (CFLAG) decided to transform their approach to program design and implementation by revisiting the way they worked as a group. Instead of holding quarterly all-day in-person program planning meetings, CFLAG members began to hold weekly hour-long virtual meetings on Microsoft Teams. The primary focus of these meetings was to explore ways that members could transition traditional programs to online platforms and to develop new programs that met the changing needs of clients. As a result, a number of new and innovative projects were successfully piloted and traditional programs, such as the Equine Institute and Small Ruminant Production Conference, were able to be successfully executed online. The weekly meetings also served as an open forum for members to discuss vexing issues, seek out input, and share ideas. As a result of having participated in weekly meetings 75% of the CFLAG members who responded to an online survey (n=8) reported that they collaborated more with colleagues than they had compared to past years. 87% felt more comfortable asking a colleague for assistance and an equal percentage felt their professional development had been enhanced through their participation. Most importantly, 75% of respondents felt better equipped to serve their clients as a direct result of

meeting weekly with their colleagues. By taking advantage of available technologies, CFLAG agents were able to use the pandemic era to increase their programing reach and develop their professional competencies while recognizing synergy through collaboration.

LINKED WITH LIMULUS: SUPERHEROES OF THE SEA

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Situation: Horseshoe crabs (Limulus polyphemus) are ancient superheroes still walking our beaches today. Besides being a popular prey item for many fish, birds, and sea turtles, horseshoe crab's unique blue blood is used by pharmaceutical companies to ensure intravenous drugs are free of harmful bacteria. Limulus Amebocyte Lysate, a substance found in the blood, clumps when bacterial toxins are present allowing for sterility of medical equipment and injectable drugs to be tested. It is because of this that horseshoe crabs in many states along the U.S. Atlantic Coast are collected for their blood. Unfortunately, little is known about horseshoe crab populations in Florida. Historically, they were found along Florida's extensive shoreline, but life history information is lacking. Comprehensive surveys across all of Florida's coastal habitats by paid faculty from academic or government institutions are financially and logistically impossible. Response: To address data gaps and better inform fisheries management, the Florida Horseshoe Crab Watch (FHCW) program was created. This citizen science-based program is a collaboration among Florida Fish and Wildlife Conservation Commission, The University of Florida, and Florida Sea Grant. The FHCW program volunteers are trained to count, measure, weigh, and tag horseshoe crabs. Results: To date, Hernando's 32 volunteers have dedicated 202 hours ($4,859 value) towards the program's success. Over 650 horseshoe crabs have been identified during the beach surveys, 214 crabs tagged, and 9 crabs re-sighted by the public. These volunteer-collected data are contributed to a United States Fish and Wildlife Service's mark-recapture program along the Atlantic coast and used for state stock assessments. Conclusion: Intricacies of this program are described, with special emphasis on Hernando County's training regimen. This case study can be used to help inform those interested in using effective citizen science programs to answer questions where volunteer involvement may supersede the limitations of available funding.

LIVESTOCK EXTENSION PROGRAM DELIVERY MODES FOLLOWING COVID PANDEMIC

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Due to COVID, Extension faculty turned to virtual programming to reach clientele during quarantine. This shift in delivery allowed Extension programs to continue without interruption. Annually, the UF/IFAS South Florida Beef Forage Program offers an intensive 3-day course on beef cattle reproductive management. In 2020 due to COVID restrictions, committee members opted to offer an online video series of the seminars. With what appeared to be a greater acceptance of virtual programs, the committee proceeded to plan a hybrid version of the course to attract a larger audience. Shifting this program to an Extension Online Learning platform plus a one day on site program would replace three days of intensive in-person interaction that required participants to travel great distances, lodge and leave their normal daily responsibilities. This could reduce cost to the participant, organizers, and time away from daily responsibilities. Objectives: To determine if a hybrid version of future Reproductive Management Schools would be preferable or acceptable to South Florida beef cattle producers. Methods: Past participants (98) of the Beef Cattle Reproductive Management School were sent an e-mail survey, and local ranch managers and workers (6) were polled in-person to determine their acceptance of a hybrid program. Fourteen past participants responded to the emailed survey. The survey consisted of two questions and an option to provide a short answer response with suggestions for improved future program delivery. Results: Of the 20 survey and interview respondents, 100% indicated that they would not prefer a hybrid delivery mode. 95% preferred a fully in-person program delivery and 5% indicated that they were not sure. All the short answer responses indicated an in-person delivery preference. Six of the short answer respondents strongly disapproved of a hybrid format. Conclusions: While technologies offer alternative delivery modes for programming, it is important that we continue to consider the needs of our clientele in planning Extension programs. This survey exercise indicated that, for this particular program, there is a strong preference toward in-person program delivery. Further evaluation of delivery alternatives for other programs is needed.

PESTICIDE APPLICATOR CERTIFICATION PROGRAMS: PIVOTING DURING A PANDEMIC

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Landscape professionals, farmers, and nursery growers who apply pesticides as part of pest management programs in Florida are often legally required to have a pesticide license issued by the Department of Agriculture and Consumer Services (FDACS). Failure to be licensed can result in fines from $5,000 to $25,000 per individual. Additionally, certified applicators make higher salaries than those without certification in a similar job and are better equipped to protect themselves, others, and the environment.

To secure a license, a certification exam administered by a UF/IFAS Extension office must be passed and re-certified periodically with continuing education units (CEUS) provided through FDACS-approved educational programs. Extension programs in Brevard County are implemented to meet the needs of certified pesticide applicators, similarly as it is across the state of Florida and the U.S.

Despite setbacks from the COVID-19 pandemic limiting in-person gatherings, applicators licensing exams, training and CEU opportunities, Brevard County Extension was able to pivot its typical programming and continue providing pesticide education to these essential workers.

Since March 15, 2020 to March 15, 2020, training and certification exam study opportunities were provided, both in-person and virtually, across diverse categories. Programs reached 393 individuals and provided 56 CEUs. In-person certification testing has been offered on a weekly basis, with 178 exams completed at the Brevard County Extension office since the start of the pandemic.

Both knowledge gain and increased confidence were documented using self-reflective Likert surveys. Results revealed that 89-98% of participants had a knowledge gain across all categories, and 87-96% agreed to an increase in confidence in their test taking ability after attending a prep class.

Additionally, 108 new individuals received certification after passing exams, thereby increasing their credentials, and potentially avoiding a total of $540,000 to $2.7 million dollars in fines.

In the future, pesticide certification exam testing will continue to be offered on a weekly basis, and test preparatory and CEU opportunities will be provided in a limited capacity, in-person and virtual hybrid experience to ensure that pesticide applicators are compliant, safe, and stewards of their landscapes.

SHIFTING STRATEGIES DUE TO COVID-19: FROM TRADITIONAL EXTENSION AGENTS TO SCIENCE-BASED VIDEO PRODUCERS

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Situation: Access to science-based information by minority Hispanic populations in Florida has historically been difficult. COVID-19 has made it even more challenging to devise traditional in-person educational programs for clientele and communities. In Florida, access to critical information provided by Extension educators to underserved communities has typically been complicated due to cultural and language barriers. Methods: To comply with our mission to provide quality, relevant education, and science-based expertise to solve Floridian's problems, Extension educators have created, edited, and released educational videos in Spanish and English. Videos averaging 20 minutes long were developed with experts in different fields such as livestock production, natural resources management, and 4-H youth development, among other areas. Results: Through the YouTube video series agents have created 65 videos in English and Spanish. From March 30th to October 1st, the videos reached more than 3,512 views and 124 hours of watch time. The work of Extension Agents and specialist have an incalculable value. Otherwise, the cost of opportunity increases the online educational content and reduces video cost of production, savings over $744,000, and Spanish speakers expert in agriculture around $12,400 (Total savings 756,400 dollars). Conclusion: Access the UF/IFAS CAFE-Latino video series at: https://bit.ly/2GkNdXZ. Utilizing innovative approaches and tools to remotely assist and educate Floridians creates resilient Extension agents

that can still positively impact communities and advance the mission and initiatives of UF/IFAS during the COVID 19 pandemic in Florida and among other countries.

THE FUTURE OF URBAN PEST MANAGEMENT EDUCATION: VIRTUAL WEBINARS FOR DISTANCE EDUCATION

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The presence of COVID-19 has had a substantial impact on urban pest management. Quarantines resulted in increased stored food and shelter for pests in the forms of such materials as cardboard boxes or paper bags. PestWorld.org has stated that summer high temperatures, excessive rain, and the impact of COVID-19 could create the perfect storm for urban pests. Increased pests can result in serious health problems, costly economic damage to structures, and stress to affected homeowners, thus affecting quality of life. Due to quarantining, Extension educators were also challenged to find a way to reach out to citizens and inform them on the importance and diligence of pest management. Extension specialist and faculty created a series of distance education in the form of webinars. Webinars were established in July of 2020 and have continued into 2021. A total of seven webinars were created using Zoom webinar. Pre and post questions were administered utilizing Zoom polling and attendance was captured using Zoom reports. Objective: After attending virtual Urban Pest Management virtual webinars, surveyed participants will demonstrate at least a 30% gain of intent to practice integrated pest management practices (IPM) as measured by pre and posttest utilizing Zoom polling. A total of 539 participants attended the webinars. 431 attendees participated in the polling process. Topics included ants, termites, mosquitoes, ticks, roaches, bed bugs, rats, and other rodents. In each presentation, the utilization of Integrated Pest Management (IPM) practices was taught. Overall, we found that the average of all IPM behaviors practiced was 62% before the program. After the programs, we found that the average intent to practice IPM behaviors increased to 95%, a 33% gain. 100% (n=431) stated that as a result of the Extension webinar(s), they will be more successful in managing pests around their home. Initiation of webinars to educate homeowners has been shown to be effective and successful, reaching a wide variety of clientele from all over the world. From this pilot project, a 6-month and 12-month post survey via Qualtrics will be used to report behavior change.

USING THE CANVAS SYSTEM FOR ONLINE MASTER GARDENER VOLUNTEER TRAINING

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Due to restrictions on in-person events due to COVID-19, many County Extension activities have been required to transition to an online or virtual delivery method. The number of clientele requiring assistance from Extension has not diminished - it has, in fact, increased as Walton County is the fastest-growing county in Florida and one of the fastest in the nation (the population rose from 55,000 to 75,000 between 2010 and 2019, according to the U.S. Census Bureau, an increase of 34.6%). Master Gardener Volunteers have been unable to attend in-person office duties, meetings, and trainings, and many are unable to utilize technology to participate in online versions of these events. To help bolster volunteer numbers in a safe manner and ensure that new volunteers are able to navigate the virtual landscape that Extension has had to become part of, the agent conducted a new Master Gardener Volunteer training class online. Using the Canvas system, designed and utilized by the University of Florida for online educational courses, the agent presented a training curriculum to nine new volunteers.

The course offered included presentations via Zoom with a variety of guest speakers on numerous topics, each of which was recorded. Volunteers were expected to attend live, but these lectures were also recorded for students to watch again or to view if they were unable to attend. Furthermore, presentation slides were available for perusal at the students' convenience. The Canvas system offered the ability to create and manage discussion boards for volunteers to discuss each week's lessons, assignments that included plant identification lists and links to more information about the plants, quizzes to test individuals' knowledge on those lists, and quizzes to be used as evaluative measures for each week's lessons. As a platform for online learning, Canvas kept all the information students needed in one place, from the course syllabus to Zoom links for each lecture.

COALITION-BASED SCHOOL GARDENING AND NUTRITION EDUCATION THROUGH SNAP-ED

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The objective of this collaboration was to implement a coalition-based, comprehensive gardening and nutrition education to address youth obesity rates. The target audience was students and families in SNAP-Ed eligible schools. Studies have shown children are more likely to eat fruits and vegetables when they participate in growing and harvesting. A plan was created to use gardening and nutrition education to encourage students to increase intake of fruits and vegetables. The University of Arkansas System, Division of Agriculture, Cooperative Extension Service (UACES) and Cleveland County Childhood Obesity Prevention Committee collaborated to implement nutrition and gardening education to encourage students to increase fruits and vegetables in their diet. Two school districts, with a combined annual elementary enrollment of 510 students, agreed to participate. Arkansas Farm Bureau funded raised beds for each elementary grade K-6. UACES recruited Master Gardeners to help with the installation. UACES provided teachers with the School Garden Lesson Plans curriculum, developed by Whole Kids Foundation and American Heart Association. UACES Agriculture and FCS Agents developed Constant Contact newsletters for teachers containing pertinent information, schedules, recipes, photos, and success stories. UACES Agents also assisted with hands-on education in the garden. School cafeteria staff implemented the Arkansas Foods curriculum developed by UACES, which provides lessons, tasting activities, and parent newsletters for 21 Arkansas-grown foods. In both 2019 and 2020, students grew more than 300 pounds of sweet potatoes at one school. Students cured sweet potatoes, tasted them in the cafeteria, and entered prize sweet potatoes in the local county fair. Eighty percent of students surveyed reported liking sweet potatoes they tasted. Teacher surveys show 73% reported lessons as valuable to extremely valuable, 63% reported it made a difference in the lives of their students, and 72% reported increased student willingness to eat fruits and vegetables. By building a coalition of interested stakeholders, UACES SNAP-Ed implemented comprehensive education by securing funding to build gardens, recruiting volunteers to assist with installation, and engaging teachers and cafeteria staff in implementation.

CONTROL POISON HEMLOCK(CONIUM MACULATUM) WITH WINTER APPLICATION OF BROAD LEAF HERBICIDES

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In 2018 Duracor (aminopyralid (2-pyridine carboxylic acid, 4-amino-3, 6-dichloro-) received a license to allow the sale in Arkansas. It is an unrestricted herbicide for the control broadleaf weeds. Starting in fall of 2019 Broadleaf forage Herbicide demonstrations were conducted in 34 locations across the state. The comparison treatments are typical herbicides used in forage weed control throughout Arkansas and recommended in pasture Weed Control in Arkansas MP522. Herbicide demonstration treatments were 2,4 D one Quart per acre, Metsulfuron 0.3 Ounces per acre, Grazon p+d One Quart per acre, GrazonNext one Quart per acre, Duracor 12 ounces per acre, Duracor 16 ounces per acre, Duracor Impregnated Fertilizer 16 ounces per 200 pounds of fertilizer per acre. All foliar treatments were applied with a CO2 backpack sprayer at 15 gallons per acre. The treatments were applied four times. January 5, 2020, April 3, 2020, and June The species of weeds that were used to evaluate the effectiveness of the treatments. Poison Hemlock (Conium maculatum), All of the treatments provided control rate of 90% of Hemlock when applied in the winter application, with the exception of the Duracor impregnated fertilizer that was 50% on the January Treatment and 2,4D on the April treatment.

INCREASING ENGAGEMENT AND LEARNING DURING PSA GROWER TRAINING COURSES

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The one-day standardized PSA Grower Training has received mixed reviews from small-scale growers who would like additional support and technical assistance implementing Produce Safety Rule (PSR) requirements. The 2019 North Central Region Center for FSMA Training, Extension, and Technical Assistance report shows that special populations of growers (minority, plain cloths, and limited English proficiency) generally score lower on the standardized pre-test and show less improvement than growers who do not identify with a special population when confronted with the traditional lecture based PSA Grower Training (Bhullar et al, 2019). Training that incorporates simulation, demonstration, discussion, peer-to-peer, and experiential learning is likely to better meet the cultural needs of the given audience and is consistent with the USDA Guide: Best Practices for Better Serving Socially Disadvantaged and Limited Resource Beginning Farmers and Ranchers.

Several two-day PSA Grower Training Courses that incorporated experiential learning and other interactive elements have been conducted across the southern region. Growers who attended these courses report a high level of enjoyment and engagement. Analysis of the PSA evaluations shows that growers attending these courses believe they have improved their knowledge and have greater confidence implementing food safety practices.

Incorporating hands-on activities into PSA Grower Training increases engagement and it is theorized that the increased engagement offered by the interactive course elements will lead to greater long-term learning outcomes and improved on farm food safety practices.

RAINWATER HARVESTING UTILIZED FOR TOILET FLUSHING FOR AN AUBURN RURAL STUDIO 20K HOUSE

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Auburn University College of Architecture students must complete a senior design project before graduating. One of the current projects is for students to design and build a home for $20,000 (20K). The 20K home is a long-term Auburn University project to develop a prototype for rural affordable housing. One of the design options is to lower monthly utility bills that includes water use. An Auburn University Architecture senior design group first contacted Dr. Eve Brantley, State Water Resources Specialist, for guidance. She directed the team to Home Grounds Regional Extension Agent, Rhonda Britton, who has extensive experience with rainwater harvesting for in-home use. Rhonda provided help with designing a working rainwater harvesting system used to flush toilets in the home. Design considerations include sizing the tank, a first flush diverter, float switch, pressure switch, shallow well jet pump, solenoid, check valve, and gutters. The design process started in the summer of 2018 and the students finished the rainwater harvesting installation at the prototype 20k house in the fall of 2019. Lessons learned in this project include the importance of extension collaboration with the university they represent and the experience as the students begin their careers.

TRANSITIONAL HOME HORTICULTURE EDUCATION DURING A PANDEMIC

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Alabama Smart Yards, an Alabama Extension Home Grounds Team program, started the year with 28 planned face-to-face programs in 2020. On March 16, 2020, Covid-19 pandemic restrictions closed all Extension offices and postponed meetings until further notice. The Home Grounds Team shifted to online programming on March 18, 2020 launching daily programming via Zoom online conferencing titled – Get Outside with Alabama Smart Yards. Subject matter concentrated on plant problem diagnosis, plant selection, straw bale gardening, wise fertilizer practices, best pruning practices, water conservation, rain barrels, wildlife damage, attracting pollinators, and several other activities involving the outdoors. Weekly schedules were made and distributed to all Alabama Extension employees for publicity. The Alabama Extension communication department created a blog advertising the new series. Each Home Grounds Regional Extension Agent emailed their respective Alabama Extension Master Gardener Volunteer groups for additional advertising. Alabama Smart Yards teaches and promotes best management practices for residential landscapes and community properties. We hosted 35 consecutive daily program before transitioning to weekly and impromptu programs. Speakers included regional agents from Home Grounds Team, Commercial Horticulture Team, Forestry and Wildlife, Food Safety, Pesticide Safety, County Coordinators, Master Gardener Volunteers, Auburn University and Alabama Extension specialists. The total registered attendees for all programs was 17,480. Twenty-two percent of the virtual attendees were new to Extension programming in 2020. Email surveys were sent to all registered program participants. Seventy percent of these individuals reported that they implemented something from one or more of our programs. Clients also reported an average savings of $78/program. Based on registered participants of the Get Outside with Alabama Smart Yards series, the ROI for this Home Grounds program is 40:1. Participants also self-reported the value of our program along with their cost savings. Their average total value was $137.71. Based on their reported average and program attendance per person (13 hours), this equates to a total program value of $168,281 for this group of 94 participants. The 2020 Alabama Smart Yards Webinar Series continues in 2021 on a weekly basis.

NORTHEAST REGION POSTERS

TRAIN THE TRAINER SMALL RUMINANT PARASITE INTERVENTIONS: PROVIDING METHODS AND MATERIALS FOR PRODUCER DRIVEN PARASITE CONTROL

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Various climatic and biological factors are promoting the spread of deadly parasites throughout domestic small ruminant populations. Long a problem in southern states, where warm winters allow parasite populations to flourish and there is a history of goat production, we are seeing more issues with parasites in the Northeast due to an increase in small ruminant production and warming winters. One of the most effective approaches to combatting parasites is a combination of progressive strategies driven by producer education.

This project worked to educate New York State producers in the best management practices to prevent and treat their animals for deadly parasites, slow the incidence of parasite resistance within domestic flocks, and provide producers with access to the supplies to complete the analyses in the future.

This intervention used a "train the trainer" system where the project lead (Detzel) provided training sessions to 7 separate Cornell Cooperative Extension Agricultural Educators. Each County Educator was also provided with the necessary lab supplies and resources to host an ongoing small ruminant parasite control lab during the growing season in their County. Once the training was complete, the educators agreed to host a copy of the training where they would teach local producers the protocol. In addition to the local course, the educators agreed to open their lab at least one day per month for producers who had completed the initial training.

The pandemic caused delays in the implementation of the project. As of Spring 2021, all of the train the trainer courses have been completed, and each County has hosted its initial producer parasite workshops. A total of 47 farms attended the courses in the fall and some of the Counties were able to open their onsite labs to local producers. As the current restrictions fade, we hope that all of the participating Counties can offer the two-hour course a second time in the spring of 2021 and be permitted to open their labs to enable producers to access and treat any parasite issues.

EFFECTIVENESS OF A 'WEBEX POLLING TUTORIAL' PROFESSIONAL DEVELOPMENT WEBINAR

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At the heart of Rutgers Cooperative Extension's (RCE) practice is the delivery of educational programs to our clients. To determine the effectiveness of these educational efforts, evaluations are presented to the audience with feedback received through written or verbal responses. Prior to the COVID-19 pandemic, most programming was conducted as either the traditional lecture style or through hands-on workshops where evaluations could be given to participants in real time. The COVID-19 pandemic suspended in-person instruction within RCE, shifting programs to distance learning. The 'Webex Polling Tutorial' professional development webinar was developed and conducted to assist Extension professionals in performing online evaluations and the collection of impact data. The goals of the tutorial were to train RCE professionals in the use of the polling feature within Webex and provide them with resources to conduct online program evaluation. Participants were surveyed with the Qualtrics® survey tool after the tutorial to gauge its effectiveness in relaying polling techniques and determine if those techniques were used by webinar participants. Survey results indicate participants rated the tutorial 'Good' or 'Excellent' and utilized skills learned in evaluating their online programs. Respondents also indicated that they were conducting online educational programs and incorporating polls into their programs after attending or viewing the 'Webex Polling Tutorial' webinar. A previous survey of New Jersey's Agriculture and Natural Resources Extension faculty and staff found that 67% had never used video conferencing, and that the remaining 33% used it monthly or rarely. This current survey found that 76% were planning to conduct video conferencing-based webinars or already had. While this increase is most likely attributed to the requirements established for RCE faculty and staff, the timely intervention of this peer-to-peer professional development may have been helpful in increasing one's knowledge and comfort with online instruction.

SMALL FARM PROGRAMMING DURING A PANDEMIC

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During the late winter and early spring, educators within University of Maryland Extension typically provide new and existing small flock and livestock owners with educational programming. This programming usually takes place at farm and feed stores, which growers frequent to purchase chicks and livestock feed. When in-person programming was suspended due to the COVID-19 pandemic, educators decided to put together a series of online sessions to offer educational opportunities on backyard poultry, small ruminants, hay, cattle, and beekeeping. A total of 31 Backyard Farming sessions were scheduled, broken up into several series including small flock, small ruminants, hay, cattle and honey bee sessions. Within each series, sessions were largely focused on management, health, and nutrition for the various livestock species. University of Maryland Extension faculty taught all of the sessions, which had a total of 1,327 participants. Following the completion of the entire Backyard Farming series, a Qualtrics™ survey was developed and sent to participants. The survey consisted

of 21 questions designed to determine the success of this type of online programming for livestock producers and was completed by 52 respondents across the various industries. Many participants noted that additional free time due to COVID-19 shutdowns and working from home and being available to watch online programs were reasons for attending, with 79% of participants indicating that the COVID-19 shutdowns affected their decision to participate. Almost all participants (98%) found the information valuable, with 90% indicating that the information they learned would help keep their animals healthier and 66% indicating that the information would make their operation more profitable and/or productive. A further 60% reported that they had already made changes to how they manage their animals based on information received, while 31% more stated they planned to. The number of attendees and positive survey results demonstrate that this series is filling a needed void, and also indicates that online educational programs offer additional educational opportunities and are a viable option when in-person meetings are prohibited.

THE GARDEN THYME PODCAST- EDUCATING GARDENERS DURING COVID-19

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In 2019, the Podcast Consumer Report cited that 51% of the US population has listened to a podcast, with 32% listening to at least one podcast a month and 22% listening to a podcast weekly (Edison Research, 2019). As our world and technology evolve, Extension must be able to adapt to use new technology to extend its mission of providing the public with non-biased research-based information and to reach diverse audiences. The Garden Thyme Podcast is a monthly educational podcast developed by University of Maryland Extension educators to teach residents about building healthy gardens, landscapes, and communities using sustainable gardening techniques for novice to advanced gardeners. There have been twenty episodes published since October 2019. Results were as follows as of March 2021: >5,370 downloads, >742 minutes of content, with an average of 269 listens per episode, 68% of listens are on mobile devices (iPhones and Androids), 32 % are on computers, 96% of listeners are from the United States with minimal international listens. During 2020 the podcast held three live Zoom garden questions and answer sessions. Results were as follows: 221 participants reached over three monthly diagnostic webinars. 42% of participants felt an improvement in diagnostic and identification skills post-webinar. 75% of participants anticipate planting more native plant species and 36% of participants plan to remove invasive plant species. 28% of participants plan to use their local Extension resources in the future.

UME VIRTUAL WINTER AGRONOMY MEETINGS ACCEPTED BY LOCAL FARMERS

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During the winter of 2020-2021, as a response to the COVID-19 pandemic, University of Maryland Extension (UME) implemented its first major series of winter agronomy meetings that were entirely virtual. A total of five meetings were held throughout the State of Maryland. An evaluation tool was developed and implemented by UME educators to include specific questions to gather data on the efficacy of virtual programming and the impacts of COVID-19 on farming operations. A total of 654 individuals participated in the online webinars; 258 participants were evaluated. Over 88% of respondents indicated that they were satisfied or very satisfied with the virtual winter meeting format and rated their interest in continuing virtual programming as an 8.26 on a 10-point scale (1= little interest, 10= very interested). When asked how COVID-19 has impacted their

farms, the greatest impacts were noted in worker safety, access to labor, and stress levels. This data will help UME and other institutions plan future virtual programs and offer insight into how the COVID-19 pandemic affected agricultural producers and their farming operations.

VIRTUAL COACHING FOR ENTREPRENEURIAL SUCCESS

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Business coaching is a popular practice in private industry where experienced and knowledgeable individuals assist and guide business owners in building and growing their business. The University of Maryland Extension created a coaching program for ag entrepreneurs to help identify goals, connect resources and make actionable steps towards starting or improving their business. In 2019 the program transitioned its one-on-one Entrepreneurial Coaching program to a virtual environment. Since then 87 individuals have participated in at least one virtual coaching session.

Majority of individuals (68.4%) had less than five years of experience in agriculture or had not started. Participant goals are to supplement their income (45%), want to employ them self or others (45%) and want to improve the financial viability of their existing business (13%). When asked about land 40% have land and interest was mostly in crops (63%) and business management (63%) with value added being third (46%). End of class surveys show participants increased knowledge by 35% with the highest results in knowing which regulations pertain to my business (47%), knowing the next step (44%), finding resources needed (34%) and writing a business and marketing plan (33%).

The follow up survey shows 73% rated the experience as valuable or highly valuable. The highest qualities of coaches include resources (73%), accessibility (67%), supportive (60%), experienced (36%) and connected (33%). Participants have taken action to write or revise their business plan (57%), investigate regulations (43%), estimate how much it costs me to produce my product (43%), conduct other market research (36%), survey potential or existing customers (29%), applied for a certificate or permit (29%) and acquired insurance (29%). Participants have expanded their business (46%), improved the financial viability of the business (31%), started a business that provides supplemental income (23%), purchased inputs from Maryland farms or businesses (23%). When asked about the income 40% are not generating income yet and those that are average approximately $29,500 annually.

SO YOU WANT TO FARM IN MAINE?

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Current farmers thinking about changing farm enterprises and new farmers interested in starting a farm may lack the skill, knowledge and confidence to investigate their options to start, adapt, and maintain a profitable land-based business. Major issues farmers and potential farmers need to overcome include access to capital, understanding of rules and regulations affecting agriculture operations, and marketing options. To enhance the business management knowledge, skills, and confidence of new and established farmers, UMaine Extension developed the “So, You Want to Farm in Maine” (SYWTFIM) series. Since 2015, 224 people have participated through face-to-face, video-linked, webinar, live-streamed, Zoom, and archived sessions. Participants representing part-time farmers, full-time farmers, and prospective farmers attended to learn about agriculture enterprise selection, business planning, record keeping, market research, regulations, and resource identification. Knowledge change was assessed by a post program evaluation. The 32 participants (13%) who completed an evaluation, reported the following knowledge and understanding gains: 73% learned more about setting goals, risks, and land potential; 73% learned more about insurance and farm financing; 69% learned more about the importance of developing a business plan and the items a farm business plan should include; and 69% learned more market research techniques that they could implement to refine the knowledge of markets for their agriculture products.

Overall, participants increased their understanding of the 20 major topics presented by 68%. Farm Service Agency provided $2.7 million in farm direct loans as a result of Maine farmers attending this approved borrower training.

NORTH CENTRAL POSTERS

COSHOCTON COUNTY FORAGE AND PASTURE MANAGEMENT PROGRAM

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The development of county-based Extension programs are tied closely to local needs assessments and to the commodities raised by producers. This educational program emphasis was undertaken by the Educator after a program review was completed in 2018-2019. The 2017 Census of Agriculture reports that 68,997 acres or 49.7% of the cropland in Coshocton County, Ohio is dedicated to pasture or forage production. The 2018-2019 Coshocton County Needs Assessment also revealed the top educational need as expressed by producers was forage, hay & pasture management. Sixty-five percent (65.5%) of the respondents to the survey listed this area as the top educational need. To help address this need, the Educator has worked to increase the programming emphasis in forage production. Two forage quality workshops have been held in which 35 producers attended. As a result, 100% of attendees reported they felt more confident on how to take a forage sample and 81.3% reported they felt more confident on understanding the results of the test. Only 11.8% reported taking a forage sample of their hay in 2019. Of which, 50% reported they would test their hay in the upcoming year. As a result of the program, the Educator allocated program money to conduct free forage testing for area farmers. Thirty-two forage samples were taken in 2019-2020 with individual instruction letters written to each producer. Additionally, a county forage quality report was published. The Educator also continued the long-standing tradition of holding summer pasture walks in conjunction with the Coshocton Soil and Water Conservation District and the Natural Resources Conservation Service. Since 2019, four pasture walks were held in which 112 producers attended. Additionally, a weekly electronic County Agricultural & Natural Resources newsletter has been established as another avenue to share forage education. Future plans include offering a forage field day and expanding the forage testing program.

EXPLORING AG- CAREER EXPLORATION WITH EXTENSION

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The main objective for the Exploring AG Extension Program in Seneca County was to help youth understand the careers available to them based in agriculture in their community. Our region has numerous exceptional agricultural businesses that have difficulty filling many skilled and high paying jobs and thus creates a need for youth agricultural career development. To accomplish this, we assembled a board of agricultural professionals utilize professional connections to develop a series of monthly meetings and tours of these agricultural businesses throughout the region and worked with Exploring Professionals to recruit high school students. In our inaugural year, 7 in person meetings were held with an average of 8 students per meeting. At the completion of the years program, students said that they increased “awareness of careers available in agriculture” and indicated that they “had a greater likelihood of pursuing a career close to home” than before they participated in the program. Seeing that this is a common need in many rural communities across the country, we feel that this program can easily be replicated and customized by other extension programs.

PARTNERING TO PROVIDE ACTIVITY KITS TO SUMMIT COUNTY YOUTH

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Extension regularly partners with library systems to provide outreach and education. The COVID-19 pandemic created challenges for both Extension and libraries who were unable to provide these services in traditional ways. The Summit County (Ohio) Extension office partnered with the Akron Summit County Public Libraries to create activity kits for 3rd-5th grade youth who were not able to participate in regularly scheduled summer activities. The Summit County Master Gardeners Volunteers suggested topics that they were interested in developing into a simple activity using easily obtained materials. Two themes emerged: nature and gardening. A two-page, branded direction sheet was developed for each activity. The direction sheets, items needed to complete the activity, and other supporting materials were placed in either an individual paper or plastic bag. In total, activity kits were developed on twelve different topics ranging from growing microgreens to creating a nature journal. For each topic created, kits were

delivered to the Main Library branch for distribution to 19 individual branches (20 kits per branch) for a total of 380 kits distributed per activity. Youth were able pick up the activities to complete at home for free. A Facebook live video was created for each of the kits to provide a demonstration of how to use the materials in the kit. In total, 4,940 kits were distributed throughout Summit County.

TEACHING YOUTH SWINE HARVESTING AND PROCESSING

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The meat processing disruption due to COVID, coupled with the desire to further educate youth exhibiting market livestock, created the perfect opportunity to provide a hands-on training for youth in Ross County. Program delivery brought together the Ohio State University Extension Meat Specialist, OSU Meat Science graduate students, local Extension Educators, local farmers, and older market livestock exhibitors. Having the diversity of experiences and perspectives created a wide-ranging dialogue about food safety, animal harvesting, meat processing, and career opportunities for our youth. The program consisted of three sessions, with the first being a detailed Zoom training on food safety and animal harvest. Session two was the actual harvesting and preparing the animal carcass to be chilled. The third session was the processing of the meat cuts, packaging, and concluded with a sausage taste testing. Impact was measured with a post-event survey of participants and their parents. Students reported their knowledge was somewhat to definitely-enhanced on the following topics: food safety, 100%; swine harvesting process, 91%; ground pork eating characteristics, 100%; industry jobs, 100%; and education options for related careers, 100%. All the parents completing the survey believed their child's knowledge was somewhat to definitely-enhanced in all the measured areas. Youth provided many additional comments such as

- "It was exciting get to have a professor on site teaching me and I had the option to ask her question if I had any. I also enjoyed learning about career opportunities in the Agricultural field because I never knew there were so many options." and
- "My favorite part was the casual atmosphere. I had the opportunity to ask Lyda Garcia and her team specific questions about processing and the relationship between environmental conditions, handling, and nutritional practices to the overall quality of the meat."

Even though there is some resistance in sub-populations to the harvesting and processing of animals, feedback from our community was very positive. Requests for adult classes were received as well as kudos from many of our volunteers and community leaders.

THE DIRT ON SOIL HEALTH: INVESTING BELOW THE SURFACE

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Soil health is an increasingly important topic of interest to agricultural producers in Ohio. The Ohio State University Extension Agronomics Crops Team educational committee planned and delivered virtual programming on this subject. But if you ask a farmer what good soil health means the responses may include an array of characteristics ranging from biological, chemical, and physical properties.

Program objectives were: 1) Define and increase the awareness of good soil health 2) Convene a diverse group of experts and practitioners to share research and practical methods to improve soil health. 3) Give participants a toolbox of resources, methods and testing methodology to assess soil quality

Eight weekly webinars were conducted. Speakers included university soil scientists, ag engineers, farmers, consultants, and soil conservationists. Topics included soil quality research, soil compaction, farmer experiences with establishing and managing cover crops and data relating to the economics of soil health and soil carbon.

A voluntary program evaluation was distributed to participants at the conclusion of each program. Program evaluations will be submitted through the end of March 2021. Currently, 556 evaluations have been completed and indicate that the programs met educational objectives.

2,858 participants from 72 Ohio counties, 20 US States, and 9 nations registered for the webinar series. 1,517 attended live sessions with 1,055 views of the recorded sessions. On the program evaluation, 95.3% of respondents reported that they learned new information because of attending, and 88.7% reported that they plan to use the information they learned to improve soil health on their farms.

Qualitative information was also collected on the most useful thing learned from the program as well as how OSU Extension can better serve clientele in the future. Responses will be used to guide research and outreach efforts of the Soil Health Committee in the future.

THE OHIO PASTURES FOR PROFIT VIRTUAL EXPERIENCE

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The Ohio Pastures for Profit program is an established course created through a collaboration between Ohio State University Extension, Central State University, USDA-Natural Resources Conservation Service, Ohio Federation of Soil and Water Conservation Districts, Ohio Department of Agriculture, and the Ohio Forage and Grasslands Council. In 2021, due to COVID-19, the Pastures for Profit curriculum was adapted to a virtual classroom setting. The virtual experience consisted of three live webinars pairing with corresponding modules in Scarlet Canvas, an online learning management system (LMS). Module content was developed and compiled to compliment the traditional materials and included videos, quizzes, additional presentations, and technical resources. Enrolled students were also mailed traditional course materials as either a hardcopy binder or USB drive. During the three live webinars, 20 speakers presented on topics including the basics of grazing, plant and animal science, and grazing plans. Each live session was recorded and made available to the class for access at their convenience. Three additional networking sessions were scheduled to allow participants an opportunity to ask questions and allow team members to reinforce important concepts.

A total of 130 people enrolled in Scarlet Canvas from 14 states, including producers, educators, technical service providers, and government agency staff. Attendance at live webinars averaged 80 per session. Students who participated in the Canvas course spent an average of 12.8 hours reviewing course module content between January 13th and March 12th, 2021. Once students reviewed all three modules, they were given the opportunity to obtain a certificate of completion signed by the President of the Ohio Forage and Grasslands Council. If creating a formal grazing plan, the certificate could be used as documentation of continuing education. Evaluation of student feedback of the material and the platform is ongoing and will be used to modify the course moving forward for future hybrid teaching versions. Using an online platform allowed our team to modernize the Pastures for Profit curriculum and expand access to a wider audience even during the pandemic.

THE SOUTHERN OHIO FARM SHOW

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Prior to the COVID-19 pandemic, most Extension programming was conducted via face-to-face instruction. Due to the pandemic, Educators in Brown, Clermont, and Highland Counties, created the Southern Ohio Farm Show (SOFS), an educational program like the US Farm Report but focusing on local and regional topics relevant to the region helped connect the community during social distancing, particularly in rural areas. Being able to see others via the SOFS has been a popular component of the program for many senior citizens. Each week a new episode featuring educational programing, healthy living, and youth projects have been produced. The members contributed to the final product through filming, editing, sharing, and collaborating to promote episodes of the SOFS to achieve the highest impact among clientele in their region. The show began weekly broadcast April 29, 2020, via Zoom, Facebook, YouTube, blogs, and multiple local access channels throughout Ohio. Average viewership exceeds 1,868 weekly, reaching 40 states and 17 countries with 46 episodes to date, total views have reached 85,958. Approximately 90 percent of viewership comes from Ohio, followed by Florida, Kentucky, Indiana, Mississippi, and Texas. Episodes featuring community participation tend to have higher viewer engagement, with more shares, reactions, and comments. An example of this kind of programming includes interviewing a local FFA Chapter on their soybean test plot or interviewing youth participants at the local county fair. Additionally, analytics show that when episodes feature more technical or mechanical information male viewership increases. Women are the most frequent viewers at 62.45%, ages 25-34 is the top age range. Male viewership has ages tied at 25-34 and 55-64. The SOFS has shown that online, television-style programs are a successful way to share content typically presented at Extension programs. The success of this program is due to the number of platforms the program is promoted through. Collectively this strategy has a broad reach, and viewers can watch the show when it is convenient for them. Social media analytics and viewer feedback indicate that programming in the SOFS style is sustainable and needed for Extension education now and into the future.

USING VIDEO TECHNOLOGY TO PROMOTE ON-FARM RESEARCH AND IMPROVE EXTENSION EDUCATIONAL PROGRAMMING

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Land Grant Universities across the United States routinely conduct research. Disseminating the results to our clientele, farmers, is the final critical step of this process. The age of our farming population varies from low 20's to upper 70's. Each age group exhibits different learning preferences. In addition, COVID-19 has changed our current and possibly future information exchange options. To remain viable to our clientele, our educational program delivery and information dissemination must change as their needs change. Ohio State University Extension has produced a yearly collection of on-farm research studies, eFields, to better help farmers make choices for their own farm. To take full advantage of this educational effort several videos were produced to accompany the eFields report. Each video highlights the Extension Educator and Ohio's Farmers working together to explore agronomic issues. The video focuses on both the collaborating farmer and the educator explaining the study, the results, and economic impacts. The videos also display the relationship between the Educator, the farmer, and some lighter moments of working together. Videos are shown at winter programing and at pesticide and fertilizer re-certification meetings. These videos inspire human to human learning by showing people working together to solve problems and having the farmer explain what is truly happening in their fields to another farmer. The videos create great discussion and make the meetings "actually enjoyable" according to participants. Videos have been used since 2019 in programing. The 2021 evaluations report, 85.92% reported they learn best when utilizing both video and factsheets, 72.73% reported that after watching the videos they were more likely to partners with OSU Extension in conducting on-farm research, 88.89% reported that after watching the videos they were more likely to use OSU Extension as a resource. Many of the videos can be viewed at https://www.youtube.com/channel/UCqVwZQCBHpC6yRd6tzOiRmA

MASTER POLLINATOR STEWARD HYBRID COURSE

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Pollinators play a crucial role in the production of fruits, vegetables, honey and field crops. They also support healthy ecosystems that clean the air, stabilize soils, and support wildlife. Declining populations of bees, birds, butterflies, bats and insects led University of Missouri Extension to develop a course curriculum to help the public learn about pollinators and how to increase their presence. Course objectives include: use research-based information to meet the growing public interest in honey bees and native pollinators; provide a better understanding of the importance of pollinators to society; identify opportunities for individuals and communities to create or improve pollinator habitats in an area; and provide a broader education on plants and pollinators for new and experienced beekeepers.

Due to COVID-19, the course was offered as a hybrid in the fall of 2020 in Kirksville, Missouri. Zoom technology was used for six weeks of lecture classes, where participants could interact with classmates and the presenter. The class met in-person once a week for a two-hour lab class held outdoors, where activities supplemented what was learned in the lecture class. Activities included net sweeping for insects, flower and insect identification, building solitary bee houses, a tour of a restored prairie, and native tree walk.

Participants had a reading assignment and 15-20 questions to answer each week. At the end of the course they took a 50-question final. An evaluation was given to all. The course rating was 3.9/4 on a 1-4 Likert scale. Outcomes of the course include, 100% of participants planned to create a pollinator friendly garden or plant a portion of their farm into natives to increase pollinators; they are more aware of pesticides and the affects and dangers they can cause; and they have a better understanding of the citizen science projects available, as well as many more resources.

Course quotes:

"These were exceptionally good classes for the first time out of the box." "Field trips were great! I learned so much." "I have gained knowledge that I will use on my property. I will check into some citizen science projects." "Invaluable information, so interesting".

TOOLS FOR TODAY'S FARMER PODCAST

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Farm Stress is an issue that is quickly becoming a priority effort by Extension Professionals in many states. A recent American Farm Bureau Federation poll revealed that 82% of farmers/farmworkers say mental health is an important issue to them and/or their family (2019). In Indiana, the Purdue Extension Farm Stress Team has formed to create, deliver and aid mental health programming for farmers and rural communities across the state. A subcommittee of this group focuses on spreading mental health awareness through a podcast. The Tools for Today's Farmer Podcast has been on the air since September of 2020, with a new episode published on a biweekly basis. Podcasts have been identified as innovative and portable methods for educating listeners, which is ideal for farmer audiences who tend to multitask or spend time driving equipment (Rajic 2013). The Tools for Today's Farmer Podcast team has crafted a format for content that is unique and designed to create empathy as well as forge new connections between members of the agriculture community. Through interviews with agricultural leaders, public figures and local farmers, the team is able to emphasize positive stress coping strategies to farmers. Initiating conversations on sensitive topics that are often stigmatized by media, community members and others provide opportunities for the farmer audience to relate emotionally with interviewees without requiring active sharing of personal experiences by the audience (AFBF 2019). To date, 11 podcast episodes have been published with 431 plays as of March 2021.

American Farm Bureau Federation. (n.d.). Retrieved March 10, 2021, from https://www.fb.org/files/AFBF_Rural_Stress_Polling_Presentation_04.16.19.pdf

Rajiccaca, S. (2013, September 27). Educational Use of Podcast. Retrieved March 10, 2021, from https://www.semanticscholar.org/paper/EDUCATIONAL-USE-OF-PODCAST-rajiccaca/ccfd80e0cffb1870065dd5347088ff9cd9ce340a

Award Winners

2021 NACAA
106th
Annual Meeting
and
Professional Improvement Conference

Virtual

Agriculture Awareness and Appreciation Award

National Winner

Mountain Ag Fest Team
Horticulture Agent
Colorado State University Extension
Pueblo

Shaffer, S.*[1], , **Platten, Mark[2],** , **Harders, Kara[3],** , Nelson, Guinevere[4], , Griffin, Laura[5], , **Garnett, Barbie[6],** , **De Lair, Beth[7],** , Johnston, Jennifer[8], , Young, Morgan[9], , Dinkel, Julianne[10],
[1] Horticulture Agent, Colorado State University Extension, Pueblo, CO, 81003
[2] Teller County Extension Agent and County Director, Colorado State University Extension, Woodland Park, CO, 80863
[3] Regional Extension Specialist, Colorado State University Extension, Canon City, CO, 81212
[4] Extension County Director, Colorado State University Extension, Westcliffe, CO, 81252
[5] Family and Consumer Sciences Agent, Colorado State University Extension, Pueblo, CO, 81003
[6] Extension Agent and Director, Colorado State University Extension, Fairplay, CO, 80440
[7] 4H Youth Development Coordinator, Colorado State University Extension, Pueblo, CO, 81003
[8] Extension Agent 4H Youth Development, Colorado State University Extension, Pueblo, CO, 81003
[9] Interim Extension Assistant Director & Agent, 4-H Youth Development and Family & Consumer Sciences, Colorado State University Extension, Salida, CO, 81201
[10] Extension Agent – 4-H Youth Development and Family & Consumer Science, Colorado State University Extension, Canon City, CO, 81212

Mountain Ag Fest is a collaborative effort of Extension Agents, Specialists, and Support Staff from six Colorado counties. The main objective of Mountain Ag Fest is to reach fifth grade students from historically underrepresented demographics with agriculture education. In order to achieve the objective, the team puts on a three day annual event at which fifth grade students rotate through eight stations and experience hands on activities that teach them about different aspects of agriculture and how it effects their daily lives. This has created a great relationship between Extension in these counties, and the school districts they serve. Based on our data, the stations have proven effective in increasing agricultural knowledge in the students, and in improving their general attitudes regarding agriculture in their daily lives. We have also found through anecdotal evidence that the teachers and parent chaperones that attend the event also learn a great deal about agriculture as well.

National Finalists

James Humphrey
Field Specialist in Livestock
University of Missouri

Humphrey, J.*[1], , Bailey, E.[2], , **Davis, P.[3],** , **Dhakal, D.[4],** , **Herring, M.[5],** , Miller, L.[6], , Roberts, C.[7], , **Scheidt, J.[8],** , **Schleicher, A.[9],** , **Schnakenberg, T.[10],** , **Tate, V.[11],** , Tucker, W.[12],
[1] Field Specialist in Livestock, University of Missouri, Savannah, MO, 64485
[2] Extension State Beef Nutrition Specialist, University of Missouri, Columbia, MO, 65211
[3] Field Specialist in Livestock, University of Missouri, Stockton, MO, 64850
[4] Field Specialist in Agronomy, University of Missouri, Mexico, MO, 65265
[5] Field Specialist in Agronomy, University of Missouri, Union, MO, 63084
[6] Director Integrated Pest Management, University of Missouri, Columbia, MO, 65211
[7] Extension Program Director & Professor, University of Missouri, Columbia, MO, 65211
[8] Field Specialist in Agronomy, University of Missouri, Lamar, MO, 64759
[9] Field Specialist in Livestock, University of Missouri, Rockport, MO, 64482
[10] Field Specialist in Agronomy, University of Missouri, Galena, MO, 65656
[11] Field Specialist in Agronomy, University of Missouri, Linneus, MO, 64653
[12] Field Specialist in Agricultural Business, University of Missouri, Bolivar, MO, 65613

To combat the challenges that the COVID-19 pandemic brought to in-person educational programs in early 2020, a group of University of Missouri Extension (MUE) Field Specialists in Agronomy, Livestock, Agricultural Business, and State Specialists in Agronomy and Beef found an innovative method to effectively communicate with forage and livestock clientele across Missouri. While observing COVID-19 restrictions, Forage Livestock Virtual Town Hall Meetings, were delivered weekly via Zoom.

This virtual format and multidisciplinary program allowed current information delivery to individuals who could not attend in-person events. One important role of the program was to address production challenges in 2020, such as drought conditions and cattle markets.

Numerous MU and MUE faculty not only gave topic-specific presentations, but also answered producer questions. This allowed the opportunity to have guest speakers on the weekly town hall meetings. The weekly town hall meetings featured a weather update from MU

State Climatologist. These weekly sections were followed by a relevant topic and timely "weed of the week" or "feed of the week" session. Our programming was flexible, with a focus on supporting producers throughout Missouri. Starting in December, weekly town hall meetings moved to once a month through March 2021. On April 1, 2021, the weekly Forage Livestock Virtual Town Hall meetings will begin at noon each Thursday and will be simulcast via YouTube for producers to view live, virtually or as their schedules allow.

Thirty-four Town Hall events were presented from April 8 - December 10, 2020, with 1860 total attendees for an average of fifty-five attendees per event. Thirty-five YouTube video clips, were produced from these town hall meetings. As of March 11, 2021, there have been 6,683 views of the Youtube videos and snippets, an average of 196 views per video. The Forage Livestock Virtual Town Hall meetings would not be possible without the behind the scenes support by Jared Fogue and Lee Miller with the MU Integrated Pest Management (IPM) program.

Ginger D. Fenton
Dairy Extension Educator
Penn State Extension
Mercer County

Fenton, G.[1], , McDowell, Nancy[2], , Mercer County Ag Development Council[3],
[1] Dairy Extension Educator, Penn State Extension, Mercer, PA, 16137
[2] , Mercer County Ag Development Council, Mercer, PA, 16137
[3] , , Mercer, PA, 16137

County Situation

Mercer County is situated along the Interstate-80 corridor in Western Pennsylvania and has a diverse agricultural infrastructure and strong supporting industry with a mixture of livestock, crops, horticulture, and timber. Approximately one-third of the 460,000 acres in the county comprises farms. Forages, grain, dairy, and beef cattle represent the largest marketed values. No school districts in the county currently have agricultural vocational programs.

Public Relations

The Mercer County Agricultural Development Council (ADC) is charged with promoting agricultural development and rural conservation by providing programs to increase productivity and profitability for producers and educating consumers. Previously, the ADC participated in holiday season parades with lighted tractors and farm implement entries. These events increased visibility of agriculture, promoted products, and demonstrated an appreciation of the size of combines and tractors.

Program Execution

COVID-19 forced the educational efforts of the ADC to change due to state-mandated restrictions. In response, a parade featuring lighted tractors, combines, semis, log trucks, and other ag equipment where the cars could drive-thru was hosted at a fairground. The Tractors & Tinsel Parade was held on December 5, 2020. Entries from 55 ag businesses and farms along with 4 volunteer fire departments lit up the route. An FM transmitter allowed announcers to read write-ups about the farms and businesses highlighting agricultural facts reaching attendees in their cars. Bags containing promotional materials, recipes, chocolate milk, and string cheese were distributed. The educator planned and facilitated meetings, communicated with the participants, worked with the media, entered a display, and made social media posts.

Results and Evaluation

Estimates were that 1500-2000 vehicles, many filled with families, circled the track. The event lasted 2 hours longer than scheduled. In place of admission, more than 5000 pounds of canned good donations were collected for the local food bank. One post thanking the participants reached 5,200 on the ADC's Facebook page. Several articles were printed in local papers. In a challenging year, this event was a demonstration of goodwill from farmers to their community and was a positive reflection on Mercer County agriculture.

Sherri Sanders
CEA-AGRI

WHITE

Sanders, S.*[1],
[1] CEA-AGRI, , Searcy, AR, 72143

Intensive programmatic efforts were conducted/ coordinated in the following areas: On site and on farm horticulture demonstrations, Pollinator education, Lectures by Agent, Master Gardener volunteers and Community Garden outreach, and Social media platforms.

Demonstrations are an important key to successful educational programs. They show the university research in real world situations and they help teach people through hands-on learning, not just lectures. Another key factor is that they allow the audience to see the agent getting real work done alongside the clientele, which makes agents more relatable.

The COVID pandemic required agents to find new and innovative ways to reach our audience for educational meetings and workshops. The Brown Bag Lecture Series on Zoom provided horticulture education for people from across the state and nation. We started in April of 2020 on Wednesdays at noon.

My target audience is the general public and Master Gardeners with an interest in commercial and homeowner horticulture.

Facebook groups include:

My county agent page: https://www.facebook.com/UAEX.WhiteCountyAgriculture/

White County Master Gardener Page: https://www.facebook.com/WCMG1997/

Searcy Pollinator Friendly Page: https://www.facebook.com/SearcyPollinatorFriendly/

Searcy Tree Board: https://www.facebook.com/Searcy-Tree-Board-271545119535832/

Twitter: https://twitter.com/SherriSanders11

Collectively, these social media platforms reach an average of over 14,870 direct and indirect contacts monthly, with some months reaching over 20,000 contacts. Content is also available on the White County Extension Website https://www.uaex.edu/counties/white/. Analytics and personal testimony revealed that clientele from 26 states and 9 countries have benefited from knowledge gained through my social media educational efforts.

Social Media platforms have generated 424,456 indirect contacts and 143,342 direct contacts in Horticulture programming.

This exposure has allowed the agent an opportunity to reach a non-traditional audience and to make them more aware of the Cooperative Extension Service and its horticulture resources and other valuable programs.

Twenty five sessions have been utilized since April 2020 with total combined live participants of 6239 people and 4196 downloads of the recording after the presentations. We have 1295 (unduplicated) people on our email list that have shown interest in and wanted to be included in each week's invitation. All videos are made available on our county website for people to watch later.

State Winners

State Winner	
North Central Region	
Ohio	Brooke Beam
Southern Region	
Florida	Wael Elwakil
Louisiana	Robert J. Soileau
Texas	Michael R. Hiller

Search For Excellence in 4-H Programming

National Winner

Madaline Jones, Hannah Lepsch, Bailey McGill, Joanna Radford
Extension Agent
NC Cooperative Extension
Southern

Jones, Madaline*[1], , **Lepsch, Hannah[2],** , McGill, Bailey[3], , **Radford, Joanna[4],**
[1] Extension Agent, 4-H Youth Development, NC Cooperative Extension - Yadkin County Center, YADKINVILLE, NC, 27055
[2] Extension Agent, NC Cooperative Extension - Yadkin County Center, Yadkinville, NC, 27055
[3] Extension Agent, 4-H Youth Development, NC Cooperative Extension - Surry County Center, Dobson, NC, 27017
[4] Extension Agent, Agriculture and Natural Resources, NC Cooperative Extension - Surry County Center, Dobson, NC, 27017

The agents in Yadkin and Surry counties collaborated to hold a virtual "Pollination Station" Summer Fun program for 4-H youth. The program aimed to give youth a glimpse into the world of pollinators, fun guided activities, and interaction with other 4-Hers, community members, and Extension agents. The topics covered included pollination, the importance of pollinators, honeybees and beekeeping, and conservation of pollinator habitat. The information was delivered via educational videos, hands-on activities, and written lessons housed on a website platform. Prior to starting the program, participants went to their local Extension office to pick up a supplies "kit" for completing the lesson activities. Youth were able to communicate online with the instructors, 4-H agents and classmates, which helped give them a sense of normalcy when strict Covid-19 gathering limits were in place. The activities were self-paced to be completed over a period of two months.

Twenty-eight youth participated, all reporting that the program measurably increased their learning and interest in pollinators, and was overall a great success.

National Finalists

Brandy Vandewalle
EXT. EDUCATOR
NE Extension
NE

VanDeWalle, B.*[1], , Paisley, S.[2], , Pesek, D.[3], , Janning, E.[4], , **Hay, F. J.[5],** , Rice, N.[6], , Kinley, K.[7], , Schulze, B.[8],
[1] EXT. EDUCATOR, NE Extension, Geneva, NE, 68361
[2] Extension Educator, Nebraska Extension, Oshkosh, NE, 69154
[3] Extension Educator, Nebraska Extension, Fairbury, NE, 68352
[4] Extension Educator, Nebraska Extension, Hastings, ne, NE
[5] Extension Educator, Nebraska Extension, Lincoln, NE, 68583
[6] Extension Educator, Nebraska Extension, Scottsbluff, NE, 68361
[7] Extension Educator, Nebraska Extension, Nelson, NE, 68961
[8] Educational Engagement Coordinator, Nebraska Extension, Lincoln, NE, 68583

During school shutdowns due to COVID-19, NebrASKa Scientist Field Trips was designed to target high school students across all 77,220 square miles of the state. Schools were switching to virtual learning platforms, which identified in a quick needs assessment left many teachers searching for ideas how to provide experiences that would be engaging or similar to field trips that were being cancelled due to online learning. NebrASKa Scientist Field Trips were created with the concept of bringing industries and professionals from across the state to schools. Each live tour highlights a STEM or ag-related career and encourages viewers to ask questions.

Between March and December of 2020, 17 Virtual Field Trips were conducted. During that time, tours had 536 live youth viewers, 153 adult live viewers, and 61 unspecified live viewers for a total of 750 live viewers. During these 45-minute field trips, the live viewing audience has been primarily from Nebraska. However, they reached neighboring states as well as Utah, Kentucky, Montana, Utah, Texas, and Wisconsin and internationally reached audiences in Canada and Brazil. Using YouTube demographics, trips have had a combined 2,202 hits on the YouTube recordings with an average 23% completion rate of the tours for an additional 506 viewing sites.

A post-evaluation found that 100% of viewers learned about a new career or something new about this career. Seventy-one percent are interested in pursuing a STEM or ag-related career in the future. Only 57% of those taking the survey say they think STEM and ag-related careers are available in their community. Reports from teachers and parents have said this was timely information and they appreciate efforts to make these tours happen. One teacher said, “I have used these trips with several of my classes. I love having the ability to go back and show them later!”

While tours were originally created to assist teachers during COVID-19, tours continue and have greatly impacted Nebraska youth. Field trips has improved the access, equity of exposure, and opportunities for youth to learn outside of their community or surrounding areas especially for the large number of youths living in rural areas.

Allie Logan
County Extension Coordinator - Barbour County
Alabama Cooperative Extension System
Barbour county

Jones, Megan*[1], , **Kelton, Jessica*[2],** , **Koon, David*[3],** , **Logan, J.A.*[4],** , **Mack, Sedrick*[5],** , Wachs, Jill*[6],
[1] Homeground Inter, Alabama Cooperative Extension System, Abbeville, AL, 36310
[2] REA, Alabama Cooperative Extension System, Headland, AL, 36345
[3] REA, Alabama Cooperative Extension System, Eufaula, AL, 36027
[4] County Extension Coordinator - Barbour County, Alabama Cooperative Extension System, Eufaula, AL, 36027
[5] REA, Alabama Cooperative Extension System, Headland, AL, 36345
[6] 4-H FREA, Alabama Co, Eufaula, AL, 36027

In 2020, everyone’s lives changed. Events and programs that had been scheduled were quickly canceled. Students and teachers had to quickly transfer to the virtual world. Students were not able to partake in any of the field trips or fun events they normally would experience. In the Fall of 2020, Alabama Extension Agents prepared four virtual field trips for students across the state. Over 2,000 teachers and students joined in the virtual experience that included a trip to the sunflower patch, pumpkin patch, cotton field, and peanut field. Agents asked farmers questions about their crops and then showed the equipment farmers use to harvest. Teachers were provided with activities and crafts to go along with each crop. This allowed teachers to turn the field trip into a full lesson plan. A survey was conducted after the series and 88 percent of participants learned from the experience.

Alana W. West
County Extension 4-H Agent
Extension Service
Newberry County
Clemson

West, A.W.*[1], , Bolt, Brian[2], , Cathcart, Mark[3], , Craig, Lindsey[4], , Flowers, Brittany[5], , Hucks, Steve[6], , Simpson, Jessica[7], , Van Vlake, Lee[8],
[1] COUNTY EXTENSION 4-H AGENT, CLEMSON EXTENSION SERVICE, Newberry, SC, 29108
[2] Livestock Specialist, Clemson University, Clemson, SC,
[3] 4-H Agent, Clemson University, Union, SC,
[4] Livestock Agent, Clemson University, Pickens, SC,
[5] Livestock Agent, Clemson University, Aiken, SC,
[6] 4-H Agent, Clemson University, Lancaster, SC,
[7] 4-H Agent, Clemson University, Anderson, SC,
[8] Livestock Agent, Clemson University, Florence, SC,

Due to COVID-19, most 2020 SC livestock exhibition opportunities were canceled. In response, the SC Youth Livestock Steering Committee worked to provide youth with virtual opportunities to fill the void of lost livestock exhibition experiences. Thus, the Clemson University Youth Academy of Livestock Learning was developed to enhance at-home livestock education.

The Committee developed a nine-week program that offered self-paced educational modules, live with an agent question and answer sessions, competitive virtual skillathons, barn tour, and sales talk opportunities, and a social media campaign. The virtual program allowed youth to participate in one or more than one of six species: Beef, Dairy, Swine, Small Ruminants, Poultry, and Rabbits.

As a virtual opportunity, CUYALL reached 4-H and non-4-H members including youth from 32 US states and two foreign countries. Multiple evaluation tools were delivered using Qualtrics. Findings will be used to improve the program for future use.

State Winners

State Winner	
Northeast Region	
Pennsylvania	Stacie Hritz
Southern Region	
Arkansas	Jesse Bocksnick
Florida	Ronnie Lee Cowan
Georgia	Carole Knight
Mississippi	James Shannon
Texas	Robert Scott
Virginia	Brittany A. Council-Morton
West Region	
Arizona	Betsy Greene
Montana	Adriane Good
Utah	Mark Nelson
Washington	Brian Brandt

Search For Excellence in Environmental Quality, Forestry and Natural Resources

National Winner

Andrew Brischke
Area Assistant Agent
University of Arizona Cooperative Extension
Mohave County

Brischke, A.*[1], , Ashley Hall[2], , McReynolds, K.[3],
[1] Area Assistant Agent, University of Arizona Cooperative Extension, Kingman, AZ, 86401
[2] 1Area Assistant Agent, Agriculture & Natural Resources, The University of Arizona Cooperative Extension, Globe, AZ,
[3] Area Agent, Natural Resources, The University of Arizona Cooperative Extension, Willcox, AZ,

The Arizona Cooperative Extension Rangeland Monitoring Program (ACEMP) has been helping agencies and ranchers monitor their rangeland resources for over 20 years. The purpose of the Arizona Rangeland Monitoring program is to work side-by-side, on the ground, with federal agencies and ranch managers to help collect, analyze, and educate about rangeland resources and help land managers make the most informed decisions based on science and best management practices. Some of the objectives of the Rangeland Monitoring Program are to 1) assist agencies and ranchers in collecting federally mandated monitoring data, 2) educate about monitoring, rangeland resources, and how to use monitoring data to inform management

decisions, and to encourage participation from ranchers and agencies in collecting the data, and 3) help to improve rancher/agency relationships.

The ACEMP is comprised of three similar programs: Southeastern Arizona Monitoring Program (SEAMP), Reading the Range (RtR), and the Arizona Cooperative Rangeland Monitoring Program (ACRMP). Over 2,500 sites have been sampled over the 20-year history of the program. Since 2018, 989 sites on 344 federal grazing allotments have been sampled. Numerous one-on-one education sessions, workshops, demonstrations, field practice, publications, newsletters, guides, etc. have reached hundreds of stakeholders. Rancher participation varies greatly from year to year and program to program but averages: 52% (SEAMP), 100% (RtR), & 12 – 46% (ACRMP). In 2020, a short video was produced to highlight how the Arizona Rangeland Monitoring program delivers on the learning objectives: https://www.youtube.com/watch?v=kVyZKsWjCqY

In 2019, a comprehensive evaluation was completed in partnership with our Extension Community Research, Evaluation, and Development team. Some highlights include 86% of ranchers do some type of formal monitoring (100% informal monitoring). 88% of ranchers said Extension monitoring services increased their knowledge and understanding of monitoring. Ranchers involved with ACEMP used significantly more methods (7.3 vs. 4.3 methods). 86% of ranchers indicated that having an unbiased third-party participate in monitoring was important and Cooperative Extension was rated as the most unbiased of resources available (94% completely or somewhat unbiased).

National Finalists

Jacqueline Takacs
Watershed Restoration Specialist
University of Maryland Sea Grant Extension Program

Basenback, N*[1], , Brooks, K*[2], , Buehl, E*[3], , Dindinger, J*[4], , Rockler, A*[5], , **Takacs, J.*[6],**

[1] Watershed Restoration Eductor, University of Maryland Extension, Prince Frederick, MD, 20678
[2] Watershed Restoration Specialist, University of Maryland Extension, Cockeysville, MD, 21030
[3] Watershed Restoration Specialist, University of Maryland Extension, Queenstown, MD, 21658
[4] Watershed Restoration Specialist, University of Maryland Extension, Cambridge, MD, 21613
[5] Watershed Restoration Specialist, University of Maryland Extension, Derwood, MD, 20855
[6] Watershed Restoration Specialist, University of Maryland Sea Grant Extension Program, Upper Marlboro, MD, 20774

The University of Maryland Sea Grant Extension Watershed Stewards Academy (WSA) is a stormwater management education and implementation program currently operating in five Maryland counties. The WSA provides training to adult community leaders (Stewards) in using watershed assessment tools for analyzing stormwater runoff and hands-on experience leading stormwater management and behavior change projects.

Stewards-in-training enroll in a year-long program that includes 40+ hours of classroom and field training and project implementation experience. They complete a Capstone project that includes a site assessment, community engagement, implementation activities, and a maintenance plan.

Stewards move through a peer-reviewed curriculum that includes modules on Watershed Sciences, Water Systems, Legislation and Regulations, Small-scale Stormwater Practices, Native Plants, Soil, GIS, Site Assessments, Social Marketing, Community Engagement, and Project Management and Funding. Teaching activities, methods, and materials vary based on the topics. They include classes/workshops, stormwater tours, demonstration projects, blogs and social media, videos, website content, direct consultations, and public events.

To document Stewards' learning, IRB-approved evaluations are conducted at the beginning and end of each program. These pre/post evaluations measure attendees' changes in knowledge, attitudes, skills, and aspirations as a result of the course. Post-session surveys are also collected from each individual class during the course. This feedback helps the instructor decide what modifications to make in future classes.

Support for WSA includes faculty and staff time support from six Extension agents, over $40,000 in annual County support and grants, and $6,500 generated annually by WSA program activities. A consortium of experienced stormwater management practitioners provides Stewards with ongoing support for their projects. Stewards become local leaders in reducing the harmful effects of polluted stormwater running off into streams.

Highlights of WSA's accomplishments to date include:

- 416 Stewards certified.
- 42,334 community members engaged
- 147 stormwater assessments completed
- Over $528,000 in value of volunteer time to Maryland.
- Over $240,000 leveraged for small-scale stormwater projects.
- Over 115,870 sq. ft. of small-scale stormwater practices installed.

- Over 100,000 sq. ft. of impervious surface treated.
- Over 52,290 trees, plants, and shrubs installed.

Caitlin L. Bainum
Livestock Extension Agent
University of Florida
Marion County

Bainum, C.L.*[1], , **Brew, M.[2],** , Wickens, C.[3],
[1] Livestock Extension Agent, University of Florida, Ocala, FL, 34470
[2] Livestock Extension Agent, University of Florida, Tavares, FL, 32778
[3] State Equine Extension Specialist, University of Florida, Gainesville, FL, 32611

Eutrophication of waterways from nitrogen and phosphorus inputs result in impairments to Florida's water resources. Mitigating nutrient loading to ground and surface waters through proper implementation of Equine Operation Best Management Practices (BMP) set forth by Florida regulatory and non-regulatory stakeholders can help protect water quality. One way to mitigate nutrient loading is through effective manure management practices, one of which is composting of waste material. Unfortunately, research characterizing the relationship between on-farm equine manure management practices, specifically composting versus stockpiling of stall waste, and water quality is limited. Extension stepped in with an on-farm study done by UF/IFAS state and county faculty which aimed to develop methodologies for in-situ characterization of the nutrient profile of ground and surface water runoff from stockpiled equine waste compared to waste that has been effectively composted. The methods employed in this study have helped facilitate data collection in the field to guide Best Management Practices for both producers and decision makers regarding equine manure BMPs. Additionally, pasture management practices encompass a wide variety of BMPs for horse farms and educating farm owners how to manage soil, grass, and grazing animals is key in reducing runoff of pasture applied nutrients. A lack of education and information regarding equine operation BMPs has been identified as the barrier to adoption by farm owners.To improve the environmental stewardship on horse farms 13 educational programs focused on pasture and manure management awareness and adoption have been offered from 2018-2020 with a total audience of 648 people. Follow-up survey responses indicate a 95% increase awareness of equine BMPs, 62% adoption of pasture management strategies, and 41% adoption of a manure management plan. Eight farms reported enrolling in the state BMP program because of these efforts.

Tripp J. Williams
County Extension Coordinator
University of Georgia
Columbia/Northeast

Williams, T.J.*[1],
[1] County Extension Coordinator, University of Georgia, Appling, GA, 30802

The Columbia County Environment Matters Lunch and Learn series is an educational program series to educate the public on the impact we have on the environment and highlight the resources the county offers to protect and provide an eco-friendly environment in Columbia County, Georgia. The series also satisfies the State of Georgia Environmental Protection mandate for public education on pollution prevention for the county. The Agriculture and Natural Resources agent, Tripp Williams, collaborated with the Columbia County Environmental Public Education Coordinator, Margaret Alligood, and the Greater Clarks Hill Regional Library Board to provide free classes to the public during lunchtime. The two-part structure of the program included an environmental presentation by the agent followed by a presentation by the coordinating Columbia County Department responsible for the prevention or oversight of the environmental matter. The partnership with the library and local county departments enable the agent to engage a new audience for Extension. In addition, the designation of a lunchtime series allowed working individuals to attend. The agent created each presentation and presented at 14 monthly meetings reaching 492 participants. He also received $3,000 in-kind support from the Evans Library and $1,500 from the Columbia County Environmental Public Education Coordinator.

State Winners

State Winner	
Southern Region	
Arkansas	Jennifer Caraway
Mississippi	James Shannon
West Region	
Utah	Joshua Dallin

Search For Excellence in Consumer or Commercial Horticulture

National Winner

Liz Felter
Commercial Food Systems & Horticulture Agent
University of Florida
Central District

Felter, E.*[1], , Moffis, B.*[2], , Pinkerton, M.*[3], , Ricketts, G.*[4], , Smith, M.*[5], , Wooten, H.F.*[6],
[1] Commercial Food Systems & Horticulture Agent, University of Florida, Apopka, FL, 32703
[2] Commercial Horticulture, Lake County, Tavares, FL, 32778
[3] Sustainable Ag & Food Systems, Seminole County, Sanford, FL, 32773
[4] Commercial Horticulture, Osceola County, Kissimmee, FL, 34744
[5] Sustainable Ag & Food Systems, Sumter County, Bushnell, FL, 33513
[6] Commercial Horticulture, Orange County, Orlando, FL, 32812

OBJECTIVES: The purpose of this educational program was to increase IPM scout training practices for workers within the greenhouse/nursery industry and to increase environmentally friendly production practices. Central Florida is the second or third largest production area in the state with total sales for Lake, Orange, Osceola, Seminole and Sumter counties at $2.23 billion (Hodges, Khachatryan & Court, 2018). **METHODS:** A 3-day mini-series of classes was provided to accomplish these objectives. A team of 5 commercial horticulture agents and 4 Extension research specialists taught the various topics. Participants were taught how to identify insect pests, beneficial insects, weeds, diseases, nematodes and abiotic symptoms, how to monitor soil pH and fertility and the importance of water quality along with digital photography. In recognition of the participants various learning styles a variety of educational activities were used. These activities included PowerPoint, videos, lab demonstrations, class discussion, field trips and hands-on scouting practice. **RESULTS:** Participants indicated 84 % increased their pest identification skills,93 % stated their job performance would increase, almost 77 % indicated they had implemented one or more IPM practice at their job site, 29% reported the training helped them get a higher paying job or a pay raise at their current position. The amount of money received was a dollar more per hour. Finally, 100% agreed or strongly agreed that what they learned in the class was useful in their job. **CONCLUSION:** This class teaches employable skills to industry workers resulting in pay raises and promotions. The skills also reduce water used and increased monitoring of fertilizer practices. It also increases the accurate identification of plant problems which allows for timely and least toxic means of control.

National Finalists

Megan Muehlbauer
Hunterdon County Agricultural Agent
Rutgers Cooperaitve Extension
Hunterdon County

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- Attendee Verification Checklist Distributed to Course Organizers
- Credit Bearing Nursery Twilight Meeting Announcement
- Program Methods, Impact and Results
- Train-the-Trainer Powerpoint

Pesticide recertification credits are required for producers and landscape professionals to maintain their ability to legally apply restricted use chemical compounds, therefor the need to generate virtual programs (that did not yet exist) capable of delivering these credits during the COVID-19 pandemic was critical to the prosperity of our stakeholders in New Jersey. This team navigated strict university identity protection requirements in addition to arduously debated Standard Operating Procedure development with the NJ Department of Environmental Protection (NJDEP) Bureau of Licensing and Registrations, in addition to educating their fellow County Agents. Procedures were developed in communication with the state agency and implemented for the seven credit bearing classes organized by the team. Subsequently, members of the team participated in an in-service training for all faculty and staff at Rutgers Cooperative Extension, in addition to countless troubleshooting sessions with those program

affiliates preparing for the next wave of credit bearing educational sessions. The trained staff and faculty utilized the tools they learned to provide pesticide credits at five virtual grower meetings, two of which were large virtual conventions. This programming worked to not only impact the educational content for our stakeholders, but it also ensured producers and landscape professionals in New Jersey continued to comply with the law despite COVID-19 restrictions. The SOP did not exist prior to this endeavor but will be utilized moving forward for all virtual credit bearing meetings, thus leaving a positive impact on delivery options for online continuing education and future in-person-hybrid options.

Sherri Sanders
CEA-AGRI

WHITE

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Intensive programmatic efforts were conducted/ coordinated for the last three years in the following areas: On site and on farm horticulture demonstrations, Pollinator education, Lectures by Agent, Master Gardener volunteers and Community Garden outreach, and Social media platforms.

Demonstrations are an important key to successful educational programs. They show the university research in real world situations and they help teach people through hands-on learning, not just lectures. Another key factor is that they allow the audience to see the agent getting real work done alongside the clientele, which makes agents more relatable.

The COVID pandemic required agents to find new and innovative ways to reach our audience for educational meetings and workshops. The Brown Bag Lecture Series on Zoom provided horticulture education for people from across the state and nation. We started in April of 2020 on Wednesdays at noon. Twenty five sessions have been utilized since then with total combined live participants of 6239 people and 4196 downloads of the recording after the presentations. We have 1295 (unduplicated) people on our email list that have shown interest in and wanted to be included in each week's invitation. All videos are made available on our county website for people to watch later.

My target audience is the general public and Master Gardeners with an interest in commercial and homeowner horticulture.

Facebook groups include:

My county agent page: https://www.facebook.com/UAEX.WhiteCountyAgriculture/

White County Master Gardener Page: https://www.facebook.com/WCMG1997/

Searcy Pollinator Friendly Page: https://www.facebook.com/SearcyPollinatorFriendly/

Searcy Tree Board: https://www.facebook.com/Searcy-Tree-Board-271545119535832/

Twitter: https://twitter.com/SherriSanders11

Collectively, these social media platforms reach an average of over 14,870 direct and indirect contacts monthly, with some months reaching over 20,000 contacts. Content is also available on the White County Extension Website https://www.uaex.edu/counties/white/. Analytics and personal testimony revealed that clientele from 26 states and 9 countries have benefited from knowledge gained through my social media educational efforts.

Since 2018 the Searcy Pollinator Friendly committee Facebook page, White county Master Gardener Facebook page, UAEX White County Horticulture agent Facebook/ Twitter page and the Orchard Project Facebook page have generated 1,824,456 indirect contacts and 743,342 direct contacts in Horticulture programming.

Nicasio Usabel
Extension Educator
University of Idaho
Canyon County

Usabel, N.*[1],
[1] Extension Educator, University of Idaho, Caldwell, ID, 83605

In 2020, COVID-19-related state lockdowns contributed to a sudden surge of home gardening and horticulture interest across the United States. This situation was also strongly evident in Idaho. While home gardening increased drastically, many consumers lacked awareness or knowledge of available resources for these newly or suddenly re-addressed activities. This programming aims to provide clientele with research-based information to increase workshop participants' success in gardening and landscape management. This task is accomplished by collaborating with community partners to market virtual workshops on social media platforms and community event calendars. Utilizing the event calendar on the Facebook platform, community partners are added as a co-host for each workshop presented. In addition, upcoming workshops are promoted to a captured audience of participants each month, helping to build registration of upcoming

workshops. The Zoom meeting platform was utilized initially but was transitioned to the Zoom webinar platform as registration flourished beyond 100 registrants. During these nine months, over 890 participants participated in horticulture and gardening-based workshops. Participants in the workshop indicated appreciation in providing virtual based programming, allowing them to implement research-based best practices to achieve success in the garden and landscape. These programming efforts allow for outreach beyond Canyon County and even Idaho, reaching individuals throughout the Western United States and Canada.

State Winners

State Winner	
North Central Region	
Illinois	Jennifer Fishburn
Ohio	Amy K. Stone
Northeast Region	
New Hampshire	George W Hamilton
West Virginia	Jodi Richmond
Southern Region	
Georgia	Tripp J. Williams
Kentucky	Jessica Bessin
Louisiana	Joe W. Willis
Mississippi	James Shannon
North Carolina	Steve Pettis
Texas	Elizabeth Mcmahon

Search For Excellence Crop Production

National Winner

Keith Wynn
Extension Agent II
University of Florida
Hamilton County Extension

Wynn, K.*[1], , Broughton, D.[2], , Capasso, J.[3], , Dufault, N.[4], , **Fenneman, D.[5], , Hicks, G.[6], , Korus, K.[7], , Vann, C.[8], , Warren, M.[9], , Willis, S.[10],**
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[3] Extension Agent, University of Florida, Lake City, FL, 32055
[4] UF Associate Professor and Extension Specialist, University of Florida, Gainesville, FL, 32611
[5] Extension Agent, University of Florida, Madison, FL, 32340
[6] Extension Agent, University of Florida, Jasper, FL, 32052
[7] Extension Agent, University of Florida, Gainesville, FL, 32609
[8] Extension Agent, University of Florida, Mayo, FL, 32066
[9] Extension Agent, University of Florida, Bronson, FL, 32621
[10] Extension Agent, University of Florida, Live Oak, FL, 32064

Peanut is an important commodity crop in the Suwannee River Valley of North Florida. In 2020, approximately 70,000 acres of peanuts were planted in counties surrounding the North Florida Research and Education Center-Suwannee Valley (NFREC-SV). A peanut disease research program led by University of Florida, Institute of Food and Agricultural Sciences (UF/IFAS) Plant Pathologist Dr. Nicholas Dufault was established to address management needs of this commodity. **Objectives:** To (1) assess the efficacy of commonly used peanut fungicide programs, (2) to incorporate pesticide spray programs that will reduce disease pressure, and (3) provide local Extension agents with experiential learning opportunities related to disease management. **Methods:** Dr. Nicholas Dufault and UF/IFAS Hamilton County Extension agent, Keith Wynn collaborated with NFREC-SV staff in 2015 to incorporate replicated small plot fungicide trials at the center. This trial evolved into a yearly research program that evaluates the efficacy of various fungicide treatments. Dr. Dufault was responsible for determining the fungicides tested, retrieving chemicals, and analyzing data collected from the trials. Local Extension agents were responsible for applying fungicide applications and recording disease ratings. **Results:** Data collected from disease ratings and yields were used to generate fact sheets, publications, and presentations that were distributed in production meetings throughout the state. Extension agents received hands-on training with fungicide application methods and disease identification which increased their confidence when interacting with producers. **Conclusions**: This research allowed Extension agents the opportunity to provide producers with timely information about the efficacy of fungicide products and monitor diseases throughout the season. Because of these trials, producers have seen the benefit of incorporating fungicides into their management programs and have made changes to their disease management plans.

National Finalists

Daniel Marzu
Agriculture Extension Educator
UW-Madison, Division of Extension
Lincoln and Langlade

Marzu, D.*[1], , Ballweg, Michael[2], , Schmidt, Kimberly[3], , Kamps, Joshua[4], , Voss, Alana Lynn[5],
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[3] Shawano County Agriculture Educator, University of Wisconsin-Madison, Division of Extension, Shawano, WI, 54166
[4] Lafayette County Agriculture Educator, University of Wisconsin-Madison, Division of Extension, Darlington, WI, 53530
[5] Juneau & Sauk Counties Agriculture Educator, University of Wisconsin-Madison, Division of Extension, Mauston, WI, 53948

Face-to-face meetings were cancelled due to the COVID-19 pandemic in 2020, the Division of Extension UW-Madison Crops and Soils program area formed a team to develop a virtual program called the Badger Crop Connect (BCC). The target audience for the BCC were farmers, agronomists, crop consultants, government agencies, and other agricultural professionals. The BCC consisted of ten bi-weekly programs and two special edition programs beginning in May and ending in September, in which county agriculture educators and state specialists provided updates on research projects and guidance on current crop production practices. A total of 415 farmers, crop consultants, government agency personnel, agricultural media, and other agriculture service providers participated in one or more of the webinars. Over the twelve sessions, 1217 unique sign-ins into the meetings occurred. In evaluations that took place after each session, 48% of the participants indicated that they strongly agreed that they were more confident in using the information. Completed evaluations (n=419) indicated 40% of participants somewhat agreed they were more confident in using the information. In a post evaluation, 80.43% of agronomists and crop consultants, lenders, government agency staff, and educators (n=92) reported that they were able to use the information to make recommendations to their clientele. Nearly 86% of the 14 farmers responding to the survey reported they implemented the knowledge they learned on their acreage. Additionally, 478 continuing education units were earned by Certified Crop Advisers to maintain their certification. The overwhelming response and success of this program resulted in the BCC becoming an integral part of the Crops and Soils programming portfolio.

D. Eddie Mcgriff
Regional Extension Agent - Agronomy
Alabama Cooperative Extension System
Blount, Cullman, Cherokee, Etowah, Jackson, Marshall, Dekalb, Madison

McGriff, D.E.*[1],
[1] Regional Extension Agent - Agronomy, Alabama Cooperative Extension System, Cullman, AL, 35055

Northeast Alabama farmers annually plant 86,000 acres of corn; 95,000 acres of soybeans; 87,000 acres of cotton and 30,000 acres of other row crops including wheat, grain sorghum, peanuts, canola, and other small grains in the ten counties I cover. I, as the regional Extension agent for agronomic crops (row crops), am responsible for the educational programs and on-farm research to aid growers in making not only higher yields but, more importantly, to be more profitable and sustainable.

I accomplish these goals through field visits; production meetings; on-farm research trials; scout schools and field days; Extension publications, newsletters and e-mail updates; and producing crop scouting, as well in-studio and on-farm programs videos entitled “On The Farm in Alabama”.

I have developed an ultra-early and early planted soybean systems that has lead to growers following it to have the first 100+ bushel per acre soybean yields in Alabama and a record non-irrigated yield of 94 bushels per acre in the last three years. I have also developed corn and wheat audits (20+ production practices to higher yields and profits). I have done the corn production meetings statewide at the request of fellow REAs and the corn production portion for CCAs at our zoom winter production meeting as well as troubleshooting corn problems with field visits with other REAs. NInety percent of the corn in NE Alabama is non-irrigated and yields have increased in Alabama’s entries in the National Corn Growers Association yield contest in this category by 26% over the last three years and a state record 355 bushels per acre yield in the irrigated category. Alabama, for the first time, had four growers I worked directly with to place nationally in the top 10 yields in their categories in 2020. .

I have taught the beneficial insects and occasional insect pests in cotton at our statewide crop scouting schools for the last three years. I have surveyed 19 cotton entomologists across the cotton belt to rank the top beneficial insects and followed up with an article and five issue insert in Cotton Grower magazine with photos on how to identify beneficial insects and reduce pesticide sprays.

Jason de Koff
Specialist
Tennessee State University
Central Region

de Koff, J.*[1],
[1] Specialist, Tennessee State University, Old Hickory, TN, 37138

The objective of the drone program is to increase stakeholders' knowledge and interest in using drones in agriculture. 1. Workshops/demonstrations for farmers on using drones in agriculture were held. Farmers had the opportunity to fly a Phantom 4 Pro drone and think about applications they might use them for. This was followed by presentations on different uses for drones in agriculture, drone laws and regulations, and drone options and costs. The drone workshops for farmers were offered in 9 Tennessee counties between September 2019 and March 2020 and reached 142 participants. The workshops were covered by two media outlets that came to two separate events (http://www.news-herald.net/lcn/bringing-drones-to-farmers/article_2e2350fb-4e7e-5c6e-80f2-b46610e01a28.html and https://youtu.be/gCJgmCfr9tg). Evaluations from these workshops found important increases in knowledge and interest as a result of this program (see "Entry" document for additional details). Four fact sheets, four videos, and three trade publications were also derived from this part of the project. 2. Drone certification training was provided to extension agents, agricultural professionals, and high school teachers so they could earn their FAA remote pilot certification or teach students to earn their certification. The training programs have occurred in three different formats. One format was a 4 week (1 hour/week) webinar hosted by the American Society of Agronomy in September 2019 and February 2021. The second format was a 4 hour course held in Knoxville, Jackson, and Murfreesboro, TN in 2019 (52 total participants) and Princeton and Lexington, KY (45 total participants) in February 2020. These focused on training extension agents to get their remote pilot certification for their programs. The third format was a 4-hour online course held in May 2020, June 2020, and July 2020 for 181 total participants. The trainings involved presentations, activities to enhance knowledge (see attached), and a sample exam. Evaluations from the webinar found important increases in knowledge of participants. They also found that the activities used in the trainings were helpful and the workshops increased their likelihood of getting their certification or increased their confidence in teaching their students to get their certification (see "Entry" document for additional details). In this program, I learned that having multiple workshops allowed me to tweak them to enhance participant learning and understanding. Also, 4 1-hour workshops seemed to work better than one 4-hour workshop due to the large amount of information being disseminated.

State Winners

State Winner	
North Central Region	
Nebraska	Wayne Ohnesorg
Ohio	Mary Griffith
South Dakota	Sara Bauder
Northeast Region	
New Hampshire	George W Hamilton
New Jersey	William J Bamka
Southern Region	
Arkansas	Kevin Lawson
Georgia	Caitlin Bennett Jackson
Louisiana	Ralph L. Frazier, Jr.
North Carolina	William Terry Kelley
Texas	Michael R. Hiller
West Region	
California	Sonia I. Rios

Search For Excellence in Farm and Ranch Business Management

National Winner

Cade B. Rensink
District Director
K-State Research & Extension
Central Kansas District

Rensink, C.*[1], , Baker A.[2], , Barthol, K.[3], , Beckman, J.[4], , Blocker, S.[5], , Boor, A.[6], , Boyle, R.[7], , Buller, T.[8], , Burns, A.[9], , Clemens, K.[10], , Coover, J.[11], , Fechter, R.[12], , Gleason, M.[13], , Haney, B.[14], , Hatesohl, K.[15], , Holder, M.[16], , Hughes, W.[17], , Meyer, A.[18], , Kissick, E.[19], , Lanham, D.[20], , Marston, S.[21], , McClure, G.[22], , Meek, M.[23], , Melton, B.[24], , Miller, C.[25], , Nordyke, K.[26], , Otte, C.[27], , Petersilie, J.[28], , Powell, A.[29], , Powell, W.[30], , Rees, B.[31], , Rippe-May, A.[32], , Scronce, A.[33], , Shorter, L.[34], , Sneath, E.[35], , Van Skike, K.[36], , Wick, S.[37], , Reid, R.[38], , Winsor, L.[39],
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[5] County Extension Agent, K-State Research & Extension, Westmoreland, KS, 66549

[6] District Extension Agent, K-State Research & Extension, Great Bend, KS, 67530
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[8] County Extension Agent, K-State Research & Extension, Lawrence, KS, 66046
[9] County Extension Agent, K-State Research & Extension, Dodge City, KS, 67801
[10] County Extension Agent, K-State Research & Extension, Ashland, KS, 67831
[11] District Extension Agent, K-State Research & Extension, Girard, KS, 66743
[12] District Extension Agent, K-State Research & Extension, Howard, KS, 67349
[13] County Extension Agent, K-State Research & Extension, Kinsley, KS, 67547
[14] County Extension Agent, K-State Research & Extension, Lakin, KS, 67860
[15] District Extension Agent, K-State Research & Extension, Washington, KS, 66968
[16] District Director Emeritus, K-State Research & Extension, Strong City, KS, 66845
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[18] County Extension Agent, K-State Research & Extension, Marysville, KS, 66508
[19] County Extension Agent, K-State Research & Extension, Ulysses, KS, 67880
[20] District Extension Agent, K-State Research & Extension, Yates Center, KS, 66783
[21] County Extension Agent, K-State Research & Extension, McPherson, KS, 67460
[22] County Extension Agent, K-State Research & Extension, Manhattan, KS, 66502
[23] County Extension Agent, K-State Research & Extension, Lawrence, KS, 66046
[24] District Extension Agent, K-State Research & Extension, Concordia, KS, 66901
[25] County Director, K-State Research & Extension, El Dorado, KS, 67042
[26] County Extension Agent, K-State Research & Extension, Winfield, KS, 67156
[27] County Extension Agent, K-State Research & Extension, Junction City, KS, 66441
[28] District Extension Agent, K-State Research & Extension, LaCrosse, KS, 67548
[29] District Extension Agent, K-State Research & Extension, Mound City, KS, 66056
[30] District Extension Agent, K-State Research & Extension, Altamont, KS, 67330
[31] County Director, K-State Research & Extension, Emporia, KS, 66801
[32] District Extension Agent, K-State Research & Extension, Oberlin, KS, 67749
[33] District Extension Agent, K-State Research & Extension, Independence, KS, 67301
[34] County Extension Agent, K-State Research & Extension, Eureka, KS, 67045
[35] County Extension Agent, K-State Research & Extension, Meade, KS, 67864
[36] District Extension Agent, K-State Research & Extension, Norton, KS, 67654
[37] District Extension Agent, K-State Research & Extension, Smith Center, KS, 66967
[38] Extension Associate, K-State Research & Extension, Manhattan, KS, 66506
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In early 2020, a team of 83 Extension professionals from across Kansas worked together in a cross-disciplinary effort to deliver a farm financial series which addressed the grand challenges of global food systems, health, and community vitality. There were 32 host sites for the program which had a total of 685 participants. The series consisted of four sessions. Topics included Farm Recordkeeping, Balance Sheets, Income Statement, Cash Flow, and Goal Setting. Funded by a North Central Extension Risk Management Education grant, the series was set apart from traditional programs by a mixture of statewide and local presenters and collaboration with a large number of agents across the state. The financial concepts were delivered from the main campus and broadcast to each location using Zoom Conference and Microsoft Teams. Host agents served as facilitators to assist participants in networking and completing hands-on activities that reinforced the financial information presented. In addition, specialists in the area of Family and Consumer Sciences developed presentations on Mental Health and Family Living Expenses which were given by local experts at the individual locations. These presentations used small group interaction as a way to network around common struggles in their everyday life. The material was approved by Kansas Farm Service Agency (FSA) and, through this series, 70 people satisfied the financial education requirement for FSA loans. Post survey results (n = 520) showed that over 95% of participants ranked the material as “Valuable” or “Very Valuable”. All participants showed an increase in their level of knowledge for keeping quality farm records and putting together and assessing balance sheets, income statements, and cash flow statements. Over 87% of participants stated they planned to develop a balance sheet for their farm business every year, over 75% stated they would develop an income statement and cash flow statement every year, and 63% planned to make a family living budget. The 6-month follow up survey (n = 193) revealed that 75% of the respondents had accomplished one to three items from the Personal Action Plan they developed during the program. Another 19% had implemented four or more action itmes.

National Finalists

Mary Griffith
Extension Educator, Agriculture & Natural Resources
Ohio State University Extension
Madison

Brown, B.*[1], , Griffith, M.*[2], , Zoller, C.[3],
[1] Manager, Farm Management Program, Ohio State University Extension, Columbus, OH, 43210
[2] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140
[3] Extension Educator, ANR, Ohio State University Extension, New Philadelphia, OH, 44663

The Agricultural Improvement Act of 2018 (The 2018 Farm Bill) gave producers the opportunity to change program election annually, beginning with program year 2021. Crop producers had the option to make amendments to covered commodity elections and enroll in either Price Loss Coverage (PLC) or two versions of the Agricultural Revenue Coverage (ARC) program. These were the same program options that were available to producers during the 2019 and 2020 crop years, but producers had the option to change program elections to better manage the potential risks facing their farms during the 2021 crop year. OSU Extension partnered with the USDA Farm Service agency to provide four statewide virtual meetings to provide training and resources for producers to make informed decisions in program elections for the 2021 program year. Four virtual programs were offered with total registration of 916 and total attendance for live webinars at 754. The recorded webinars have 1,314 views of the recordings to date. 98.3% reported they are more knowledgeable about program election after attending the program and 80.9% reported that attending the webinar would directly influence their program election decision.

Xiurui Iris Cui
Extension Area Specialist

Montgomery

Cui, X.*[1], , Ronald Barron[2], , Jeff Smith[3], , Amy Rochkes[4],
[1] Extension Area Specialist, University of Tennessee, Clarksville, TN, 37040
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[3] Extension Agent III, University of Tennessee, Springfield, TN, 37172
[4] Training & Resource Coordinator, GAP Connections, Springfield, TN, 37172

Tobacco is one of the top commodities grown in Tennessee, with a value of close to 100 million dollars. Each year, due to the exposure to nicotine from handling tobacco, and the extensive heat, there have been numerous cases of farm emergencies reported that are caused by nicotine poisoning or dehydration. GAP Connections Certification Program standards recommend tobacco growers have a staff member (or grower) certified in First Aid/CPR training. However, there are limited resources available for the producers and their workers.

The team members of this pilot project identified the need for making the First Aid/CPR training available both in English and Spanish, to help tobacco growers manage human risk to meet the farm safety standards of Good Agricultural Practices (GAP). This project will provide the opportunity for the producers and their farm labor to learn the skills needed to give immediate care to a suddenly-injured co-worker.

Throughout six months, the program was planned, revised, conducted, and evaluated. A total of 41 tobacco farms, 74 farm operators including 34 Hispanic workers (46%) from five counties in Middle and West Tennessee participated, with 43 (58%) certified in CPR/First Aid. 40 non-contact electronic thermometers were awarded to assist producers with monitoring farm workers' temperatures during the pandemic.

Jake Hadfield
Extension Assistant Professor
Utah State University
Cache County

Dallin, J.*[1], , Hadfield, J.*[2], , Garcia, M.[3], , Larsen, R.[4],
[1] Extension Faculty - Box Elder County, Utah State University, Box Elder, UT, 84322
[2] Extension Assistant Professor, Utah State University, Logan, UT, 84321
[3] Extension Beef Specialist, Utah State University, Logan, UT, 84322
[4] Extension Agriculture Economics Specialist, Utah State University, Logan, UT, 84322

In 2016, it was reported that nationwide 80% of all owner-operated land was owned by individuals who were 55 years or older (Bigelow et al., 2016). This staggering statistic, coupled with the reported average age of producers in Utah being 58.7 years old, explains the significant response from farm and ranch producers in Utah who have listed succession planning as one of the most important programmatic needs from Utah State University Extension (USDA NASS, 2017: Narine, 2019).

The succession or transition of farms and ranches presents many unique challenges. Often producers do not know where to begin. To assist with this gap, USU Extension has developed and modified tools and training that allow

producers to create their own unique succession plans pertaining to business, retirement, transition, and estate planning at a pace that is comfortable to them. The workbook tool, when completed, also offers significant financial savings to the farm or ranch producer.

In response to the expressed need for a Farm and Ranch Succession Program, USU Extension comprised a team that consists of a Beef Extension Specialist, Farm Management Specialist, and two County level Extension faculty. This approach provides synergies based on skillsets and relationships with participants.

In order to best serve producers, the USU Extension team traveled to North Dakota State University to receive training and special certifications. From here, resources were developed and modified to best meet the needs of producers from Utah.

The USU Extension Farm and Ranch Succession programs began in December of 2019. Tools were provided through PowerPoint modules and a workbook adopted from North Dakota State University (NDSU, 2021).

State Winners

State Winner	
Northeast Region	
Maine	Donna Coffin
Southern Region	
Alabama	Ken Kelley
Arkansas	Rachel Bearden

Search For Excellence Livestock Production

National Winner

Robyn Stewart
County Extension Coordinator
University of Georgia
Lincoln/Northeast

Stewart, R.*[1], , McCann, Z.[2], , Ritz, C.[3], , Dunkley, C[4],
[1] County Extension Coordinator, University of Georgia, Lincolnton, GA, 30817
[2] Agriculture and Natural Resources Agent, University of Georgia, Homer, GA, 30547
[3] Poultry Specialist, University of Georgia, Athens, GA, 30602
[4] Poultry Specialist, University of Georgia, Tifton, GA, 31793

In the United States from 2012 to 2017, there was a 16% increase in number of hobby flocks and 20% increase in number of backyard laying hens, according to the National Agricultural Statistics Service (NASS). Backyard flock owners often lack essential knowledge and experience in poultry husbandry. The objective of this program was to develop and deliver hobby flock education to small flock owners. Two independent programs were held in 2020 to target hobby flock owners with educational opportunities. A four-week seminar series was developed and presented locally in Lincoln County, Georgia, followed by a five-week webinar series presented via Zoom. Lecture topics including but not limited to flock housing, nutrition, and bird health were presented by University of Georgia Extension Agents and Poultry Specialists. Seventeen residents attended the in-person program and the webinar series had 141 registrants from 10 states and 2 countries, with an average attendance of 40 individuals per session. All participants indicated an increase in knowledge across all topics. The virtual series was evaluated as excellent 70% of the time, with respondents indicating they learned something new in 95% of the sessions Ninety eight percent of participants intended to use the materials from the program in their operation. Six months after the program, participants were surveyed to determine resulting behavior changes and economic benefits. All respondents (n=23) indicated changing behaviors as a result of the series. Changes included improving coop design (35%), altering feeding programs (27%) and taking steps to improve bird health through biosecurity and vaccinations (13%). As a result of these behavioral changes, respondents reported increased productivity of meat and eggs (36%), reduced feed, health care, and replacement bird expenses (29%), decreased bird mortality (21%) and increased profit from meat and egg sales (7%).

National Finalists

Susan Schoenian
Sheep & Goat Specialist

Matthews, K.*[1], , O'Brien, D.*[2], , Whitley, N.*[3], , **Schoenian, S.*[4],**
[1] Assistant Professor/Small Ruminant Specialist, Delaware State University, Dover, DE, 19901
[2] Associate Professor/Small Ruminant Specialist, Virginia State University, Petersburg, VA, 23806
[3] Extension Specialist, Fort Valley State University, Fort Valley, GA, 31030
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Gastro-intestinal parasites (worms) are the primary health problem affecting small ruminants in warm, moist climates. The need for producer education is continuous, as there is a constant influx of new producers, as well as existing

producers who continue to struggle with the problem. The restrictions imposed by the Covid-19 pandemic made face-to-face programming impossible in 2020. As a result, educational needs were met with increased online education, including online FAMACHA© certification. Nine weekly worm webinars drew 2471 participants from multiple states and countries. The webinars had 6474 views via YouTube. The PowerPoint slides were viewed 6685 times on SlideShare. Follow-up surveys indicated that more than 90 percent of participants in the weekly worm webinars learned something new, with 60 to 100 percent planning to use information they gained in the webinars to better manage internal parasites in their flocks/herds. There were 396 participants in an online FAMACHA© Certification webinar. The recorded presentation had 667 views via YouTube. The PowerPoint slides were viewed 597 times via SlideShare. There were 365 responses to the online quiz. The average test score was 87%. So far, 98 videos demonstrating FAMACHA© scoring have been submitted in fulfillment of FAMACHA© certification. Eighty-four people were FAMACHA© certified in 2020. More than 90 percent of participants in FAMACHA© trainings use FAMACHA© to make deworming decisions. They have fewer parasite problems and deworm less frequently. The WormX web site (wormx.info) provides a link to fact sheets, articles, videos, podcasts, and other information pertaining to internal parasite control in small ruminants. The web site had 162,082 page views in 2020, a 21% increase from 2019, with over 62K new users. It is recognized nationally as the go-to place for information about internal parasite control in small ruminants. Online programming fulfilled the educational need during the 2020 pandemic and will continue to be an important learning tool for small ruminant producers.

Caitlin L. Bainum
Livestock Extension Agent
University of Florida
Marion County

Bainum, C.L.*[1], , Wickens, C.[2], , **Brew, M.[3],** , **Bosques, J.[4],** , **Justesen, B.[5],** , **Wilson, T.[6],** , **Cooper, C.[7],** , **Jennings, E.[8],** , **Yarborough, J.K.[9],** , **Strickland, J.[10],** , **Bennett, L.[11],** , **Taylor, K.[12],** , **Mussoline, W.[13],** , **Walter, J.[14],**
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[4] Agriculture Extension Agent, University of Florida, Wauchula, FL, 33873
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[9] Livestock Extension Agent, University of Florida, Orlando, FL, 32812
[10] Agriculture Extension Agent, University of Florida, Kissimmee, FL, 34744
[11] Livestock Extension Agent, University of Florida, Dade City, FL, 33525
[12] Agriculture Extension Agent, University of Florida, Deland, FL, 32724
[13] Agriculture Extension Agent, University of Florida, Palatka, FL, 32131
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The Central Florida Agriculture Agents Group (CFLAG) developed the UF/IFAS Florida Equine Institute and Allied Trade Show. This program has developed into a state-wide equine education program offered by UF/IFAS Extension that is an effort between county agents, state equine specialists, and local industry. This event has highlighted cutting edge equine science that equine clientele count on each year. Along with the educational program is a trade show of allied industry representatives and their products. This trade show benefits the Extension program by adding an additional revenue stream while building relationships with the industry partners our clients also rely on. **Objectives:** The objectives of the Florida Equine Institute include knowledge gain on equine health and management topics that will enhance the health and wellbeing of the horse, practice change related to horse handling, equine health and nutritional management, equine behavioral science, and pasture management on horse farms. **Activities:** This full-day program includes a combination of learning via lectures by state and county faculty as well as guest lectures from other land grant universities, hands-on demonstrations, concept breakout sessions, and live animal demonstrations. **Results:** 451 people have participated in this program from 2018-2020 representing 16 states and 6 countries. **Evaluation:** Post program surveys were used to assess knowledge gain and intended practice change. Follow-up surveys reported actual practice change on farms. **Outcomes & Impacts:** Since 2018, 78% of participants indicated knowledge gain on at least one topic and 66% of participants indicated at least one practice change on their farms in the areas of forage and soil management, equine nutrition and health management, equine behavior science and training, or horse handling. This program has generated $7,700 in sponsorships since 2018 with overall revenue of $11,800 for the past three years.

Juan Arias
Assistant Agent, FRTEP Tribal Extension Programs
University of Arizona
FRTEP Tribal Extension Programs

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The San Carlos Apache Livestock/Equine Resource Program was developed and implemented to address local needs for the Tribe and their ranching community. Effective communication is best achieved through developing relationships and listening to their stories, which is a strong part of their language and passing of knowledge. From these storytelling conversations, high-priority topics for the cattle/equine health/management workshops were identified through existing relationships and meetings. In response to this input from local leaders and tribal entities', a series of workshops, development of resources, and implementation of outreach programs were initiated to establish livestock, equine, and agricultural education specifically geared towards the Apache rancher needs. The activities and resources included: educational seminars, hands-on workshops, development of a San Carlos Apache Rancher Resource Guide and a biosecurity poster translated to Western Apache language, and creation of "starter first aid kits" for horses and livestock for ranching families. All of these things were created in collaboration and partnership with Apache Cattle Association and the Apache Language Preservation program. This resulted in a consultation with several Apache cattle association members and livestock owners to increase Livestock/Equine support and interest through language adaptation, bringing in local examples using available resources, and developing relationships to strengthen community trust. Several tools and resources were adapted to help gain traction and support from local leaders. The program presented opportunities to adapt current practices and evolved them to more efficient traditional methods using local resources and practices in the area. The relationships established led to language adaptation tools developed, resources applicable for the program's foundation, and future projects to come. Since most important information is received through storytelling, the major impacts come from quotes from tribal members. The program's impact is demonstrated by the President of the San Carlos Cattle Association's words: "This is the right direction to get members involved and reconnected to their operations. It is a way to remind them that this is part of their culture."

State Winners

State Winner	
North Central Region	
Ohio	Lyda Garcia
Northeast Region	
Maine	Donna Coffin
New Jersey	Henry Bignell, Jr.
West Virginia	Alexandria Straight
Southern Region	
Alabama	D. Alex Tigue
Arkansas	Rachel Bearden
North Carolina	Lauren Greene
Texas	Michael R. Hiller
West Region	
Idaho	Sarah D Baker

Search For Excellence in Sustainable Agriculture

National Winner

Mary Griffith
Extension Educator, Agriculture & Natural Resources
Ohio State University Extension
Madison

Griffith, M.*[1], , Badertscher, M.[2], , Barker, F.[3], , Brown, C.[4], , Chanon, A.[5], , Cochran, R.[6], , Corboy, T.[7], , Culman, S.[8], , Estadt, M.[9], , Fisher, B.[10], , Fulton, J.[11], , Hartschuh, J.[12], , Hawkins, E.[13], , Jackson-Smith, D.[14], , Karhoff, S.[15], , Labarge, G.[16], , Lyon, E.[17], , Moneymaker, B.[18], , Neal, N.[19], , Noggle, S.[20], , Nye, L.[21], , Raymond, H.[22], , Scheckelhoff, B.[23], , Shedekar, V.[24], , Zoller, C.[25],
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[2] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, Kenton, OH, 43326
[3] Extension Educator, ANR, Ohio State University Extension, Mt· Vernon, OH, 43050
[4] Program Manager, Ohio State University Extension, Wooster, OH, 44691
[5] Extension Educator, ANR, Ohio State University Extension, Elyria, OH, 44035
[6] Extension Associat, Ohio State University Extension, Paulding, OH, 45385
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4691
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[11] Professor, Ohio State University Extension, Columbus, OH, 43210
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[21] Extension Educator, ANR, Ohio State University Extension, Wilmington, OH, 45177
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OSU Extension's Agronomic Crops Team developed a Soil Health Committee in 2020 in response to increasing demand from stakeholders to know more about soil health. The committee's first project was a virtual webinar series titled *The Dirt on Soil Health: Digging Beneath the Surface.* The objectives of the webinar were to provide research-based information to enable producers to implement practices to improve soil health on their farms, and to identify needs for future programming on soil health. The webinar included eight sessions held on a weekly basis with recordings available to registrants who could not attend live sessions. A total 2,858 registered for the webinars, representing 72 Ohio counties, 20 states, and 9 nations. 1,517 attended the live sessions with 1,055 views of the recorded sessions to date. On the program evaluation 95.3% of respondents reported that they learned new information as a result of attending, and 88.7% reported that they plan to use the information they learned to improve soil health on their farm.

National Finalists

Michael Sindelar
Extension Educator
Nebraska Extension
Clay/Fillmore/Nuckolls/Thayer

Arterburn, J.*[1], , Basche, A.*[2], , **Beckman, B.*[3],** , **Burr, C.*[4],** , Creech, C. F.*[5], , Drewnoski, M. E.*[6], , **Ingram, T.*[7],** , Jasa, P.*[8], , Koehler-Cole, K.*[9], , **Laborie, E.*[10],** , **Lesoing, G. W.*[11],** , Maharjan, B.*[12], , **Melvin, S.*[13],** , Meyer, T.L.*[14], , Mueller, N.*[15], , **Nygren, A. J.*[16],** , Parsons, J.*[17], , Proctor, C.*[18], , Redfearn, D.*[19], , **Rees, J.*[20],** , **Schick, B.*[21],** , Stephenson, M. B.*[22], , **Thompson, L. J.*[23],** , Volesky, J.*[24], , Wilke, K.*[25], , **Sindelar, M.*[26],** , **Bartels, M.[27],** , **Whitney, T. D.[28],** , **Glewen, K.[29],** , **Pryor, R.[30],**
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[4] Extension Educator, Nebraska Extension, North Platte, NE, 69101
[5] Assistant Professor, University of Nebraska - Lincoln, Scottsbluff, NE, 69361
[6] Associate Professor, Nebraska Extension, Lincoln, NE, 68583
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[10] Extension Educator, Nebraska Extension, Beaver City, NE, 68926
[11] Extension Educator, University of Nebraska-Lincoln Extension, Auburn, NE, 68305
[12] Assistant Professor, University of Nebraska- Lincoln, Scottsbluff, NE, 69361
[13] Extension Educator, Nebraska Extension, Central City, NE, 68826
[14] Extension Educator, Nebraska Extension, Thedford, NE, 69166
[15] Extension Educator, Nebraska Extension, Wilber, NE, 68465
[16] Extension Educator, University of Nebraska, Schuyler, NE, 68661
[17] Professor,University of Nebraska-Lincoln, Lincoln, NE, 68583
[18] Extension Educator, University of Nebraska-Lincoln Extension, Lincoln, NE, 68583
[19] Associate Professor, University of Nebraska-Lincoln

Extension, Lincoln, NE, 68583
[20] Extension Educator, Nebraska Extension, York, NE, 68467
[21] Extension Educator, Nebraska Extension, Fullerton, NE, 68638
[22] Assistant Professor, University of Nebraska - Lincoln, Scottsbluff, NE, 69361
[23] Cropping Systems and Ag Technologies Extension Educator, University of Nebraska Lincoln, Lincoln, NE, 68583
[24] Courtesy Professor, University of Nebraska Lincoln, North Platte, NE, 69101
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[26] Extension Educator, Nebraska Extension, Clay Center, NE, 68933
[27] Extension Educator, Nebraska Extension, David City, NE, 68632
[28] Extension Educator, Nebraska Extension, Holdrege, NE, 68949
[29] Extension Educator Emeritus, Nebraska Extension, Mead, NE, 68033
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For the past several years Nebraska Extension has tried to initiate educational programming in the use of cover crops and soil health. Unfortunately, there was limited research-based information about the actual benefits of cover crops, including soil health. Farmers were initially trying cover crops and experimenting with them on their farms without the correct statistical rigor. The past three years Nebraska Extension has focused on educational programs and opportunities to engage farmers to learn about cover crops and determine their potential for use to improve the resilience and sustainability of crop/livestock systems in Nebraska. Extension Educators from across the state were engaged in educational programs focusing on cover crops and soil health in a multitude of ways. Extension programming included Cover Crop & Soil Health Conferences, Field Days, On-Farm Research Projects, Extension publications and articles through "CropWatch" the University of Nebraska's primary Crop Newsletter, and social media, particularly in 2020 in response to the pandemic. This program provided the opportunity to partner with farmers, ag business, governmental agencies, i.e. NRCS, SARE, NRDs (Natural Resource Districts, and NGOs, such as the Nebraska Grazing Lands Coalition and the Nature Conservancy. In 2020 Nebraska Extension's On-Farm Research Network had 24 cover crop related on-farm research projects, with 17 farmers participating as part of the NRCS Soil Health Initiative's Demonstration Fields across the state. In the past 3 years the Cover Crop and Soil Health Program has held 13 programs (conferences, field days and workshops) focusing on cover crops and soil health reaching 1634 farmers and advisors. Evaluation results from conferences showed an average value of these programs of $12.04/ac with (n=440). An example of survey results following the 2020 Southeast Nebraska Soil Health Conference having a major grazing of cover crops component showed changes resulting from this educational effort include 63% are likely and very likely to change how cover crops are used in their operation N=46 and 57% are likely and very likely to start grazing cover crops N=42. Comments from conference participants included, "Look forward to this meeting every year as I always learn more."

Katie L Wantoch
Associate Professor, Agriculture Agent
UW-Madison Division of Extension
Dunn County

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Farmers in Dunn County expressed concerns regarding soil erosion, pest control, and soil water management, and sought out information for improving and adopting better conservation and water management practices. The Fall Cover Crops program is designed each year to heighten awareness of on-farm demonstrations and cover crop applications, increase farmer confidence in cover crop adoption, and increase proficiency of ag professionals in delivering research-based recommendations to farmers, with an ultimate goal of increasing cover crop acreage. The 2020 program was cancelled due to COVID-19. Participants from nine counties across Western Wisconsin attended the 2019 Fall Cover Crops Field Day. A majority reported that farmers need to have a plan when considering planting cover crops. An ag professional notes, "*This information is valuable to have when working with producers who plant cover crops. There are lots of challenges and benefits, and it is important to be knowledgeable of both aspects*." A six-month follow up survey to the 2018 program reported a majority have made changes or recommended changes to improve the health and productivity of their soil and water on the farm. Half indicated that they have improved their understanding of the issues surrounding environmental quality and made more informed decisions regarding cover crop seed selection. All indicated the information provided at the field day to be valuable or extremely valuable. Over five years, I assisted in delivering seven on-farm field day programs and collaborated to conduct on-farm demonstrations and research projects at the Red Cedar Demonstration Farm, including application methods of cover crops, cover crop seed and mix varieties, crop rotation incorporating a fallow field, no-till planting into cover crop residue, and nitrogen use efficiency rates. The field day has been attended by

400 people and material is reported to be shared with over 1,800 farm clientele each year, realizing a combined outreach of 9,000 farmers and ag professionals. Cover crops and other conservation practices are certainly not new strategies for soil health and water quality improvement. However, despite a plethora of resources available, farmers often need local demonstration to determine if these management practices are suitable in their region.

Jay Capasso
Extension Agent 1
UF/IFAS Extension
Columbia

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Field corn is an important commodity crop grown on approximately 100,000 acres in Florida. Best management practices (BMPs) have been implemented to address water quality and quantity concerns associated with growing crops. In this program, on-farm demonstration trials were conducted to compare the fertilizer application methods of banding control release fertilizer to broadcasting conventional fertilizer in Columbia and Suwannee Counties. Farmers were also educated on agricultural cost share opportunities, available producer grants, and the use of soil moisture sensors. **Objectives:** To (1) asses the practice of banding control release fertilizer to increase yields and nutrient use efficiency, (2) educate farmers on BMPs to reduce nutrient loss and conserve irrigation water, and (3) educate farmers on acquiring available producer grants and agricultural cost share. **Methods:** Extension agents secured funding through grants to compare fertilizer application methods and sources. The cooperators were provided equipment and inputs to implement BMPs on their farms. Educational materials were created to disseminate project results. **Results:** Increased yields were found in the banding control release fertilizer treatment in the 2019 and 2020 seasons at the Columbia County farm but not during the 2020 season at the Suwannee County farm. Soil nitrate data indicates more gradual release of nutrients in the banded control release fertilizer treatment at both cooperating farms. The farmer cooperators pursued cost share through the Suwannee River Management District to obtain a side dressing rig and soil moisture sensors. A no-till drill with the capacity to efficiently band fertilizer on top of the row, was acquired through a producer grant. **Conclusion:** This research allowed Extension agents to provide farmers, stakeholders, and policy makers information on the banding of control release fertilizer. As a result of participating in the demonstration trial, cooperating growers adopted BMPs, agricultural cost share, and utilized available producer grant funds.

State Winners

State Winner		
Southern Region		
Alabama	Ken Kelley	-
Arkansas	Allison Howell	-
Texas	Michael R. Hiller	-

Search For Excellence Young, Beginning or Small Farmers/ Ranchers

National Winner

Chase T Brooke
County Extension Agent- Agriculture & Natural Resources
Texas A&M AgriLife Extension
Collin

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The Northeast Texas Live in the Field video series is an ongoing online program implemented via Facebook to engage with new and non-traditional clientele across the Northeast Texas region on a variety of introductory agriculture and natural resource management topics using weekly short videos. Initially conceived in March of 2020 during a district Agriculture & Natural Resources strategy session, this program has consistently provided weekly

videos filmed and provided by County Extension Agents and specialists from across Texas' Extension District 4. Goals and outcomes for this program were as follows:

- Use short, impactful videos to educate the general public on a wide variety of approachable agriculture/natural resources topics
- Expand the reach of AgriLife Extension in Northeast Texas to new clientele
- Provide an opportunity for County Extension Agents across District 4 to present information, and increase their recognition across the area.

From the first video posted on April 3rd through to December 2nd, we posted 31 videos, accrued 857 page likes, 23,540 video views, and 71,956 people reached via Facebook. From demographic analytics data available via Facebook, the majority of followers were women between the ages of 25-54, which accounted for 54% of the all page followers. Overall, women of all ages comprised 60% of all followers, and when segmented by age a majority fell between 25 and 64 with the largest single age segment was 35-44yrs with 26% of the total, followed by 24-34yrs (22%). These views, likes, and engagements represent clientele that are typically underrepresented in our traditional programming in the District and continuing this series serves as a means to improve our outreach and marketing towards those groups.

National Finalists

Cade B. Rensink
District Director
K-State Research & Extension
Central Kansas District

Rensink, C.B.*[1],
[1] District Director, K-State Research & Extension - Central Kansas District, Salina, KS, 67401

Through a local young rancher focus group, feedback was given on what outreach topics they were most interested in and from whom do they were more inclined to get information. Overwhelmingly, they said they were hungry for management concepts which were practical and that could be immediately implemented upon returning home. Perhaps not surprising, when asked about educational programming, they were most interested in offerings from people with real world experience. The majority preferred actual producers presenting their experience. To that end, several key activities over the last three years were aimed at the beginning farmers and ranchers of the Central Kansas Extension District. In carrying out these programmatic efforts, educational objectives were aligned with the simple "wants" outlined by the focus group: timely applied content and practitioner delivery. Program activities focused on four main areas of soil health, finances, livestock stewardship and/or resource management. A variety of teaching methods were employed including one day group workshops, multi-session series, one-on-one consultations, short seminars, and technical assistance provided on-farm and in-office as well as through phone and email. Over 400 direct educational contacts were made through program attendance with an additional 3,200+ indirect contacts from digital delivery. With those direct contacts, post event evaluations were completed to collect short term evidence of improved knowledge and planned changes in behaviors. Follow up on medium term outcomes / evidence (actual behavior change) primarily came in the form of general observations rather than survey data. Cooperative partnerships and collaboration made the educational opportunities possible. Through relationships with various businesses, agricultural organizations and governmental agencies, additional expertise was committed, expanded networks were leveraged for promotion, and cost recovery was secured. While participant registration fees had to be relied upon in many instances, the larger events that required a larger budget were either partially or fully underwritten by sponsor and/or grant funding – most notably a multi-year USDA-NRCS Kansas Conservation Collaboration Grant designed specifically for outreach to underserved farmers and ranchers while connecting them with USDA programs and services.

Tatiana Sanchez
Commercial Horticulture Agent
UF/IFAS Extension
FL

Athearn, K.*[1], , Sanchez, M.T.*[2],
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[2] Commercial Horticulture Agent, UF/IFAS Extension, Gainesville, FL, 32609

Most clients who approach extension with the intention to start a new farm have little or no experience in running an agricultural enterprise. Besides needing the skills to produce agricultural products, they need to know the business and regulatory side of farming. Business-related education, tailored to farming, is needed to serve these aspiring and beginning farmers. **Objective**: To increase beginning farmer business-related knowledge and skills, encourage adoption of recommended business practices, and assist them in starting or expanding successful farm businesses. **Methods:** We developed educational materials and designed three extension short courses: Starting a Farm, Farm Business Planning, and Marketing for Your Small Farm. Initially offered as face-to-face

workshops (2019), all three courses were delivered twice virtually (2020-2021). Each virtual short course included a two-week asynchronous online component and a two-hour live Zoom meeting. Learning activities included video presentations, farmer case-study videos, group discussion, worksheets, invited expert speakers, and Q&A sessions. We collaborated with several other institutions, including Farm Credit of Florida, Small Business Development Center, Florida A&M University, Center for Rural Enterprise Engagement, Feeding Florida, and Alachua County Farm-to-School. **Evaluation**: Qualtrics was used to collect evaluation data, MS Excel was used for analysis and email and phone calls were used to follow up. **Results**: Total series participation was 175. Exit survey evaluation results indicated average knowledge gain per course ranging from 54% to 57%. Ninety-eight to 100% of participants gained knowledge based on before-and-after knowledge ratings. Between 89% and 96% of respondents were very or extremely confident in being able to perform skills after the course, and between 88% and 100% of respondents intended to adopt one or more recommended practices. One hundred percent of respondents from all courses were very or extremely satisfied. **Impact:** After following up with participants from the first two face-to-face workshops, we learned that at least five participants adopted a recommended practice and at least four started or expanded an agricultural business since attending the course. This ag entrepreneurship series is helping beginning farmers improve their business-related knowledge and skills, adopt recommended practices, and successfully start or expand agricultural enterprises.

Karla K Kean
Extension Agent III
Tennessee State University
Montgomery

Kean, K.K.*[1], , Cui, Xiurui[2], , Dugger[3], , Goodrich, Jennifer[4], , Hughes, David[5], , Jordan, Charley[6], , **Legault, Eileen[7], , Prather, Tim[8], , Stribling, Finis[9], , Waterman, Jo Anne[10], ,** White, Joetta[11],

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[2] Ext. Area Specialist I Farm Management, University of Tennessee Extension, Clarksville, TN, 37040
[3] Troy, Program Coordinator II; UT Center for Profitable Agriculture, Columbia, TN, 38401
[4] TSU-Extension Agent II & Co. Director, Tennessee State University Cooperative Extension, Wartburg, TN, 37887
[5] Professor and Greever Chair in Agribusiness Development, University of Tennessee Extension, Knoxville, TN, 37919
[6] Beginning Farmer Outreach Liaison to Ft. Campbell, Veteran Farmer, Clarksville, TN, 37040
[7] Area Specialist II- Eastern Region TN AgrAbility Project | TN Beginning Farmer Outreach Program, University of Tennessee Extension, Knoxville, TN, 37919
[8] Extension Specialist-retired, University of Tennessee Extension Biosystems Engineering & Soil Science Department, Knoxville, TN, 37996
[9] Area Farm Management Specialist, Tennessee State University Cooperative Extension, Columbia, TN, 38402
[10] TSU-Extension Agent I (TSU), Tennessee State University Cooperative Extension, Memphis, TN, 38120
[11] UT Extension area specialists-AgrAbility Project, TN AgrAbility, Trenton, TN, 37040

In 2018, the Tennessee Beginning Farmer Outreach Program (BFOP), launched in Middle Tennessee near Fort Campbell, the largest military installation in Tennessee and highest concentration of military personnel, including active duty, discharged and retired. The program expanded into East and West Tennessee in years two and three. Beginning farmers and ranchers, whether intending to farm full-time or for supplemental income, face many important and interrelated decisions that affect their success. This program builds upon successes of education and assistance programs of Tennessee's 1862 and 1890 Land Grant Extension programs, state and federal agricultural agencies, Farm Bureau, NGOs and others to address needs of a growing cadre of beginning farmers by providing appropriate research-based information, assistance developing a farm business plan, helping new farmers navigate numerous marketing and financial assistance programs, and mentorship from successful farmers. The project helps new farmers avoid common pitfalls and increase their probability of success. BFOP is a collaborative program of state, federal, local organizations, is available to any individuals interested in beginning farming, and eligible for programs by Extension; however, special emphasis will be on military personnel and veterans, and farmers with disabilities in partnership with the AgrAbility Project. Current and former military personnel with or without a disability have learned about starting, developing and funding an agriculture-based business. Programs implemented include: The Slow Your Roll Workshop Series, TSU New Farmer Academy (expanded to statewide with TBFOP in 3 regions), The '7 $ecrets of Effective Farmers' Webinar Series. Other activities included the Milan No-Till Veterans Appreciation event, the Lunch and Learn veteran farmer seminars during the Pick TN Conferences (2017-2019), Boots to AgriBusiness workshop, in-person and virtual presentations, field tours, and on-farm demonstrations. Through a partnership with the Farmer Veteran Coalition (FVC) , Tennessee established their own FVC chapter; thus, building a network with the TN membership of over 1000 members and Tennessee veteran network. This program connects veterans, active duty military, and their families in Tennessee to our state's

many agriculture and veteran resources.

State Winners

State Winner	
North Central Region	
Wisconsin	Katie L Wantoch
Northeast Region	
Maine	Anne Devin
Southern Region	
Arkansas	Allison Howell
Kentucky	Macy Fawns

2021 Service to American/World Agriculture Award Winner - Dr. A. Jud Heinrichs

Dr. Jud Heinrichs has enjoyed a 39 year career in dairy extension and research at Penn State with a goal of supplying information and tools to help dairy farmers globally improve their ability to manage. Dr. Heinrichs began his career at Penn State with a 100 percent Extension appointment, and he has had three major areas of emphasis: dairy forage nutrition, calf management, and heifer nutrition. His research and extension program has had the overriding goal of discovering methods or systems that simplify or assist with on-farm problems while training and demonstrating how to achieve a more successful outcome. This has been accomplished by inventions from the more basic research, applying these innovations to research that demonstrates solutions, then taking the results out to the dairy farm to be put into action. In all cases, the inventions have been made available on the web or through industry so nutritionists and dairy farmers could use them for solving problems.

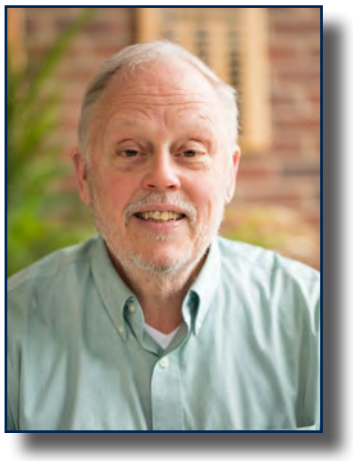
After determining the need to better evaluate forages on the farm and in the laboratory, he teamed up with Dennis Buckmaster, formerly at Penn State in Agricultural and Biological Engineering, to fill a gap in measuring forage and diet particle size. The result of their studies was the Penn State Particle Separator (PSPS). This invention has been used in various Penn State research studies and has been marketed through Nasco, Inc., an international agricultural supply company. The PSPS quickly gained recognition as a useful tool with thousands sold around the world. The PSPS is used in many research studies around the world and by the feed industry today. It continues to be marketed widely and is a standard tool for dairy nutritionist around the globe, as it has universal application for dairy diet formulation and analysis.

A second area of his extension and research is in heifer nutrition, and under Dr. Heinrichs's leadership Penn State is one of the very few places in the world where a large amount of research is conducted on basic and applied heifer nutrition. Of the peer reviewed publications over the past 5 to 8 years in dairy and animal publications, his research group is the primary originator of heifer metabolism studies. He attracted graduate students from around the world and has numerous national and international speaking requests each year on topics related to this research. His inventions of the Penn State Heifer Growth Charts (modeled like human growth charts) and Penn State Dairy Weight Tape (the only up-to-date body weight estimation devise of its kind) are utilized widely around the world by progressive dairy farmers and consultants. These two items were a direct result of extension programs in Pennsylvania where surveys and needs assessments were conducted and data were collected from several thousand heifers.

One focus of his research with heifers is defining their nutrient requirements. This area has not been extensively studied in over 50 years, despite great changes in the body size and conformation of the animals, as well as changing goals for age at calving. Along with graduate students, Dr. Heinrichs has developed a novel feeding system for dairy heifers that promotes minimal nutrient waste through increased feed efficiency. The concept is to precisely feed highly digestible diets which increases the efficiency of the heifer's metabolism and digestion of nitrogen and fiber, while having no negative effects on the animal. This work has shown manure production can be reduced up to 40% and has provided new insight into nitrogen metabolism in the growing heifer.

Realizing the importance of heifers on the economics of the dairy enterprise, Dr. Heinrichs sought out numerous collaborations to evaluate heifer systems for both nutritional and financial efficiencies.

The third extension and research area has been calf management. Dr. Heinrichs conducted numerous extension education programs and developed many publications, videos, computer spreadsheets and other tools to allow educators, industry, and farmers to improve their knowledge of calf nutrition and management.



Dr. Jud A. Heinrichs
Pennsylvania

Many of Dr. Heinrichs's extension programs have led to discovery of new tools and education materials that are needed. In turn, these tools are used to provide information to the dairy farmer to help them do a better job and be more profitable. He has published numerous articles in trade journals, proceedings, and in-house publications. In addition, he has conducted farm workshops and spoken at conferences in many parts of the US and 28 countries around the world.

Dr. Heinrichs takes great pride in training graduate students and often has 3 to 4 in his lab. Three of his former PhD students hold faculty positions in Animal Science Departments at other Universities. Other students hold successful positions in industry and government. He has authored 168 journal articles and 18 book chapters as well as more than 200 extension publications on dairy replacements and forages. He has received numerous awards throughout his career, including the 2018 American Dairy Science Association Fellow Award.

In addition to being the faculty member behind the Penn State Dairy Nutrition web site, Dr. Heinrichs is the current editor of the Dairy Digest, a bi-monthly publication for county educators and industry. He started and continues to oversee the Penn State Dairy Nutrition Workshop. This is a feed industry and consultant-oriented conference that has been held for the past 12 years which has grown to have over 600 participants annually and serves as a leading educational event in the east for the dairy feed industry. It also serves as a location for activities of the Northeast American Registration of Professional Scientists chapter.

In summary, Dr. Heinrichs's extension and research program has a goal of making dairy nutrition better for the animal, the producer, and the environment. His use of inventions to promote better nutrition continues to benefit the dairy industry worldwide. His extension materials, conferences, presentations, and other activities positively impact youngstock and feeding programs here in the United States as well as internationally. His passion for education and innovation has been instilled in his students, ensuring his influence on the dairy industry will continue.

2021 NACAA Achievement Award Winners

NORTHEAST REGION

MAINE
Rebecca J. Long
2 years

MARYLAND
Neith Grace Little
7 years

NEW JERSEY
Megan Muehlbauer
4 years

NEW YORK
Jarmila Haseler
5 years

PENNSYLVANIA
Ginger D. Fenton
9 years

VERMONT
Mark Cannella
9 years

WEST VIRGINIA
John David Johnson
9 years

NORTH CENTRAL REGION

ILLINOIS
Candice Hart
8 years

INDIANA
Jeff Hermesch
7 years

INDIANA
Crystal Van Pelt
6 years

IOWA
Carter Oliver
3 years

KANSAS
Justin Goodno
2 years

KANSAS
Anastasia Meyer
7 years

MICHIGAN
Ben Phillips
6 years

MINNESOTA
Karen Johnson
7 years

MISSOURI
Reagan Bluel
6 years

MISSOURI
Juan Cabrera-Garcia
1 years

NEBRASKA
Jessica Groskopf
8 years

NORTH DAKOTA
Paige Brummund
9 years

OHIO
Lee Beers
5 years

OHIO
Christine Gelley
5 years

SOUTH DAKOTA
Adam Varenhorst
6 years

WISCONSIN
Lyssa Seefeldt
7 years

WESTERN REGION

ARIZONA
Dr. Duarte Diaz
9 years

CALIFORNIA
Sonia I. Rios
6 years

COLORADO
Kali Benson
5 years

IDAHO
Kate Painter
5 years

MONTANA
Rose Malisani
8 years

NEW MEXICO
Lynda Garvin
7 years

OREGON
Brooke Edmunds
7 years

UTAH
Steven Price
3 years

WASHINGTON
Brook Brouwer
5 years

WYOMING
Abby Perry
6 years

2021 NACAA Achievement Award Winners

SOUTHERN REGION

ALABAMA
Allie Logan
5 Years

GEORGIA
Greg Pittman
6 Years

NORTH CAROLINA
Ben Grandon
7 Years

TEXAS
Jessica Chase
5 Years

ALABAMA
Rishi Prasad
2 Years

GEORGIA
Ty Torrance
6 Years

NORTH CAROLINA
Travis Hoesli
9 Years

TEXAS
Geri Kline
5 Years

ALABAMA
Paul Vining
5 Years

KENTUCKY
Adam Barnes
9 Years

NORTH CAROLINA
Mack Johnson
8 Years

TEXAS
Jo A. Smith
8 Years

ARKANSAS
Jason A. Davis
7 Years

KENTUCKY
Alexis Sheffield
7 Years

OKLAHOMA
Augustus Holland
6 Years

TEXAS
Jacob Spivey
6 Years

ARKANSAS
Robert S Harper
8 Years

LOUISIANA
Jessie Hoover
7 Years

SOUTH CAROLINA
T. Ashley Burns
6 Years

TEXAS
Stacie Villarreal
5 Years

ARKANSAS
Amy Tallent
9 Years

MISSISSIPPI
Preston Aust
9 Years

SOUTH CAROLINA
Lindsey Craig
8 Years

VIRGINIA
John Benner
7 Years

FLORIDA
Lauren Butler
4 Years

MISSISSIPPI
Heather Jennings
5 Years

TENNESSEE
Xiurui Iris Cui
3 Years

VIRGINIA
Brittany Council-Morton
9 Years

FLORIDA
Evelyn Prissy Fletcher
7 Years

MISSISSIPPI
James Shannon
4 Years

TENNESSEE
Seth Whitehouse
3 Years

FLORIDA
Kalan Taylor
7 Years

NORTH CAROLINA
Jessica Anderson
9 Years

TENNESSEE
Kathleen Wilson
3 Years

GEORGIA
Heather N Kolich
6 Years

NORTH CAROLINA
Andrea W. Gibbs
6 Years

TEXAS
Bruce Boyd
6 Years

2021 NACAA Distinguished Service Award Winners

NORTHEAST REGION

MAINE
David Fuller
24 years

MARYLAND
Jennifer Rhodes
14 years

NEW HAMPSHIRE
Heather Bryant
12 years

NEW JERSEY
Joel Flagler
32 years

NEW YORK
Quirine M. Ketterings
20 years

PENNSYLVANIA
Jeffrey Graybill
16 years

WEST VIRGINIA
H.R. Scott
29 years

NORTH CENTRAL REGION

INDIANA
Scott Gabbard
21 years

INDIANA
Kelly Heckaman
25 years

IOWA
Paul A Mariman
19 years

MICHIGAN
Phillip Tocco
15 years

MINNESOTA
Tana Haugen-Brown
32 years

MISSOURI
Darla Campbell
22 years

MISSOURI
Karen Funkenbusch
25 years

NEBRASKA
Jennifer Rees
16 years

NORTH DAKOTA
Bill Hodous
19 years

OHIO
Eric E. Barrett
23 years

OHIO
Amy K. Stone
20 years

WISCONSIN
Ryan Sterry
14 years

WESTERN REGION

COLORADO
Darrin Parmenter
18 years

IDAHO
Danielle Gunn
21 years

MONTANA
Wendy Becker
17 years

NEVADA
Lindsay M. Chichester
11 years

NEW MEXICO
Jeff Anderson
13 years

OREGON
Neil Bell
21 years

UTAH
JayDee Gunnell
15 years

WASHINGTON
Donald A. Llewellyn
10 years

WYOMING
Kellie Chichester
14 years

2021 NACAA Distinguished Service Award Winners

SOUTHERN REGION

ALABAMA
James Jacobi
21 years

GEORGIA
Brenda L. Jackson
13 years

NORTH CAROLINA
Billy Barrow
12 years

TEXAS
Lane Dunn
17 years

ALABAMA
Neil G. Kelly
13 years

GEORGIA
Carole Hicks Knight
14 years

NORTH CAROLINA
Paige Burns
14 years

TEXAS
Stephen W. Gowin
24 years

ALABAMA
Kerry P. Smith
15 years

KENTUCKY
David Fourqurean
16 years

NORTH CAROLINA
Troy E. Coggins
27 years

TEXAS
Brandon Gregson
20 years

ARKANSAS
Michael Hamilton
24 years

KENTUCKY
Kristin Hildabrand
11 years

NORTH CAROLINA
Keith B. Walters
22 years

TEXAS
David W. Groschke
16 years

ARKANSAS
Ples Spradley
37 years

KENTUCKY
Michelle Simon
10 years

OKLAHOMA
Brad Bain
20 years

TEXAS
Michael R. Hiller
15 years

ARKANSAS
Leslie S Walz
23 years

LOUISIANA
Raj Singh
14 years

SOUTH CAROLINA
Jeff Fellers
16 years

TEXAS
Robert Scott
28 years

FLORIDA
James E Davis
14 years

MISSISSIPPI
Bj Mcclenton
12 years

SOUTH CAROLINA
Alana W. West
14 years

VIRGINIA
John Wesley Blankenship Jr.
27 years

FLORIDA
Ralph E Mitchell
20 years

MISSISSIPPI
Larry Oldham
24 years

TENNESSEE
Jason de Koff
11 years

VIRGINIA
K. Jason Fisher
26 years

FLORIDA
Chris Oswalt
22 years

MISSISSIPPI
Phillip Vandevere
16 years

TENNESSEE
Matt Horsman
11 years

GEORGIA
Stephanie Hollifield
12 years

NORTH CAROLINA
Amy-Lynn Albertson
20 years

TENNESSEE
Amanda L Mathenia
12 years

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

2021
Northeast Region Hall of Fame Award
Mena Hautau
Pennsylvania
36 Years - Retired

Mena Hautau was hired by Iowa State Extension in 1980. She was the third female County Agent hired by Iowa State and worked in Taylor County, Scott County, and eastern Iowa as an Extension Field Specialist in Horticulture. Her first NACAA meeting was in 1981 at Cornell University. She has attended 11 NACAA meetings and worked with PACAA to host the 2013 meeting in Pittsburgh, PA.

In 1992, she served as the first female President of the Iowa Agricultural Extension Association (IAEA). The following year, she served on the first NACAA Futuring Committee (1992-1993), whereby recommendations were made to strengthen the professional development opportunities that are common at national meetings, such as the poster and research entries. During her tenure at Iowa State, she served as a reviewer for the Journal of Extension from 1990-1993. From 1994 to 1996, she attended graduate school at Iowa State University on an extension assistantship and received the Virgil K. Webster Award.

Mena moved to Pennsylvania in 1994 and was hired as the Agronomy and Agriculture Extension Educator in Berks County. In her 22-year tenure in PA, she rose to the challenge of providing programming for a range of crops producers including mushroom growers, fruit and vegetable growers, graziers, large scale grain producers and organic farmers. She worked with 10 growers and conducted over 150 corn and 75 soybean yield checks for the PA Corn Club and the PA Soybean Yield Contest. Yields increased from a 159 to over 300 bu/A for corn and from 40 to 90 bu/A for soybeans. She received a $15,000 SARE Partnership grant and conducted research on mob grazing with 5 dairy graziers and led a pasture walk in collaboration with PASA Sustainable Agriculture, which attracted 50 participants. Mena established “study circles” which brought peer learning to organic farmers. This program continues under the leadership of other educators. She assisted faculty in implementing on-farm and university-based research, including cover crops, soil health on no-till farms and manure injection for dairy farms. She led efforts with farmers, local state legislators and the PA Department of Agriculture to add Palmer Amaranth to the noxious weed list through farm visits, presentations, and a public policy on-farm meeting for stakeholders.

2021
Northeast Region
Hall of Fame Award
Mena Hautau
Pennsylvania
36 Years - Retired

With PACAA she served on the Board of Directors from 1999-2003, chaired the Sustainable Agriculture Committee from 2008-2016 and served on the Membership and Program Development Committees. She helped to host two spring meetings.

Mena received her DSA in 2011. Other honors include 2011 Communication Award - Website, NACAA and 2003 Communications Award, Regional Finalist, NACAA.

She served as a Board Member of the Pennsylvania Association for Sustainable Agriculture, 1999-2008. During her time with PASA, she assisted the organization with raising an average of $150,000 per year and helped with the transition and retention of Executive Directors.

In retirement, Mena has maintained her Certified Crop Advisor certification and has served on four grant review committees for Northeast SARE from 2017-2020.

Year DSA Awarded: 2011

2021
Western Region Hall of Fame Award
Dr. Ed Martin
Arizona
37 Years

Ed Martin began his nearly 37-year extension career (29 at the University of Arizona) as an Extension Associate at Michigan State in 1984. The commitment to extension and leadership he has demonstrated make him exceptionally deserving of the Hall of Fame award. As a specialist in the Department of Agriculture and Biosystems Engineering (1992 - present), Ed's programs serve a diverse audience of commercial and urban horticulture and encompasses everything from irrigation frequency for arid-adapted landscape trees to water and fertilizer applications in large scale cotton, lettuce, and alfalfa (three of Arizona's biggest commercial crops). His research on optimizing water usage for both home and commercial crops has made a significant impact on all of Arizona's agricultural producers. His work bringing this information to the producers is always well suited for the needs of the audience, as evidenced by his work with several of the tribal nations teaching them to install low tech drip irrigation.

Ed has demonstrated excellence in leadership, becoming the Associate Director of Extension for Ag and Natural Resources in 2007, and the County Director for Arizona's most populous county, Maricopa, in 2012. Maricopa County is home to over 4.5 million people, and Maricopa County Cooperative Extension is an extremely complex county serving many diverse audiences including low-income, urban, youth, and rural agriculture. Ed has masterfully managed all of these moving parts and those who work under him speak of his commitment to ensuring everyone has what they need for success, and his perseverance in creating positive change.

Ed has continued to exemplify what it means to be a leader and a mentor through his work with the Arizona Agriculture Extension Association (AAEA) and the National Association of County Agricultural Agents (NACAA). At the state level, he has been a constant presence as an officer and as state chair for many committees throughout the years. Perhaps most importantly, he has been an ever-present mentor for new members, helping them navigate the organization and making sure each officer is primed to fulfill their duties. At the national level, Ed has served as regional committee vice-chair at least four times and is currently the National Chair for the Leadership and Administrative Skills committee.

In the community, Ed has invested himself heavily in serving the people extension serves well beyond his job responsibilities, as well as working extensively with several other state and national organizations. He chooses to spend his personal/volunteer time working with many of the community members served by extension, including youth and Arizona 4-H. He leads 4-H volunteer training sessions, assists youth on livestock weigh-in days at the county fair (definitely outside the realm of a bioengineering specialist!), and serves breakfast at the Arizona National's Livestock Show. When Maricopa County was between 4-H agents, Ed took leadership on several programs and continued to participate (especially the Zoo Crew) even after a new agent was on board. Arizona Extension and NACAA is immensely richer because of the personal and professional time Ed has committed to these organizations.

2021
Western Region
Hall of Fame Award
Dr. Ed Martin
Arizona
37 Years

Year DSA Awarded: 2003Year DSA Awarded: 2005

2021
North Central Region Hall of Fame Award
Donald Drost
Wisconsin
26 Years - Retired

Don Drost served as agricultural agent in Barron County, Wisconsin, for 27 years specializing in farm management, general agriculture education, and in administration. He received various awards within UW Extension, including National and State Associations for County Agriculture Agents (NACAA and WACAA), and is a highly respected colleague and community member.

The impacts of Don's programs were recognized throughout the state and based on the needs of his clientele. Dairy production was the major agricultural industry in Barron county, represented by 1,400 county dairy farms. Don also served a wide range of the programming needs of all county farmers. Don initiated an annual UW-Extension Dairy Road Show event to draw special emphasis to the dairy industry in Northwest Wisconsin. He attracted nationally recognized presenters, industry representatives, and hundreds of dairy farmers attended the event each year.

Through Don's efforts, producers, educators and industry professionals collaborated to establish Barron County Agriculture Promoters. This initiative supported and encouraged agricultural education and activities throughout the county, targeting non-farm community members to inform them of the importance of agriculture to the local economy. To highlight this effort, Don served as executive secretary in hosting the Agriculture Technology Days in 1987, one of the largest agricultural exhibitions and shows in the nation.

Don was recognized for his variety and scope of excellence in agricultural education with the University of Wisconsin-Extension Excellence in Agricultural Programming award. He was promoted to the rank of Professor within the UW-Extension Ag/Ag Business Department. In addition to his program efforts Don served for three years as the academic Department Chair for all Agriculture Agents in Wisconsin.

His dedication to the association is demonstrated through the numerous committees he was involved with. Don served the Wisconsin Association in an assortment of leadership positions. In 1990 he began his leadership with NACAA and held the positions of North Central Vice Director and Regional Director roles before being elected to serve as the NACAA Vice President, President-Elect, President and Past President.

During Don's term as NACAA President, the NACAA committee structure was shifted and new guidelines were developed, commencing at the 1998 NACAA Meeting over which he presided. In addition, the groundwork was laid to create an executive director position during his tenure. The decision to have an executive director and NACAA national address has stood the test of time and the position has been in place for over 20 years.

2021
North Central Region
Hall of Fame Award
Donald Drost
Wisconsin
26 Years - Retired

On a humanitarian level, Don is a dedicated contributor to his community. He served over 40 years as a county 4-H leader, including leading the 4-H Ontario youth exchange program for 15 years. Don is active in his faith and serves as his church's parish council chair; men's club president; lector; and usher. He is involved with community organizations and has served leadership roles with the Barron County Rotary, Cameron School District, Rice Lake curling club, and local telecommunications telephone cooperative where he currently serves as Chairman of the Board. Don also volunteers his time with the Barron County Restorative Justice program and is a past volunteer for the Kinship program, which provides a father figure to troubled youth.

Year DSA Awarded: 1991

2021
Southern Region Hall of Fame Award
Mickey Cummings
Georgia
40 Years - Retired

In 1982, Mickey Cummings' career began with an extension appointment as 4-H Agent in Wilkes County, Georgia. For three decades, Mickey provided first-class extension programming and delivered timely research-based information to the counties he served. Mickey's career as an agent was most strongly associated with livestock production, earning him the Georgia Cattleman's Association County Agent of the Year in 2005. He was also well-respected for his work in vegetable production, water quality and sweet sorghum production.

Upon retirement, his knowledge and versatility served him well as the manager of the Union County Farmers Market/ Canning Plant in Blairsville, Georgia. Under his leadership this facility achieved an economic impact of $1,000,000/year attracting approximately 150,000 people/year in a county of 25,000 people. The Market, comprised of 84 vendors (70% agriculturally related), stimulated a ten-fold increase in the number of vegetable producers in Union County, reversing years of steady decline and making a positive impact in Union County Agriculture. The Union County Canning Plant processes over 17,000 jars/year for 200-300 persons. During 2020, while many farmers markets closed due to COVID-19, the Union County facility continued to operate under strict guidelines protecting the public without incident of health concern.

Throughout his career Mickey gained the respect of his peers and clientele through his educational efforts. He made 2 international presentations on beef management, 25 national lectures on a range of topics including beef production, forages, water quality and vegetable production. He presented 49 lectures in 12 states on topics including vegetable production, leadership, livestock, entomology, and soil fertility. He published 28 compilations of agricultural research over his extension career.

Service to his employer included serving on the UGA CAES Strategic Planning Committee, public service promotion committees and search committees. He attained the rank of Senior Public Service Associate with UGA CAES which only 3-4% of agents ever reach.

Mickey has been a member of GACAA and NACAA for 38 years attending 20 NACAA AM/PIC's and 34 GACAA AM/ PIC's. Service to GACAA includes the offices of Secretary, Vice President and President. On the national level he served as Chairman of Public Relations, NACAA Secretary, Vice President and President. He served as the Vice Chair of the 2002 NACAA AM/PIC in Savannah, Georgia where his responsibilities included raising funds and developing committee structure. Notably, his work on the NACAA Public Relations Committee included the development of the First Timers Orientation for agents attending the AM/PIC for the first time.

2021
Southern Region
Hall of Fame Award
Mickey Cummings
Georgia
40 Years - Retired

Mickey has been active his community currently serving as President of the Blue Ridge Mountain Cattleman's Association and on the Boards of the Union County Farm Bureau, Union County Historical Society and the Chestatee/Chattahoochee RC&D. He has served on the Boards of the Blue Ridge Mountain Soil and Water Conservation District and the Blue Ridge Mountain EMC where he served as President for 2 years. He has served as Chairman of the Union County Comprehensive Land Use Planning Committee. Additionally, he served the children and youth of Union County as a youth baseball/ basketball coach for 7 years.

Year DSA Awarded: 1994

NACAA/JCEP Creative Excellence Award 2021 Recipient - Eddy Labus - North Carolina State University

In March of last year, Eddy Labus's expertise in livestock management and markets was put to the test and fully utilized by our county's (and surrounding county) producers with the challenges of the pandemic. The coronavirus pandemic exposed and exacerbated capacity vulnerabilities and shortfalls in our state's (and nation's) slaughter and processing system. For many producers in the High Country of western North Carolina, animals must be transported sometimes 70 miles or more, one way, to be slaughtered and processed. In March 2020, bottlenecks at meat processing plants reduced capacity and caused substantial delays for area livestock producers. Many slaughter/processing plants became backlogged well into late 2021 & 2022 to accept animals. In many cases, livestock producers were reserving space for slaughter & processing for animals that weren't even born yet due to limited capacity.

With Eddy's consultation and planning acumen, in just a few brief months, the county's FIRST USDA inspected public processing facility was opened in partnership with one leading commercial beef producer and other participating "member producers" with whom Eddy connected & recruited. The processing facility was upfitted from a former deer processing facility in the county within a matter of three months with financial backing from a local generational farmer whose commercial meat business would have collapsed if new processing capacity wasn't established quickly. Eddy worked with this producer, Shipley Beef, on the preliminary planning of this effort and worked with this producer to create a "membership" service with other local producers in need of processing. While moving this new processing facility from an idea to reality in a very short time came with its share of challenges, Eddy was a reliable, steady source of 'wise counsel' …helping producers not only be successful in their own operations and businesses but also strengthening the network of producers from Watauga County and our surrounding counties who are working together. "Watauga Butchery" opened its doors in July of 2020 with 20 member-producers.

Eddy is currently working with multiple county partners to help gather data and secure funding to hopefully build the first expanded 'harvest and chill' facility to serve our High-Country livestock producers who continue to be affected by the bottlenecks at slaughter facilities. He has assisted with four grant proposals totaling over $2 million to enhance the equipment and capacity at the existing processing facility and partner with the county and Shipley Beef/Watauga Butchery to open a full-service slaughter and processing facility on county property in a private-public partnership. This project will provide a unique foundation for small livestock producers in our region and for our local food economy and locally produced meat industry to continue to grow.

Over the last 8 years, Eddy's engagement with producers has advanced the economic viability of many of our small scale farms. His work with beef cattle fertility and reproductive management, forage improvement programs, as well as Beef Quality Assurance certification has yielded significant impacts with producers who have adopted new practices. Cattle producers here in our part of the mountains are extending their grazing seasons and improving their pastures (and therefore the quality and sell price of their animals) due to Eddy's research, recommendations, and programs on rotational grazing, forage selection, and pasture analysis. Additionally, due to the burgeoning interest in 'local food', Eddy is helping producers market their animals and providing them training on meat-handling, butchering, and processing which is allowing these producers added value market diversity.

He works across county lines with other Extension Agents, specialists, and professionals to assist with area-wide programming and to share his extensive knowledge and practical approach with others. The most important part of Eddy's educational programming is that he ties in the economics of every best practice he promotes which increases adoption of best practices with the clients he works with. He has mentored fellow agents over the years and interns pursuing agroecology degrees from nearby Appalachian State University.

Over the last 5 years, our county (and surrounding counties) boasts the highest concentration of licensed meat handlers in the state. This is a result of Eddy's work encouraging and assisting livestock producers in creating and capitalizing on direct sale and market opportunities in our area's burgeoning local food movement.

2021 ABSTRACTS OF THE NATIONAL WINNERS AND FINALISTS COMMUNICATIONS AWARDS CONTEST

Audio Recording

National Winner

Terrell Davis
CEA - Agriculture
UofA Division of Agriculture Research & Extension
Pike

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

The Pike Co Extension Minute is a podcast recorded by Pike Co Ag agent Terrell Davis at his office. It is published on Spreaker and distributed on Apple Podcast and Google Podcast, as well as Twitter and Facebook. A local radio station, KMTB, in Nashville, AR also airs the podcasts to an estimated audience of 12,000 listeners in Southwest Arkansas. The objective of the bimonthly podcast is to provide clientele short clips of timely content regarding home gardens and orchards, forage production,or turf management. All podcasts are designed to be under 2:00 minutes.

Episode 5 is entitled "Controlling Bermuda Stem Maggots" and was published on June 12, 2020 at 4:55 PM. KMTB aired the podcast once each day June 15, 2020 and June 16, 2020 for a total estimated audience of 24, 000. The podcast was also downloaded 14 times on Spreaker. The podcast was part of a larger effort to help hay producers limit losses from the Bermuda Stem Maggot in their hayfields.

National Finalists

The Garden Thyme Podcast

Associate Agent – Agriculture and Food Systems
University of Maryland Extension
Dorchester County

Zobel, E.*[1], , Boley, M.[2], , **Rhodes, R.J.[3],**
[1] Associate Agent – Agriculture and Food Systems, University of Maryland Extension, Cambridge, MD, 21613
[2] Senior Agent Associate - Horticulture, University of Maryland Extension, Easton, MD, 21601
[3] Agent Associate, University of Maryland Extension, Centreville, MD, 21617

The Garden Thyme Podcast is a monthly educational podcast developed by University of Maryland Extension (UME) Educators to deliver non-biased research-based information on sustainable gardening techniques for the novice to advanced gardeners in Maryland and the surrounding Mid Atlantic area. Podcast episodes are recorded 2-3 weeks ahead of time by host Mikaela Boley (Talbot County, MD.) Rachel Rhodes (Queen Anne's County, MD) and Emily Zobel (Dorchester County, MD). Each episode is edited for content and sound quality before being uploaded on the podcast website at https://gardenthymepodcast.buzzsprout.com/. It is distributed on Apple Podcast, Spotify, Google podcast, Amazon Music, and Stitcher. Monthly episodes are also shared on Facebook and the UME Maryland Grow blog. Episodes are ~30-45 minutes in length and, on average, have ~280 downloads each. Each episode includes a discussion about timely garden topics or an interview followed by repeated monthly segments about native plants, insects, and vegetable gardening tips. Over 20 episodes have been recorded and released since October 2019. This entry is the beginning of our April 2020 episode, in which we interview Dr. Nicole Fiorellino, Assistant Professor & Extension Specialist, Plant Science & Landscape Architecture, University of Maryland College Park, about soil health and the importance of getting a soil test. This episode was recorded remoting due to the pandemic using zoom and Audacity. It was released to the public on April 10, 2020. It was edited from the original versions to fit within the submission time limits guidelines. Download link: https://umd.box.com/v/GardenPodcastNACAA2021

Karen G Cox

Extension Agent
WVU Extension Service
Ohio

Cox, K.G.*[1], , **Lima, D.F.*[2],**
[1] Extension Agent, WVU Extension Service, Wheeling, WV, 26003
[2] Extension Educator, Ohio State Extension Service, St. Clairsville, OH, 43950

Karen Cox from WVU Extension in Ohio County, West Virginia and Dan Lima from OSU Extension in Belmont County, Ohio have co-produced the Extension Calling Radio Show since 2014. This weekly 25-30 minute production was adapted to a podcast at the end of 2018. The objectives of this project are to increase awareness of Extension as a reliable and helpful resource, improve listener confidence in scientific information, and explore various Agriculture and Natural Resource topics in small digestible chunks.

We cover a mix of new research with time-tested best management practices for the farm, garden, and home. Topics include safety, livestock and vegetable production, pasture management, risk management, tree care, and many more. Approximately 15% of shows are submitted for peer review to maintain quality standards. The show is aired Sundays at 5:30am, 7:30am, 3:30pm and some Friday and Saturday evenings to an audience of 2,000-4,000 AM and FM radio listeners and approximately 50 unique podcast listeners (as determined by average downloads per show). The show excerpt chosen for this entry was aired in October of 2020 and has been downloaded 30 times to date. It melds many topics including mental health, water quality, food safety, and livestock production. In 2020, this podcast nearly doubled its listenership to an average of 343 downloads per month as people sought alternatives to traditional learning venues during the pandemic. Listeners include gardeners and farmers who have indicated they enjoy listening to the show while doing outdoor chores such as weeding and tilling. To continue our show and maintain social distancing we left the studio and adopted the online recording platform ZenCaster. This created an opportunity for editing and adding a musical intro and outro. The show is edited using Adobe Audition while the Otter.ai transcription app aids with transcripts. Hosting and distribution are done via the Libsyn platform, funding for which comes from the Ohio County Commission while Dropbox is used for sharing the show to the local radio stations. Co-hosts Karen and Dan both conduct the research, discussion, and occasional interviews, while the editing, transcribing, reviews, and posting are managed by Karen.

Chris Hicks
Extension Agent II

Hicks, C.*[1],
[1] Extension Agent II, , Carthage, TN, 37030

The submitted clip is from the November 5 episode of our weekly "Extension News" radio program on WUCZ 104.1 The Ranch. The agents in our office rotate doing the program each week, and use it to provide education, highlight programmatic successes, and promote upcoming programs to the listening audience. WUCZ has a listening audience of approximately 10,000 people, as well as a social media following of over 7,000. This particular radio program was recorded in my office on November 4 via the Windows Voice Recorder app and emailed to the radio station as an m4a file. The clip aired at 9:00 a.m. on November 5, and was also shared by WUCZ on Facebook and Twitter. My goal with this clip was to encourage livestock producers to consider spraying their pasture and hay ground in the fall, as opposed to waiting until the spring. University research has shown this to be a viable option, although it goes against what has been the norm for most producers during their career. This program resulted in a better understanding for our livestock producers about the when, why, and how of safely spraying herbicides in the fall.

Regional Finalists

Gregory W McClure
County Extension Agent, ANR
K-State Research & Extension
Riley County Extension

Mcclure, G.W.*[1],
[1] County Extension Agent, ANR, K-State Research & Extension, Manhattan, KS, 66502

- Proper Nutrition to Prevent Calving Difficulty Recording

McClure, G.W.[1]

[1]County Extension Agent-Agriculture and Natural Resources, Kansas State Research and Extension - Riley County, Manhattan, KS 66502

This audio recording draws on my experiences as a youth growing up on a farm and helping my dad during calving season, as an introduction to the topic that day – proper cow nutrition. Because poor cow nutrition can be a cause of dystocia, the urgency of my dad commanding me to come help deliver a calf on a cold winter night served as a good attention getter to lead into the topic. I have a roughly four minute spot every fifth Saturday on KMAN radio. While the topics are always educational, and are chosen to be appropriate to the season, I believe it is most important to catch the listeners' attention and I always try to include a personal experience to lead into the topic. Sometimes the personal experience becomes half of the recording, and I really don't worry about that because my ultimate goal is for listeners to feel like they know me so they will be comfortable contacting me when they have questions. In this recording I lead with the story about helping Dad pull a calf, then move to a discussion of various causes of calving difficulties. The recording ends with a final caution to not try to control calf birth weight by under feeding heifers. I prepared the recording by first typing a script, then recording on an iPad using the Voice Record app. I use an improvised sound room – a storage room that already had carpeted walls – and an external mic for better sound quality. The file is then emailed to the radio station. This 4 minute and 43 second program aired on KMAN 550 radio at 7:00 a.m. on January 23, 2021.

Brad M. Carlson
Extension Professor
University of Minnesota Extension

Carlson, B.M.*[1], , Miller, R.P.[2],
[1] Extension Educator, University of Minnesota Extension, Mankato, MN, 56001
[2] Extension Educator, University of Minnesota Extension, Rochester, MN, 55903

https://afnr-podcast.s3.amazonaws.com/GopherCoffeeShopPodcast/GCS-2020-04-01-nutrient-management-communications.mp3

Time: 0:00 – 14:46

This entry is for an episode of "The Gopher Coffee Shop" podcast series. This series is hosted by Extension Educators Brad Carlson and Ryan Miller, and is intended to be conversational in nature, rather than a structured educational presentation. The series has gained a following of farmers, agricultural professionals, and extension professionals from Minnesota and elsewhere. The series as a whole is not intended to simply convey information, but also to personify the individuals featured, and provide deeper understanding on a topic area through its interactive format. This specific episode is a discussion with communications professional Paul McDivitt, who works with the University of Minnesota Extension's Nutrient Management Group. This group, with Paul steering the ship, has a track record of extensive multi-media offerings including: formal web presence, blogs, videos, a regular podcast and a host of social media content. This podcast is intended to be an interesting, behind the scenes look at how we develop, produce, and release educational content from Extension. This episode was recorded in person on the U of M St. Paul Campus just days before everything shut down due to COVID. The content was edited by Ryan Miller, and released on April 1, 2020. The podcast series is hosted on Extension's Crop Production web page under the category of Podcasts and Video, and streamed using Amazon Web Services. The podcast is also available via iTunes, Stitcher and other podcast hosting services. This podcast has been streamed 450 times via the Extension web site, but unfortunately we do not get download information from the other hosting sites.

Amanda Douridas
Extension Educator
OSU, Champaign County

Douridas, A.*[1], , Hawkins, E.*[2],
[1] Extension Educator, OSU, Champaign County, Urbana, OH, 43078
[2] Field Specialist, The Ohio State University, Wilmington, OH, 45177

The Agronomy and Farm Management podcast is an interview style podcast hosted by Amanda Douridas and Elizabeth Hawkins. Episodes are released biweekly and feature experts weighing in on topics timely and relevant to farmers and crop consultants in Ohio. The podcast is recorded and edited using Zoom and Adobe Audition audio software by Douridas and Hawkins. The podcast is posted on iTunes and Stitcher and has 805 subscribers. Across all Ohio State podcasts on Apple Podcasts, Agronomy and Farm Management is #2 in subscribers and #3 overall for downloads and streams. The podcast allows us to get information to stakeholders and introduce them to topic experts in a format they can consume when they have time.

Episode 55 titled "Weather Wives' Tales" was released July 22, 2020. It features Dr. Aaron Wilson, a climatologist with Ohio State University Extension and Byrd Polar and Climate Research Center. During the dog days of summer, we took a break from more serious topics to have some fun and look at the science behind old sayings about weather. Many of these sayings are rooted in our agricultural history and we were able to involve our listeners who submitted wives' tale suggestions through our social media pages. This episode has been streamed and downloaded over 68 times. The full-length podcast is 23 minutes long. Please listen from 0:00-14:20 for judging purposes. It is available at http://go.osu.edu/AFM under Episode 55.

Dan Severson
Extension Agent - Ag and Natural Resources
University of Delaware
New Castle

Severson, D.*[1], , Severson, Dan*[2],
[1] Extension Agent - Ag and Natural Resources, University of Delaware, Newark, DE, 19716
[2] New CasstleCounty Agrculture Agent, University of Delaware, Newark, DE, 19716

OBJECTIVE

Exension302 came from an effort to innovate Cooperative Extension's outreach to reach new audiences with university-based scientific information.

WHY

A large number of our constituents are farmers, a demographic which has, surprisingly, picked up podcasts as a way to pass the time in the field. Additionally, podcast listening is strong across the US, with 32% of Americans tuning in at least once a month.

WHEN

Already in the works, this effort was expedited in early 2020 as the global pandemic halted many in-person educational efforts.

HOW

A podcast team was organized including three extension agents, two in agriculture, one in horticulture, and a digital content specialist to discuss important topics to clientele and ongoing research from the University of Delaware and other land grant universities. Experts from UD, other land grant universities, USDA, DDA, and local government have been interviewed.

Extension302 is distributed by Libsyn and is available on Spotify, iHeartRadio, Youtube, Facebook, Libsyn Web Player, Amazon Music/Audible and RadioPublic. It is promoted and advertised on social media and in programs and materials by UD Extension.

AUDIENCE

Extension302's primary audience consists of people who work and have an interest in the agricultural sector, particularly in the state of Delaware. Many episodes, however, also have wider appeal and are also marketed based on interest, including Family and Consumer Science topics and 4-H topics.

NUMBER

Between March and December 2020,12 episodes were released with a total of 2,934 listens/views. Various platforms were used to allow convenient listening (Facebook, YouTube, Spotify, and Libsyn) and additional platforms are in the works, subject to university approval.

RESULTS

Reactions on both the audience and guest side have been encouraging! Viewership is building as episodes become a regular monthly release.

HOW ENTRY PREPARED

This entry is a 15 recut of our episode recorded on Spotted Lanternfly, Episode 8: Battling the #HitchhikerBug. Most Extension302 episodes clock in between 25 and 35 minutes. It was originally released on September 8, 2020. All the recordings have been recorded on Zoom due to the CoronaVirus.

udel.edu/extension/podcast

Kristin G Hildabrand
Extension Agent for Horticulture
University of Kentucky Cooperative Extension Service
Warren County

Hildabrand, K.G.*[1], , Schalk, C.*[2],
[1] Extension Agent for Horticulture, University of Kentucky Cooperative Extension Service, Bowling Green, KY, 42101
[2] Barren Co. Extension Agent for Agriculture and Natural Resources, University of Kentucky Cooperative Extension Service, Glasgow, KY, 42141

Get the Scoop with Chris and Kristin is an educational radio program that airs daily on Goober 95.1 FM, Monday through Friday at 5:00a.m. The Barren County Extension Agent for Agriculture and Natural Resources and Warren County Extension Agent for Horticulture work together where they write the scripts and then pre-record the 5 minute shows at the radio station. Goober 95.1 FM radio station is located in Bowling Green, KY where it reaches multiple counties located in the South Central Kentucky area with an estimated total reach of 30,000 people. This radio program has allowed agents the opportunity to disseminate research-based information from the University of Kentucky Cooperative Extension Service to both farmers and gardeners. Since October 2016, agents have recorded more than 250 segments related to Agriculture, Natural Resources, Horticulture, Sustainable Agriculture, and nutritional recipes for the family. Feedback from clients and radio station staff to agents personally has been overwhelmingly positive. The segments submitted include 2021 Gardening Trends and Spring Calving Season, which aired the week of January 11th and January 12th 2021.

Jessica Swapp
Extension 4-H/Ag Agent
New Mexico State University Cooperative Extension Service
Grant County

Swapp, J.*[1],
[1] Extension 4-H/Ag Agent, New Mexico State University Cooperative Extension Service, Silver City, NM, 88061

The purpose of this podcast episode was to provide research based information regarding the Asian Giant Hornet. During the spring of 2020 social media was "buzzing" with concern over "murder hornets." The episode featured an interview

with the extension entomologist to provide truthful information about the Asian Giant Hornet that was given the concerning nickname “murder hornet” on social media. I felt this was an important topic to cover on the podcast given that all of the sudden on several social media sites I noticed what seemed to be mass hysteria about these insects. I also felt this was a good way to provide listeners the opportunity to hear from an extension specialist on the topic. This interview was conducted virtually during Covid-19 restrictions using Google Voice. The interview was solely edited by myself using Audacity and then uploaded to the podcast host website Buzzsprout. This 13 minute and 21 second episode was released on May 12, 2020. It has been downloaded 122 times. Most downloads were from New Mexico, however listeners from 13 states and as far away as France have listened to this episode.

Taun Beddes
Horticulture Agent
UTAH STATE UNIVERSITY
UT

Beddes, T.*[1], , Hansen, S[2], , Gunnell, J[3], , Caron, M.[4], , Shilaos, M.[5],
[1] Horticulture Agent, UTAH STATE UNIVERSITY, Orem, UT, 84097
[2] Extension Horticulturist, UTAH STATE UNIVERSITY, Kaysville, UT, UT, 84037
[3] Extension Horticulturist, UTAH STATE UNIVERSITY, Logan, UT, 84321
[4] Extension Horticulturist, UTAH STATE UNIVERSITY, OREM, UT, 84097
[5] News Broadcaster, Radio Host, KSL News Radio, Salt Lake City, UT, 84101

Utah State University Extension encourages faculty to build and maintain relationships with the local media. One of the most successful relationships USU Extension has built is the Saturday morning KSL Greenhouse Show. It is the most listened to program in the Salt Lake City market in its broadcast time, with an estimated 50,000 listeners. It has been broadcast for over 40 years. Multiple Extension horticulture faculty have hosted through this time. It remains successful and current through careful tracking of horticulture questions received through USU Extension offices and in online social media forums. Many USU Extension faculty also regularly contribute content and interviews on topics including water conservation, turf care, fruit production, ornamental plants, using local food in season, food safety, sustainability, and plant problem management. To more effectively reach listeners the show uses social media to communicate with a combination of topical images, short videos and Extension authored fact sheets. The program has over 5,400 followers on social media. Additionally, information provided by social media companies shows that those that like or follow the show pages are between the ages of 40-65, with 60-70% of these being female. Free podcasts of the show are also available and are currently being more heavily promoted. Podcasts garner several hundred to a few thousand listens per week. We have also started posting regular videos on our social media pages that average a 2,000 – 10,000 views each. A continued goal is to increase listenership and exposure to a younger demographic through more targeted use of social media. I have included a compilation of various samples from the show.

State Winners

State Winner	
North Central Region	
Illinois	Kenneth Johnson
Iowa	Paul Kassel
Michigan	Sarah Fronczak
Nebraska	Melissa Bartels
South Dakota	Sara Bauder
Wisconsin	Katie L Wantoch
Northeast Region	
New York	Margaret Quaassdorff
Pennsylvania	Laura Kenny
Southern Region	
Alabama	Gavin P. Mauldin
Florida	Taylor Clem
Georgia	Andrew Sawyer
Mississippi	Dr. Eddie Smith
North Carolina	Daniel Ostrowski
Texas	Matt Garrett
Virginia	Laura Maxey-Nay

Published Photo

National Winner

James E Davis

Multi-County Extension Director

UF/IFAS Sumter County Extension

Sumter

The photo was taken January 5, 2021 at Fenney Springs, Sumter County, Florida. Equipment used was a Nikon D500 with a Nikkor 200-500 mm lens. Photographic info:

1/1000 sec: ISO 640: f/6.3 at 500mm. Compressed to the minimum size of 1024x768. This picture was used in print and presentations multiple times. 1.) The Journal (Pages 4-5). This is a monthly newsletter with a target clientele of homeowners and Master Gardeners. The title was "The Florida Water Turkey". This newsletter along with the photo was delivered to the 7,305 subscribers. Date published 3/2/21. 2.) The UF/IFAS Extension Hernando County Newsletter (Pages 10-11). Target audience are advisory committee members, homeowners, landscape professionals, youth, and volunteers. The title was "Invasives vs. Natives". The newsletter was delivered to 40 residents. Date published 3/1/21 3.) The Villages Enrichment Academy. "Meet Your Local Wildlife". Slide 133. This is a monthly workshop part of a grant. This picture was used for identification and biological information to 68 residents. Dates 1/19, 2/9, and 3/9/2021. 4.) Facebook post as a part of the Wildlife and Invasive Species Education group. Total reach was 615 people with four shares. Date published 1/21/21. https://www.facebook.com/WISEsumter

The premise of this picture was to demonstrate several aspects of the capture to tell the story within the submitted article and presentation. 1.) The behavior of the Anhinga to capture its prey, flip it in midair, catch it, and swallow the fish headfirst. 2.) How native species are doing their part in controlling non-native invasive species, such as the armored catfish as seen in the photo.

National Finalists

Philip Kaatz

EXTENSION EDUCATOR

MSU EXTENSION

LAPEER

In the fall of 2020, the Sanilac County News newspaper, located in Sandusky, Michigan, published an article I wrote describing the crop conditions in the Thumb of Michigan. The primary audience was field crops producers. The article described growing conditions for corn, soybeans, alfalfa, dry beans and sugar beets. Included in the article was a picture I took a several weeks prior to the article. I was visiting one of the Sanilac County farmers to discuss cover crops and we decided to assess his excellent corn crop. While walking the corn field, he lowered into the corn canopy to look at the cover crop residue from the spring. I took the photo as he looked over the residue. The picture, "Area farmer Rich D'Arcy assesses cover crop residue in his corn crop", was published in the October 7, 2020 (page 8-A) https://sanilaccountynews.mihomepaper.com/pageview/viewer/2020-10-07#page=7 print and electronic edition of the Sanilac County News. The newspaper has a circulation of 4,085 with an additional 314 online subscribers, reaching 10.6% of the county population (41,295). Sanilac County, Michigan ranks as the top county for acres of corn planted, second for planted soybean acres, and second for planted wheat acres in 2020 (https://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/County_Estimates/index.php).

Thomas Butzler

Horticulture Educator

Penn State Cooperative Extension

Clinton/Northeast

The published photo and article appeared on December 19, 2020 in Lock Haven's The Express. This article was the last in an 8-part series highlighting plants in managed and naturalized settings. Quarantining during the COVID pandemic has brought on a whole host of issues; boredom and fatigue to name a few. To address these problems associated with home confinement and limited social engagements, the series highlighted area horticulture opportunities to explore. Not only were these safe activities for the family, but plants can have calming effects on moods. This column covered plants on Pennsylvania's Pine Creek Rail Trail. I always submit photographs with the written column to add a visual component and to attract the reader to the article. The photo of note describes the carpet of leaves on the trail. It is not so much the color of the fallen leaves but the visual I try to paint in the article, "the leaves carpet the pathway to where it feels like you are biking in a tree canopy." Photo captions are included at the bottom of the submitted column article. An iPhone 11 was used for submitted pictures. My information is submitted via The Express's virtual newsroom; therefore, it never prepared with letterhead. The Express has a daily circulation over 10,000. Small town and rural central Pennsylvania afford me the opportunity to interact with readers on a regular basis and I receive many positive comments on the column.

Barbara H Smith

Horticulture Extension Agent

Clemson University

Statewide-HGIC

The purpose of the submitted photo is to show how a honey bee (Apis mellifera) transports pollen sacs that hang off its hind legs. Hairs on the bee's hind legs help hold the pollen pellets in place as it is in flight. Not only does the photo show the honey bee's incredible ability to transport pollen, but it also shows the important relationship of the camellia flower (Camellia x 'Delores Edwards') in providing the bee with a

winter pollen source. This photo is part of a collection of twenty photos that compromised a photoblog published on the Home and Garden Information website on February 15, 2021. The photoblog received 51 page views and 48 unique views. When shared to the Clemson Horticulture Facebook page, it received 38 views and was shared 33 times to other Facebook pages. On the Making It Grow Facebook page, the photoblog reached 2,715 viewers with 205 engagements. It was then shared on personal Facebook pages 10 times.

The link for the published photoblog is below.

https://hgic.clemson.edu/february-week-3-garden-photos-3/

Regional Finalists

Anne E. Sawyer

Extension Educator, Watershed Education

University of Minnesota Extension

MN

This photo was included with an article I wrote for the U of MN Extension Yard and Garden News, reflecting on my time as an EE in Produce Safety (prior to transitioning to an EE position in Water Resources). The story highlights ways in which I had applied what I had learned about food safety to my garden at home. My objective was to inspire others to do the same - whether in their home, school, and/or community garden. One of the "Good Agricultural Practices" (GAPs) described in the article is to keep pets out of food gardens. This picture depicts a cute - but completely ineffective - "deterrent" to keep pets out of the garden.

This article with photo was published in the July 21, 2020, online Yard and Garden (Y&G) News. The Y&G News has ~10,000 subscribers to a biweekly email that contains article summaries, photos, and links to content written for a general audience. This article was also picked it up by Extension's SOURCE Magazine E-Newsletter in August, 2020 (~1400 subscribers, sent quarterly to an audience of Extension enthusiasts and financial supporters). All text and photos contained in the article are mine.

Link to article with photo: https://extension.umn.edu/yard-and-garden-news/lessons-learned-view-my-garden. And here's the SOURCE E-Newsletter link: https://z.umn.edu/6q4x

Katie Pekarek

Extension Educator-Water Quality

University of Nebraska-Lincoln Extension

Southeast

Caption: "Sampling Surface Water in Nebraska: High Nutrient Water Results in Algae Blooms" The purpose of this photo was to illustrate the effect of nitrate contamination on surface water in Nebraska. The objective of the photo was to support information in the article about the impact of high nitrate concentrations in Nebraska surface waters. The photo was captured by the Extension Educator while shadowing the Nebraska Department of Environment and Energy in their surface water monitoring program using a field camera. The photo was distributed in an article published on the University of Nebraska Water Website, water.unl.edu, on September 4, 2020 and subsequently in the Water Column Newsletter. The photo was seen in the article on the website 1,100 times and the newsletter article reached 1,200 subscribers. The photo is available online at https://water.unl.edu/article/nitrates/nitrate-nebraska-1.

Michelle Infante-Casella

Agricultural Agent/Professor

RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION

GLOUCESTER

The COVID-19 pandemic caused fear and confusion for many people and left families stuck at home. Children were adapting to online learning, adults either worked from home or lost employment, and the future was uncertain. Families were adapting to stay-at-home orders, finding ways to amuse themselves with other activities restricted, and were eager to incorporate homebound activities in their daily lives. The editor of the New Town Press asked Agricultural Agent, Michelle Infante-Casella to write a feature article, instead of the monthly gardening article she regularly submitted. She wrote the feature article titled, "Home Gardening Encouraged During the COVID-19 Pandemic", that was the feature article of the April 2020 edition and distributed via mail, in print to 47,926 households monthly in Gloucester County. The article compared growing a garden during the COVID-19 pandemic to growing Victory Gardens during war times. This feature article was meant to encourage hope, promote home vegetable gardening, and help families have a sense of food security through gardening – especially children. Even public parks were closed, and this article explained outdoor activities with home gardening for youth, how gardening could enhance students' math skills, improve motor skills, and help with stress management. The published photo of Benjamin Casella, Jr., son of Michelle Infante-Casella and Benjamin Casella, Sr., was published with the article in the April 2020 edition of the New Town Press. The photo was taken by Agricultural Agent, Michelle Infante-Casella and published with the gardening article to show how children enjoy digging in the garden and how this

activity was beneficial both physically and emotionally for families.

Margaret Quaassdorff

Dairy Management Specialist

CCE NWNY Dairy, Livestock, and Field Crops Team

NWNY

The purpose of the educational photo was to encourage farmers to begin thinking about the 2020 corn silage growing season and how it would impact the 2020 harvest season. In addition, this photo was to inform farmers of resources available to learn and review the practical considerations for corn silage harvest and key practices for safe and successful storage and preservation. This photo was captured while conducting a pre-harvest survey of corn silage in New York. It was uploaded and shared to the Cornell Cooperative Extension NWNY Dairy, Livestock and Field Crops Team's Facebook page on August 27, 2020. The caption reads, "New Podcast! NWNY Dairy Management Specialist, Margaret Quaassdorff collaborates with specialist from CCE and PRO-DAIRY to bring you: 'Corn Silage Harvest Considerations'. One can argue that IOFC (income over feed cost) begins when forage is delivered to the feed center- in this case the feed bunk. This podcast series delves into the practical considerations for corn silage harvest. We start with a recap of the growing season in the first episode. In subsequent episodes, we focus on the key practices for harvest, storage and preservation." The caption included a link to the podcast series, which was developed as an alternative to face-to-face workshops during Covid-19 safety restrictions, to provide farmers with timely information. This photo looking down a row of standing corn silage reached 267 people and had 19 engagements and 3 shares, and directed many listeners to the podcast, which received a total of 175 plays.

Tim Mathews

County Extension Director

When COVID shut down our office, the Harnett County, North Carolina team quickly adjusted by switching to virtual programming through the use of video production software. Using existing equipment, we identified software that would allow us to produce high-quality videos with multiple angle shots. These were shared via our social media platforms highlighting agriculture and local foods. In addition to the videos, we used still photos the day before the video was shared to market the spot. This photograph was posted on our Facebook site on March 23, 2020, and reached nearly 500 individuals. The photo captioned as Getting ready to go live..., tells the story about what goes on behind the scenes. Agents from all program areas were involved in the production of these programs, demonstrating the team spirit apparent in our office.

Sonia I. Rios

Area Subtropical Horticulture Advisor

University of California Coop. Ext.

Riverside & San Diego Counties

This photo was recently used in a 2021 Febuary announcement email to advertise the five-part Date Palm Webinar Series I will be hosting in April 2021. The objective of this photo was to show the beauty of these trees and since the announcment was sent to out to the entire email list for members of the California date commission, it had also been sent to everyone on my subtropical horticulture email list (n=895), which includs other tree crop growers, industry members, crop and pest consultants, students, government agencies, and other stakeholders that may not know what a date palm looks like or are not even aware that they are grown in our California low deserts. This announcement has also been posted of the main UC Agriculture and Natural Resources statewide calendar. Due to the photo being used in an advertisement flyer, there was no caption included. The photo was taken in a Thermal, CA in growers' 'Medjool' date orchard in Riverside County. The day I took the photo was a day I was searching for a potential site for an irrigation research trial in dates and happen to have my Nikon camera with me.

Dallen R. Smith

County Director/Agriculture & 4-H Youth Programs

USU Extension

Rich County

The Rich County Conservation District applied for funding through the Utah Department of Agriculture and Food (UDAF) to have a chain harrow built. After securing funding of $8,800.00, the Conservation District contributed $4,200.00. With these funds, the District was able to purchase a $13,000.00 chain harrow for producers in our county to use. Last fall, Jorden Willis used the chain harrow on 200 acres in the hills west of Randolph to tear out sagebrush. On the second pass he dropped seed in front of the chain harrow to re-seed. This re-seeding will provide more vegetation for livestock and wildlife. This is a picture I took of Jorden Willis-Rancher and Taylor Payne-Rich County Grazing Improvement Cordinator (GIP) at the site where

the chain harrow was used. We are using this picture in two different videos. The first video lets the 70 producers in Rich County know that they can rent the chain harrow for $1.00 per acre. The second video also uses the picture to advertise for the Utah Society of Range Management (SRM) Summer Range Tour, since we will be visiting this spot on the tour.

State Winners

State Winner	
North Central Region	
Illinois	Kenneth Johnson
Kansas	Sandra L. Wick
Ohio	Beth Scheckelhoff
South Dakota	Patrick Wagner
Southern Region	
Alabama	Edward J. Sikora
Arkansas	Jan Yingling
Georgia	Julia Willingham
Kentucky	Leann Martin
Mississippi	Gary Bachman
Tennessee	David A. Yates
Texas	Greg Grant
Virginia	Rebekah Slabach

Computer Generated Presentation with Script

National Winner

Rebecca A. Melanson
Assistant Extension Professor - Plant Pathology
Mississippi State University Extension Service
CMREC

**Melanson, R.A.*[1], **
[1] Assistant Extension Professor - Plant Pathology, Mississippi State University Extension Service, Raymond, MS, 39154

In Mississippi, tomatoes are produced commercially in the field, under protection in greenhouses and high tunnels, and in home gardens. A multitude of diseases affect tomatoes throughout Mississippi's growing season, causing various symptoms that can reduce crop yield and fruit quality. Successful disease management throughout the season involves implementation of a variety of disease management practices, which are based on the knowledge of the pathogen causing the disease and its life cycle. Accurate diagnosis, therefore, is the critical first step in disease management. Other considerations for disease management include producer preferences, cost, product availability, and general production practices. Each year, during periods of warm weather and frequent rains, stakeholders, particularly home gardeners, request assistance with identification and management of buckeye rot. The recorded presentation "What's Wrong with My Tomatoes? Lesson 1: Buckeye Rot" was created, designed, and produced by the author in 2020 to educate stakeholders, including commercial tomato producers, home gardeners, and those who educate others on disease management in tomato production, on the identification, development, and management of buckeye rot in tomatoes. It is currently available on the Mississippi State University Extension website and YouTube channel (www.youtube.com/watch?v=vPSkjhwZ1wI&t=12s; posted on June 4, 2020), the MSU Extension Diseases of Vegetables, Fruits, and Pecans Facebook page (www.facebook.com/MSUextDiseasesVFP; posted on June 4, 2020), and on the Focus on Tomatoes Series of Grow: Plant Health Exchange (doi.org/10.1094/GROW-TOM-09-20-028; posted in September 2020). Collectively, this recorded presentation has had almost 800 views/plays (YouTube and Grow) and an estimated reach of over 1,500 (Facebook) since becoming available.

National Finalists

Margaret Quaassdorff
Dairy Management Specialist
CCE NWNY Dairy, Livestock, and Field Crops Team
NWNY

Quaassdorff, M.*[1], , Havekes, Casey[2],
[1] Dairy Management Specialist, CCE NWNY Dairy, Livestock, and Field Crops Team, Batavia, NY, 14020
[2] Dairy Specialist, CCE North Country Regional Ag Team, Canton, NY, 13617

This PowerPoint presentation was one of a series of seven total webinars that were created to fill a request from dairy calf raisers who felt that they knew best management practices when it came to raising calves, but needed more information on what to do when faced with real-life critical calf care situations where things don't go according to plan. The goal of the presentation was for calf raisers to understand the difference between normal loose manure and nutritional scours, to be able to identify the causes of each, and to determine when management practices need to be altered and extra care given to calves to maintain their growth, health, and wellbeing. It also covered the basics of calf nutrient requirements, and research behind proper colostrum management. In addition, the content in this presentation was approved by the National Dairy FARM (Farmers Assuring Responsible Management) Program, and attendees could count their participation towards the

continuing education requirement in their next animal care audit. This presentation was given in February 2021, and was directed towards calf raisers in New York, but attracted a worldwide audience. A total of 204 people registered to either view the live presentation, or to receive a link for the recording. Forty-nine registrants attended live, and remained on for the Q&A session following the program. To enhance attendee interaction and participation throughout the 40-minute presentation, "Chat questions" were added so attendees could type in their answers and see what others were thinking as well. Evaluations indicated that the program was of high quality (rated 4.6 out 5), and attendees' knowledge of the topic increased after participating in the webinar presentation. Some indicated that they would be making changes like, adjusting "milk feeding size", being "more attentive to the calves' needs", or would try to "weigh milk replacer [powder] vs. [just] measuring [the powder and water] in a cup". The recorded presentation will continue to be publically available and can be accessed on the CCE Northwest New York Team YouTube page for those who would like to view it for the first time, or as a refresher.

Leah Fronk
Horticulture Educator
Penn State Extension
Juniata County

Fronk, L.*[1],
[1] Horticulture Educator, Penn State Extension, Mifflintown, PA, 17059

The "Early Spring Garden Refresher" was developed for the 2020-2021 Penn State Master Gardener Diagnostic Webinar series. The audience for the series is Penn State Master Gardeners, especially those who serve on garden hotlines and answer questions directly from the public. The objective is to strengthen the knowledge of Master Gardeners on common early spring vegetable gardening questions. The recent pandemic has created unique opportunities for people to have more time at home and without a commute. As gardening continues to grow in popularity, it is important for Master Gardeners to stay informed on challenges pertinent to beginner and experienced gardeners. I presented the webinar live on February 18, 2021 to at least 370 participants. The presentation continues to be available to Master Gardeners at the following link: https://psu.mediaspace.kaltura.com/media/Master+Gardener+Diagnostic+Webinar/1_a4nlxv2b I created and prepared this presentation as the sole author, utilizing print and online media as well as personal experiences. The script is included with the PowerPoint slides.

Caitlin L. Bainum
Livestock Extension Agent
University of Florida
Marion County

Bainum, C.L.*[1],
[1] Livestock Extension Agent, University of Florida, Ocala, FL, 34470

Extension is a producer's greatest resource when it comes to receiving research-based information in the form of a book or handout, but an even better resource when able to utilize hands-on learning opportunities to promote practice change. Management of livestock can often be an area that leaves money on the table, particularly with winter feeding. Supplementation during the 120-day cool season in Florida poses an economic threat to many cattle producers. Cool-season forages cost an average of $100-300/acre to establish and can supply adequate nutrition to many classes of beef cattle through the winter. In most scenarios when cost/ton is less than $150 for cool-season pasture that will prove cheaper than purchasing supplemental feed (Prevatt, 2014). This presentation supplemented a cool-season forage field day, an annual event in Marion County. This field day combines classroom lecture with a field walk to explore a planted demonstration site to showcase the cool-season annual forage recommendations for Florida. This allows local producers to identify which forages will and will not work within their soil, environment, or equipment limitations. These programs are impactful by allowing landowners to see the benefits of these forage systems, the mistakes, and lessons learned on our dime instead of their own. 54 people attended the program, representing over 3,500 acres and 1,000 head of cattle in Marion County. Post program surveys were conducted, of which 80% reported to expect to see reduced costs to their production or a higher return on their investments, 44% of people plan to implement a cool-season forage this coming year, and 80% reported a better understanding of forage management to achieve greater yield from their pastures. With an average daily gain of 1lb. / cow per day to be expected from cool-season forages, 120,000 pounds of gain can be expected from this group of producers.

Regional Finalists

Eric Anderson
Extension Educator
Michigan State University Extension
St. Joseph County

Anderson, E.*[1],
[1] Extension Educator, Michigan State University Extension, Centreville, MI, 49032

I prepared a PowerPoint presentation focused on nitrogen management in row crops to be used as part of an online Desire 2 Learn (D2L) course in nutrient management and water quality with other Michigan State University Extension educators and specialists. The overall goal was to educate people on several aspects of nitrogen management including types of fertilizers, methods of application, what are nitrogen stabilizers and when are they useful, testing for nitrogen in the soil and the crop, and a summary of how our primary crops respond to nitrogen fertilization. The intended audience included row crop farmers and representatives from agribusiness and government agencies who enroll in the online, self-paced course. I drew from several online and print sources for the content, and I then scripted and recorded the talk and edited the final video for use in the D2L module. The course is nearing the completion of the development phase and should be ready to offer to the public in 2021.

Adele Harty
Cow-Calf Field Specialist
SDSU Extension

Harty, A.*[1],
[1] Cow-Calf Field Specialist, SDSU Extension, Rapid City, SD, 57703

BeefUP was a 4-week webinar series delivered in January, 2021 focused on providing key information for improving calving distribution, calf uniformity and profitability. This was an introductory level program for a more in-depth, complete program that will start in the fall 2021. There were 33 registered participants for the webinar series. All webinars were presented live using Zoom, recorded and made availble to registered participants through a YouTube channel.

Each week contained four presentations, each approximately 15-20 minutes in length. Topics covered on a weekly basis were Nutrition, Reproduction, Herd Health and Economics with each week was focused on a different segment of the production cycle. The four segments of the production cycle were broken into late gestation, calving to breeding, breeding to weaning and weaning to late gestation.

This Powerpoint Presentation was given during the week 2 webinar focusing on key nutritional considerations from Calving to Breeding. With the short presentation time, the script was developed as a method to ensure that all key points were addressed and time was adhered to. Within this application, the script can be found by hovering over the conversation bubble in the top left hand corner of each slide or the supplemental document titled BeefUP script. Due to the time constraints with these presentations, all questions were answered through the chat feature or during office hours, which were held the following Tuesday via Zoom.

As a result of participating in the program, participants indicated a knowlege increase within the nutrition topic. Changes they said they would make as a result of the nutrition topic included increased monitoring of body condition score and making management decisions based on body condition score. Additionally, all participants indicated they are interested in participating in the more comprehensive program that will start in the fall of 2021. Overall satisfaction with the webinar series was high.

Aerica Bjurstrom
Agriculture Agent
University of Wisconsin Madison Division of Extension
Kewaunee County

Bjurstrom, A.*[1],
[1] Agriculture Agent, University of Wisconsin Madison Division of Extension, Kewaunee, WI, 54216

Nearly one-third of the US dairy herd is culled annually. Reasons for culling a cow from a herd varies from farm to farm, however, the well-being of the animal should a priority on every farm.

Dairy producers need to get into the mentality that they are beef producers too. Marketing the best possible cow includes addressing health issues, assessing fitness for transport, and improving market cows to improve income from the sale of the cow.

Aerica Bjurstrom created a presentation for as part of a series of webinars focusing on improving farm income. The presentation was presented to a live audience and recorded and uploaded to YouTube. The video was also shared on social media. The total reach between the webinar, website, and social media was just over 90 people in the first two weeks. The video of the presentation can be found at:

https://www.youtube.com/watch?v=59--7DJRVEU

Michelle Infante-Casella
Agricultural Agent/Professor
Rutgers New Jersey Agricultural Experiment Station Cooperative Extension
GLOUCESTER

Infante-Casella, M.*[1],
[1] Agricultural Agent/Professor, Rutgers New Jersey Agricultural Experiment Station Cooperative Extension , Clarksboro, NJ, 08020

Home gardening has increased in popularity. This is especially true now that more Americans are home working and learning due to the pandemic. Asparagus is a popular

vegetable to eat, but not many home gardeners try to grow asparagus in their gardens. To encourage growing this favored vegetable, Agricultural Agent, Michelle Infante-Casella created a scripted and recorded presentation, "Growing Asparagus in the Home Garden". The scripted and recorded slide set was only released since February 12, 2020. The presentation was first used by the Rutgers Cooperative Extension Online Master Gardener program in Sussex County, New Jersey, as a supplemental course with the Rutgers Cooperative Extension Master Gardener program in Burlington County, New Jersey and lastly posted to Facebook by the Somerset County Rutgers Master Gardeners program for public distribution in February 2020. Additionally, the presentation was posted to the Rutgers New Jersey Agricultural Experiment Station homepage as a download for the public. From this posting, many gardening groups around the state were able to access this educational presentation. Presentation downloads tracked through the go.rutgers.edu tiny url generator show 892 downloads in only the past 3 weeks. Additionally, besides use in New Jersey, use statistics indicated downloads from Pennsylvania, New York and Oregon. To view the voice recorded and scripted presentation, see https://go.rutgers.edu/asparagus.

Matthew Webb
Extension Agent
University of Tennessee Extension
Marshall

Webb, M.*[1],
[1] Extension Agent, University of Tennessee Extension, Lewisburg, TN, 37091

This presentation is the result of the many questions I receive from producers each spring about repairing hay feeding areas. These areas after feeding hay are often compacted, rough and become weed infested. Little information is available and dedicated to options and techniques for repairing hay feeding areas. To find solutions, I organized some treatments for two years on a hay feeding area located at the Middle Tennessee AgResearch and Education Center in Lewisburg. I was able to get donations of seed and chemical from Southeast Agriseeds and the Lewisburg Farm Center. In 2019, I focused on forage species and one chemical option whereas in 2020, I focused on different chemical options, timing of application and in combination with or without crabgrass. Yield data was taken only in 2019 but visual assessments of forage and weeds were made in both years. Soil samples taken before and after hay feeding showed that soil nutrients can build to a high level. Plots were disked and leveled, seed was broadcasted and no fertilizer was applied. I purposely wanted to find solutions that would be easy with minimal equipment needed. The presentation includes photos, data, animal behavior and projected costs. To summarize two years' worth of data collection, the best treatment was the use of crabgrass with appropriate weed control. In 2019, this treatment resulted in a yield of greater than 6 tons per acre. In 2020, all chemical control options tested worked well for weed control whether applied at planting or 31 days after. The first year's data in the presentation was presented for over 100 people for both the Marshall County Cattlemen's Association Meeting and for the Lunch Series, a monthly online webinar series presented by agents in the Lower Middle Tennessee Priority Team. It was recorded to the UT Extension Marshall County YouTube Channel and received 202 views. After completing the second year, this presentation was updated and presented to an audience of 45 as part of Master Dairy Webinar Wednesdays. Producer interest and acceptance of using crabgrass and weed control for repairing hay feeding areas is growing.

Michael D Rethwisch
Farm Advisor - Crop Production and Entomology
University of California Cooperative Extension
Riverside County - Palo Verde Valley office

Rethwisch, M.D.*[1],
[1] Farm Advisor - Crop Production and Entomology, University of California Cooperative Extension, Blythe, CA, 92225

This presentation was developed from research I conducted during the 2019-2020 production season which evaluated and compared multiple biostimulant products applied to dehydrator onions in the low desert of southeastern California. It was presented on February 8, 2021, to 68 growers, processors, industry representatives and other individuals interested in garlic and/or dehydrator onion production attending (virtually) the 2021 California Garlic and Onion Symposium from at least three (3) states. I was responsible for all aspects of the entire presentation, which was developed utilizing Microsoft PowerPoint. This included pictures taken at various points during the growing season, data analyses and graphs, and images of many of the biostimulant product containers. A few graphics were obtained from online media. While the symposium format did not evaluate or collect participant feed-back, several audience members representing two states did contact me several days after the symposium to communicate that it was a good presentation and/or valuable to them.

Bonnie Hopkins Byers
County Extension Agent/Agriculture
New Mexico State University
San Juan County

Hopkins Byers, B.*[1], , Garlisch, John[2], , Tyler, Ashley[3], , Smith, Valerie[4], , Diaz, Yvonne[5], , Adalja, Anita[6],
[1] County Extension Agent/Agriculture, New Mexico State University, Aztec, NM, 87410
[2] Agriculture Extension Agent, NMSU, Albuquerque, NM,
[3] New Mexico Farmers Marketing Association
[4] La Montanita Coop
[5] La Semilla
[6] Agricultural Network

The Tier 1: Practical Food Safety for Farmers training was a collaborative effort between New Mexico State University Extension, the NM Farmers Marketing Association, La Montanita Food Co-op, La Semilla Food Center and the Agricultura Network. The cross section of public and private partners came together to create an online training program to address the food safety needs of New Mexican farmers during the COVID-19 pandemic. There was a critical need for a time-sensitive training for farmers across the state that would allow them the specific training required to sell to schools in New Mexico. Adapted from the NMFMA's in-person Tiered trainings, this online training was tailored for New Mexico's small to medium size producers. The goal of the program was to bring food safety concepts to life, as this training explored food safety hazards that may be present on farms and highlighted practices to mitigate those risks. The trainers also provided hands-on technical assistance to help participants in the application of these concepts directly to their farm operation. From March 2020-March 2021 the program was held monthly as part of a two-tier program. In total the Tier 1 training program served over 120 New Mexican farmers virtually, improving their access to additional market opportunities across the state. The training program is both culturally sensitive and responsive to the needs of farmers across the region, and was translated into Spanish for three scheduled programs in 2020-2021. https://www.newmexicofma.org/food_safety_training.php

Janet L Schmidt
County Director and 4-H Youth Educator
Washington State University Extension
Whitman/ West

Schmidt, J.L.*[1],
[1] County Director and 4-H Youth Educator, Washington State University Extension, Colfax, WA, 99111

This PowerPoint presentation was designed for Animal Science students enrolled in AS 266 Equine Management, in the WSU Department of Animal Science. As an invited guest lecturer, I was asked to talk about pasture management and holistic equine management. I first gave this presentation in 2014 when this course was offered Fall and Spring semesters. In 2018, the AS 266 course was offered Fall semester and ever since then, it has been presented annually in the Fall. Over the years, I have given this guest presentation to approximately 200 students. In addition to this presentation, I engaged students in hands-on weed and plant identification activities and pasture management planning scenarios. The purpose of this presentation was to teach students the basic concepts of pasture management so that one day, they may be in a position to apply these principles. In designing this presentation, I used diagrams, pictures and personal examples to convey the points. Narrative was limited to bullets points to make it more memorable. At the conclusion of the pasture management presentation, students participated in a snowball evaluation. I ask two questions: 1) What is one idea or principle that you learned and 2) Suggestions for improvement or what did you want to learn. Over the years, students have commented that they wanted to learn more about parasite control in regards to pasture management, best types of grasses for horses, mud management and weed control. I have incorporated these topics into subsequent presentations. In response to the question: What is one idea or principle that you learned, examples of students' responses included learning about proper fencing for a safe pasture environment, the concept of pasture rotation to allow time for the pasture to rest and recover, how to manage roof run-off, soil testing and manure management. This presentation will continue to be presented to equine animal science students and be adapted for 4-H youth and adult audiences.

State Winners

State Winner	
North Central Region	
Illinois	Jennifer L Fishburn
Kansas	Cassie Homan
Minnesota	Claire LaCanne
Ohio	Amanda Bennett
Northeast Region	
Maryland	Sarah Hirsh
Southern Region	
Alabama	David Cline
Arkansas	Courteney Sisk
Georgia	Mary Carol Sheffield
North Carolina	Colby S Lambert
South Carolina	Alana W. West
Texas	Chase T Brooke

Event Promotional Package

National Winner

Robyn Stewart
County Extension Coordinator
University of Georgia
Lincoln/Northeast

Stewart, R.*[1], , Ray, L.[2], , Jackson, C.[3], , McCann, J[4],
[1] County Extension Coordinator, University of Georgia, Lincolnton, GA, 30817
[2] County Extension Coordinator, University of Georgia, Madison, GA, 30650
[3] County Extension Coordinator, University of Georgia, Forsyth, GA, 31029
[4] Extension Equine Specialist, University of Georgia, Athens, GA, 30602

The equine industry in Georgia has continuously grown in scope over the last decade but horse owners may lack knowledge on best practices regarding equine management. The 2020 UGA Horse Owner's Virtual Seminar Series was coordinated by the author in an effort to provide research-based, non-biased information to horse owners on equine management and health topics. Topics presented by UGA Extension Agents and Equine Specialists included equine conformation, feeds and feeding, body condition scoring, pasture management, and equine insurance. All marketing content was developed by Robyn Stewart. The program was promoted with advertisements made in Canva that were distributed locally and via social media. Fliers distributed at the local courthouse, feed store, hardware store, Farm Bureau, library, and schools were seen by approximately 500 people per week. The same flier and four additional advertisements were posted to the UGA Lincoln County Extension Facebook page and shared with over 20 equine groups resulting in 33,901 views with 2,023 engagements. A video spotlight promoting the series (filmed by and featuring Robyn Stewart) shared on the UGA Lincoln County Extension Facebook was viewed 8,127 times with 528 engagements. A final promotion effort used six email blasts sent via MailChimp to the Lincoln County Extension equine mailing list of 272 people. These promotional efforts resulted in 283 registrants for the program from 30 states and 2 countries including the U.S, with an average of 58 participants per session. Overall satisfaction for the series was rated excellent by 79% of attendees, 82% of which indicated they would definitely use the information provided. Changes in knowledge attributed to the seminars showed on average 55% of the participants reporting they were very or extremely knowledgeable on the presented topics after the program compared to 28% prior to it.

National Finalists

Jeremy Jubenville
Extension Floriculture & Greenhouse Educator
Michigan State University Extension
Kalamazoo

Jubenville, J.*[1],
[1] Extension Floriculture & Greenhouse Educator, Michigan State University Extension, Kalamazoo, MI, 49007

The goal of this educational program was to help growers successfully integrate additional tactics into their thrips biological control plan (a core IPM concept). To help meet this need, I developed and hosted a 5-part series of live weekly webcasts on greenhouse biological control. The series placed special emphasis on managing other common greenhouse pests using beneficial organisms and featured seven guest educators from Canada and the United States. Promotional efforts included a flyer, a press release, a social media campaign, newsletter advertisements, and targeted emails. The flyer was sent as a postcard to 60 greenhouses in southwest Michigan, used in my weekly e-newsletters to stakeholders, and included in targeted emails. Social media graphics were used on Facebook and in weekly e-newsletters to stakeholders. The press release was sent to our list of media outlets and was published by a trade magazine with international reach (link). All promotional materials were designed and created by Jeremy Jubenville. E-newsletters were distributed by Jeremy Jubenville & Heidi Lindberg and reached 761 people in the greenhouse and nursery industry. Impact: the series recorded a total 132 registrants from 19 Michigan counties, 13 U.S. states, and 12 countries. I received a total of 65 completed post-session surveys from growers and pest management professionals representing 59.1 million square feet of managed protected production space. Across all sessions, 61% indicated that the information will help them improve their biological control program, while 58% reported that they will implement changes to their current production practices based on what they learned.

Amanda Grev
Extension Specialist, Forage and Pasture
University of Maryland Extension
Maryland

Grev, A.*[1],
[1] Extension Specialist, Forage and Pasture, University of Maryland Extension, Keedysville, MD, 21756

The second week of January typically finds Extension Specialist Amanda Grev on a 5-day, 550-mile journey across Maryland and Delaware, but like so many other things, this

year was a little different. This promotional package was put together to generate interest in the Maryland-Delaware Virtual Forage Conference, which took place online via two half-day sessions on January 12 and January 19, 2021. This virtual format was a first for the forage conference, which is a joint venture between the Maryland-Delaware Forage Council, University of Maryland Extension, and University of Delaware Extension and is traditionally held as an in-person event at four locations across Maryland and Delaware. The purpose of the forage conference is to provide up-to-date, forage-related information and education to both forage and livestock producers across the region to help producers improve efficiency and profitability. It also serves as an opportunity for producers to earn continuing education credits in order to renew their nutrient management and pesticide certifications; credit approval varied by state of residence but the 2021 program was approved for a total of 4 nutrient management and 12 pesticide credits for Maryland residents as well as 2 continuing education credits for Certified Crop Advisors. Promotional materials for the event included a press release that was published in several local newspapers, an flyer that was posted online and included in University email distributions, and a promotional postcard that was shared via social media. The event was also advertised through University newsletters and listservs, which collectively went out to more than 3500 recipients. The postcard was posted on the University of Maryland Forage Extension Facebook page and shared to additional University of Maryland pages and other forage and livestock-related groups, generating 286 responses and reaching over 50,000 people across the United States and internationally. Over 200 participants attended each session of the conference, which was also recorded and posted on YouTube where it has been viewed an additional 142 views to date. Feedback for the event has been positive, with 85% of participants finding the event useful, 89% reporting increased knowledge, and over 100 participants earning continuing education credits.

Cassidy Dossin
Agriculture & Natural Resources Agent
UF/IFAS Extension
Clay

Dossin, C.*[1],
[1] Agriculture & Natural Resources Agent, UF/IFAS Extension, Green Cove Springs, FL, 32043

Program promotion is critical for obtaining participants for extension programs. In a difficult year of limited in-person interactions, promotion through online platforms has become a necessity to reach clientele. The Beginner Beekeeper's Short Course flyer and social media image were developed to reach clientele in a convenient, virtual format that draws interest to the program while ensuring safety by addressing mask and social distancing requirements. Virtual distribution has made bright colors and and sharp pictures possible for promotional pieces to grab potential participant attention. The intended audiences are residents in Clay and surrounding counties that are interested in beekeeping. Beekeeping can serve as a supplement to small farmers looking to diversify their income and boost fruit and vegetable production through pollination. Beekeeping has gained traction as a hobby and business endeavor in the past year as an opportunity to get outside, produce honey, and learn about honey bees for those staying at home during quarantine. The flyer was distributed virtually via Clay County email listervs, county beekeeping listervs (totaling 124 contacts) and social media (254 people reached) and was also provided in print at the extension office and at several local farm stores and community buildings. The social media image was shared through the UF/IFAS Extension Clay County Facebook page and reached 507 people on the platform. Promotion efforts were successful, drawing 22 in-person and 5 virtual participants to the Beginner Beekeeper's Short Course. Program evaluations revealed that 95% (19 of 20 respondents) increased their knowledge and 67% (12 of 18 respondents) intended to start beekeeping by the next year through following research-based, recommended practices for hive management. Promotional pieces for the Beginner Beekeeper's Short Course have improved virtual communication efforts with clientele and increased program attendance numbers, creating the possibility for knowledge gain and recommended practice adoption for new Florida beekeepers.

Regional Finalists

John Porter
Extension Educator/Assistant Professor
Nebraska Extension
Douglas

Porter, J.*[1],
[1] Extension Educator/Assistant Professor, Nebraska Extension, Omaha, NE, 68124

As programming came to a halt at the beginning of the COVID-19 pandemic, the Nebraska Extension Community Environment (horticulture & entomology) team quickly shifted gears to develop online programming to meet the growing needs of home gardeners. Gardening, especially vegetable gardening, exploded in popularity in 2020 as a way for people isolating at home to ensure access to fresh produce, improve mental health, and pass time. Early in the season I led a core group of educators to plan and implement a series of 12 virtual programs offered for free via Zoom called the GROBigRed Virtual Learning Series.

Eight of the sessions focused on an aspect of vegetable gardening and four focused on trees in the landscape, which was also a popular topic among homebound home gardeners. To promote the program, I created a series of graphics to advertise the program via social media, both as an overall program and as individual events. Promotion was done mainly through Facebook and Twitter. Additionally, graphics and social media posts were shared through the county extension listserv for counties to advertise to their local clientele. The target audience for the program was new and experienced gardeners in Nebraska and surrounding states, but some participants from other states did join. As a result of the promotion campaign, 2624 individuals registered for the events and 1098 joined as participants of the live sessions. Recordings of sessions were shared with all registrants and have received nearly 1000 views combined. In a follow-up survey of live-session participants, 88 percent indicated that they had incorporated a new practice into their gardening. In a separate response, 88 percent also indicated that they intend to incorporate future changes into their practices. The popularity of the program in 2020 encouraged the team to continue in 2021. Four "double" sessions (8 workshops total) were offered January – March on seed starting and houseplants, which are another exploding craze in gardening. In total 1,333 individuals registered for the four double sessions with 669 attending the live sessions and 684 viewing session recordings.

Tina L. Kohlman
DAIRY & LIVESTOCK AGENT
University of Wisconsin Madison Division of Extension
FOND DU LAC COUNTY

OBrien, A.*[1], , Patton, J.J.*[2], , Kohlman, T.L.*[3],
[1] Extension Agriculture Agent, UW Madison Extension Calumet County, Chilton, WI,
[2] Outreach Specialist, UW-Madison Extension & Nutrient Pest Management Program, Madi, WI, 53073
[3] DAIRY & LIVESTOCK AGENT, University of Wisconsin Madison Division of Extension, Fond Du Lac, WI, 54935

The Midwest Manure Summit is a bi-annual Summit focusing on innovation, research, and solutions regarding on-farm manure handling systems. The audience of progressive dairy managers and owners, consultants, service providers, custom manure haulers, educators, dairy nutritionists, farm management professionals, engineering consultants, and agency staff learned about cutting-edge information on methods to handle, transfer, and process dairy manure in an environmentally sound manner. Since it's inception in 2009, over 1,000 individuals from 10 different states and Canada have participated in this conference. As part of the promotion for the virtual 2021 Midwest Manure Summit, this educator and other colleagues co-developed and -promoted the Midwest Manure Summit through print and social media platforms. Three examples of promotional materials include:

- A post card developed by this educator using Microsoft Publisher, printed professional on semi-gloss 100-pound paper, and distributed by an in-kind Gold Level Sponsor to 400+ dairy operations managing 500 cows and larger. This post card was also distributed by this educator to an additional 200 past participants.
- An animated "Save the Date" post for the Extension Dairy Team Facebook page developed by this educator using http://canva.com, a free online graphic design platform.
- A press-release written by educators and distributed to local, regional, and state farm newspapers as well as for use by county-based educators.

Over 180 individuals registered for the bi-annual event with over 100 in attendance for the live, virtual summit. In total, 15 social media posts were developed to promote the Summit.

William J Bamka
COUNTY AGENT II
Rutgers University
Burlington County

Komar, S.J*[1], , Bamka, W.J.*[2],
[1] County Agriculture Agent, Rutgers University, Newton, NJ, 07860
[2] COUNTY AGENT II, Rutgers University, Mt.Holly, NJ, 08060

The 2018 Farm Bill and the NJ Hemp Farming Act created interest for hemp educational outreach. New Jersey's late start into hemp created a large need for NJ production information. The Rutgers Hemp Team began running educational events in April 2019. These events revealed large interest in extension trainings. Also revealed was the broad range of interested individuals. Participants included established farmers familiar with extension, to individuals with no knowledge of farming or extension. It was clear, solely using traditional extension mailing lists would not adequately reach the range of interested participants. Social media sites have become strong marketing tools for event promotion. The use of social media enables extension to considerably expand outreach efforts, particularly with sharing of posts. In response, recognizably themed series of pictures were created for use on Facebook to promote a half day Hemp Production online training conducted by the Rutgers Hemp Team at the 2021 NJ Vegetable Growers Meeting. Recognizing most social media users scroll through

postings rapidly, there is limited opportunity to catch a viewer's attention. The situation is analogous to a billboard on a highway. Messaging must be quickly conveyed in a memorable way. Promotional pictures similar to billboards with a catchy tagline were developed using photos taken by the applicants at Rutgers research trials. Individual PowerPoint slides were created and then converted to jpeg format. Pictures were posted over the course of several days on several Facebook pages and the extension Plant and Pest Advisory site. Facebook pages included the Rutgers University Sustainable Hemp Page, Rutgers Agriculture and Natural Resource Page, and several County Board of Agricultural pages, among others. A NJ Hemp group also shared the page. Postings of the promotional campaign reached 1084 people. Attendance of the on-line hemp session totaled 75 people.

Emily Morrow
Extension Agent
West Virginia University Extension Service
Jefferson

Morrow, E.*[1],
[1] Extension Agent, West Virginia University Extension Service, Kearneysville, WV, 25430

The Adopt-A-Chick program is a youth agriculture project that teaches 4-H members about anatomy and care of poultry. Members participate in the weekly Zoom meetings that allow them to view the process of incubating eggs, and learn about breeds, anatomy, care, and housing. Members have the opportunity to take home the hatched chick at 6 weeks of age, provided they complete the project materials and show proof of housing. This program advertisement was distributed over 4 weeks via social media, reaching 741 individuals, and in a 4-H newsletter, reaching an additional 500 households. The promotional material is the original work of the author.

Kerrie Roach
Extension Agent, Agriculture - Horticulture
Clemson Extension
Oconee, Pickens, Anderson Counties

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

The worldwide pandemic brought significant challenges to program delivery for Extension Agents across the nation in 2020. As the year moved into what was traditionally the season for local commodity meetings, Clemson Extension commercial fruit and vegetable agents made the decision to work cooperatively to bring statewide virtual meetings to the growers of South Carolina. Extension Agent, Kerrie Roach, from Oconee County took the lead using Canva to design a marketing schematic to ensure meetings were seen as a cohesive unit of the larger Clemson University Cooperative Extension system. Kerrie used Clemson Extension branding colors and logos to assist in consumer recognition. Using the basic meeting information, Kerrie created fliers for each of the 16 statewide commodity meetings held during the 2020-2021 meeting season. With the promotional materials, all registrations, links and QR codes were directed to the team blog page at SCGrower.com in an attempt to increase visibility and traffic to the site. Each flier was then returned to the lead team member who was able to utilize it for social media posts, email blasts, and hardcopy mailings. Strategic marketing of their virtual programming quickly enabled the eight Clemson Extension fruit and vegetable agents to reach more than 700 South Carolina growers which was double the audience from the previous season. By dividing tasks and working as a team, agents also tripled the number of programs offered and were able to involve thirty-six specialists from across the United States. Most importantly, by utilizing the team blog as a hub for all registration links, QR codes, and information, grower interaction on the site increased by an average of more than 300% each month compared to the previous year.

Zheng Wang
Vegetable Crops Farm Advisor
University of California Cooperative Extension
Stanislaus County

Wang, Z.*[1],
[1] Vegetable Crops Farm Advisor, University of California Cooperative Extension, Modesto, CA, 95358

For extension professionals, the year of 2020 changed the way of delivering knowledge to agricultural clienteles. Online educational webinar becomes a major channel to capture farmers' needs, provide feedback, refresh knowledge, and share experience. In contrast to in-person events, the online/virtual webinars provide an easier access to participants especially those who need drive a long distance. Under this circumstance, I hosted the Biologics Educational Webinar Series in November and December 2020. This webinar series invited four speakers from UC Davis, UC Cooperative Extension, and California Department of Food and Agriculture. The goal of the event was to deepen and refresh the understanding of different stakeholder groups on crop biologics (e.g., crop biostimulants and growth regulators) and minimize their guess work when using the biologics.

The major promotional method to advertise the event was the flyer. I coordinated with my colleagues and collaborators by sending the flyer via Farm Advisors' newsletters, different email lists, and social media accounts (Twitter). The four webinars totally attracted over 400 attendees covering extension agents, Certified Crop Advisors, Pest Control Advisors, university scientists, graduate students, vegetable growers and producers, biologics industry, and organization leaders. Besides 90% of attendees registered from California, there were participants from 4 U.S. states (PA, FL, IN, and OH) and 16 countries in Asia, Europe, and North/South America. Certified Crop Advisors and Pest Control Advisors who attended all webinars received 3.0 CCA and 1.0 PCA Continuing Education Credits. In addition, at the end of each webinar, the attendee was asked to fill out a survey to rate the program and share their understanding specifically on crop biostimulant. The survey results were summarized into an article which will be published in the Progressive Crop Consultants.

Lindsay M. Chichester, PhD
Extension Educator
University of Nevada, Reno Extension
Douglas

Chichester, PhD, L.M.*[1], , **Emm, S.[2],** , Allen, H.[3], , Oden, R.[4],
[1] Extension Educator, University of Nevada, Reno Extension, Gardnerville, NV, 89410
[2] Professor/Extension Educator, University of Nevada, Reno Extension, Hawthorne, NV, 89415
[3] Community Based Instructor 1, University of Nevada, Reno Extension, Hawthorne, NV, 89415
[4] Specialist - Design, Media Production and Illustration, University of Nevada, Reno Extension, Reno, NV, 89557

Through the Beginning Farmer and Rancher Development Program of the National Institute of Food and Agriculture (USDA Grant # 2020-49400-32321) we hosted a Beginning Beekeeping Course. Lindsay Chichester, Extension Educator – Douglas County, began a beekeeping program in January 2020 as an identified need from a county needs assessment. With COVID-19 quarantines and isolation requirements, Chichester received permission to continue the project, as bees are livestock, and caring for livestock for was an allowable activity during quarantine. Chichester spent the first several months of her beekeeping program alone through the quarantine mandate. Over time, Chichester's beekeeping mentor was able to resume assistance as needed. Through the 2020 year, Chichester encountered numerous people who were interested in learning more about beekeeping and felt comfortable enough to host a beginning class.

Through her role, Chichester put together the class schedule/agenda, contacted and secured all presenters, presented on one section, established the logistics of hosting a virtual 2-day class, provided feedback and edits to all of the marketing and promotion material created, obtained class materials, promoted and marketed the event, and door prizes. In addition, Chichester was responsible for the bulk of other tasks as needed to host an event. Staci Emm and Hope Allen assisted in drafting the news release and course evaluation. Ron Oden was responsible for the graphics on the promotional brochure. These efforts resulted in 26 attendees attending the class.

The immediate class goal was to provide 10+ hours of instruction to participants by a variety of Master Beekeepers, Extension faculty, and persons with numerous years of beekeeping experience. Medium-to-long term goals included starting the Douglas County Bee and Pollinator Club and to start a statewide 4-H beekeeping project. Additionally, participants indicated interest in meeting face-to-face for field days, which will be accommodated through monthly meetings with the Douglas County Bee and Pollinator Club, at Chichester's Extension apiary starting in March 2021. Attendees also indicated a need for information on extracting honey and an advanced beekeeping class, both of which we are considering for later this summer/fall.

Bonnie Hopkins Byers
County Extension Agent/Agriculture
New Mexico State University
San Juan County

Hopkins Byers, B.*[1], , Havens, Erin[2], , Williams, Patience[3],
[1] County Extension Agent/Agriculture, New Mexico State University, Aztec, NM, 87410
[2] The Harvest Food Hub Project Manager, San Juan College, Farmington, NM, 87402
[3] Healthy Kids, Healthy Communities Program Coordinator, San Juan County Partnership, , ,

The Northwest New Mexico Local Food Summit, Building a Resilient Local Food System in NWNM, was held on July 10 & 11, 2020 through a virtual platform to address the developing food system opportunities in the region. The event hosted speakers from across the region, and the Western United States, all from diverse backgrounds. The keynote presentations of "100% Community" and "Making Yourself Obsolete: Shifting Power from Non-Profit Leadership to Community Leadership" drew in participants from across the state. The speaker line up for the event featured four tracks including breakout sessions for Health and Community; Purchasing Institutions; Farmers; and Youth community members. The program was carefully designed to improve food access opportunities while improving market options for local agricultural producers with an overall goal of improving the health of our community.

The Local Food Summit was promoted through the

distribution of the conference flier, the conference information website and through social media. The promotional materials were created through a collaborative effort between the San Juan County Agriculture Agent and the San Juan College Harvest Food Hub Project Manager. The Agent assisted in developing content for the flier and website, as well as distribution of materials. The website was viewed nearly 500 times, and over 1,000 fliers were distributed through the Agents Ag Notes Newsletter. The agent created and managed the online social media event promotion that reached 8,895 people and contributed to an additional 136 responses to the event. The agent, in collaboration with the NMSU web development team, created the registration template for the event, complete with break out options and conference details. The free virtual event had 120 participants and contributed significantly to the continued development of the local food system in Northwest New Mexico.

Website: https://www.buyfreshbuylocalnwnm.org/2020summit

Facebook Promotion: https://fb.me/e/GKwZl7LC

Registration site: https://ezregister.com/register/order/32305/0/1611800f1cce823e5fa53b74b775b1ffcd04fd41/

State Winners

State Winner	
North Central Region	
Illinois	Grant Mccarty
Indiana	Jenna Nees
Iowa	Kapil Arora
Kansas	Jeanne S Falk - Jones
Minnesota	Brad M. Carlson
Missouri	Justin Keay
Ohio	S. Dee Jepsen
Northeast Region	
Maine	Donna Coffin
New York	Kayela Statom
Pennsylvania	Stacie Hritz
Southern Region	
Arkansas	Sherri Sanders
Kentucky	Macy Fawns
Mississippi	Donna Hamlin Beliech
North Carolina	Sara Drake
Tennessee	Sarah Orr
Texas	Chase T Brooke
Virginia	Laura Maxey-Nay

Personal Column

National Winner

Ashley Wright
Livestock Area Agent
The University of Arizona
Southeastern Arizona

This personal column is written for and published in *The Arizona Cattlelog*: The Official Publication of the Arizona Cattle Growers' Association (ACGA). The goal of my column is to provide relevant, timely information to producers with the additional benefit of drawing attention to Arizona Cooperative Extension livestock programs. Although the articles are typically short (~500 words), being "in front" of producers every month ensures that when a bigger issue arises, Arizona Extension and my livestock programs are looked to as valued sources of information. My topic selection is targeted to address key issues during the current season of production and I provide any additional graphs, charts, or images to the editor to highlight key information. This column is a recent addition to my programming. In September of 2020, the ACGA approached me to write for their "Cattlemen's College" section as they revamped their publication to include more educational information. My column articles include Systematic Culling During Drought, Residual Feed Intake as a Selection Tool, Recordkeeping for Resilience, and Nitrate Toxicity (triggered by a large number of cattle deaths in my area). As a result, several producers have reached out to me with additional questions on the topics presented, and other organizations such as the Santa Cruz Natural Resource Conservation District, have requested articles for their members on other livestock issues of interest to them. Finally, the productive relationships built with the staff of the ACGA through this column contribution creates opportunities to expose our extension programming to a wider audience. The *Arizona Cattlelog* is distributed to all members of the Arizona Cattle Growers' Association and available online (https://www.azcattlegrowers.org/cattlelog). Their media kit estimates 2,500 monthly distribution and 5,000 monthly web views for a total monthly viewership of 7,500. Of those, they estimated that 80% are the decision-makers on agricultural operations.

National Finalists

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

I have a column, under the standing line *Keeping It Green*, in Lock Haven's The Express. Quarantining during the COVID pandemic has brought on a whole host of issues;

boredom and fatigue to name a few. To address these problems associated with home confinement and limited social engagements, I wrote an 8-part series of articles on potential outside horticulture opportunities to explore. Not only were these safe activities for the family, but plants can have calming effects on moods. Each column gave a brief overview of the setting with some examples of plant life that could be encountered on the visit. In addition, I try to insert some facts about the visit and use it either as a teachable moment or an idea that could be incorporated into their landscape. The October 31, 2020 column covered plants in a managed setting while the December 5, 2020 article looked at plants in a more naturalized setting. I always submit photographs with the written column to add a visual component and to attract the reader to the article.

Photo captions are included at the bottom of the submitted column article. An iPhone 11 was used for submitted pictures. My information is submitted *via The Express's* virtual newsroom; therefore, it never prepared with letterhead. *The Express* has a daily circulation over 10,000. Small town and rural central Pennsylvania afford me the opportunity to interact with readers on a regular basis and I receive many positive comments on the column.

Brad Runsick
County Extension Agent - Agriculture
University of Arkansas System Division of Agriculture
Baxter County

The primary objective of the weekly County Extension News article is to notify county clientele of upcoming events and pertinent educational pieces. The Baxter County Extension office submits these articles on a weekly basis. Two articles each month cover monthly garden tips and monthly beef and forage tips. Other articles cover a range of topics on home gardening and production agriculture. In addition to the weekly article, occasional articles or updates are sent for immediate release. During the award period, 58 articles were submitted and ran in the newspaper. The column runs in The Baxter Bulletin, which covers Baxter County and the city of Mountain Home, as well as portions of adjacent Marion, Fulton, Stone Counties. In a mostly rural county, the weekly paper is the best opportunity to communicate with the public about upcoming meetings, workshops, and other events to county clientele. There are over 5,500 subscribers (online included). On a regular basis, producers and home gardeners mention that they either heard about an upcoming event from the article, or they call the office wanting to follow up on a recommendation made in the article. The article is prepared as a Word document on an office computer and submitted to the newspaper via an email attachment.

Megan Brew
County Extension Director
UF/IFAS Extension
Lake

UF/IFAS Extension Lake County Extension Agents are able to speak to the public on a weekly basis via our newspaper column "From the Extension". A weekly feature in the Daily Commercial, a local newspaper with a daily circulation of 17,000 and an average online page view of 33,000, "From the Extension" allows agents to provide science-based information to residents in a casual and familiar format. As the County Livestock Agent, my areas of expertise do not always overlap with the interests of the public. As such I tailor my articles to address issues related to living in harmony with wildlife in addition to providing general information on livestock production in our area. In 2020-21 I authored two articles on minimizing conflicts with snakes. The first, published in August of 2020, focused on ways that residents could prevent unwanted encounters with snakes while the second, published in January of 2021, focused on identifying venomous snakes endemic to our area. Both articles emphasized the fact that snakes are unlikely to pose a threat to humans when given space and dispelled myths about snakes being inherently problematic. In order to make the topic fun, and invite questions and discussions, I use an informal writing tone and tell personal stories about my own "close encounters of the slithery kind". The reception to both articles was extremely positive with readers reaching out by email to share how much they enjoyed my stories, share stories of their own, and ask questions about snakes. One reader shared that "I always look forward to your articles, I feel like I know you and we would be friends in real life. You always make me laugh and I always learn something." Another reader emailed to say that "I always clip your articles to share with a neighbor who doesn't get the paper, we have both learned a lot from you over the years."

Regional Finalists

John Hawley
Extension Educator - Agriculture & Natural Resources
Purdue Extension
Dearborn

The goal of the monthly garden and landscape column is to provide timely and relevant research-based information to approximately fifty-thousand residents who call Dearborn County home. The audience includes gardeners, farmers, landscapers, and other landowners in the surrounding area. The Dearborn County Beacon, a monthly publication that includes local news, community events, and other popular topics provides an excellent audience for the column.

With a readership that includes over 22,000 subscribers, the publicity and impact accompanying the articles is beneficial to local garden and landscape practices and the environment. Readers regularly reach out to our office with additional questions or feedback after adopting the reserach-based recommendations and practices covered in articles. Examples include responsible use of pesticides, renovating lawns, removal of invasive plants, and reducing weed problems in ponds and waterways. The value and credibility of the articles have helped our office develop a better rapport with community members. Readers routinely call, email or visit the office beginning their introductions by sharing that they are "regular readers." Consultations like these are critical for the long-term relevance of our office. Like other organizations and non-profits, we fight for involvement from busy community members. The results of our partnership with the Dearborn County Beacon and the publication of this monthly column also includes increased attendance at programs and events, as many readers subscribe to our mailing list. New partnerships have been developed due to the publication of this column, including sponsorship of Master Gardener courses, syndication of articles in local garden and agriculture newsletters, and promotion on social media. Articles from the monthly column are written firsthand and edited as needed by staff at the Dearborn County Beacon. Regular communication and feedback from the editors has improved the accuracy and succinctness of the articles over time. 22,000 copies are published monthly. Columns submitted for award are from April and November of 2020.

Edwin M. Lentz
Extension Educator and Professor
The Ohio State University Extension
Hancock County

Agriculture is an important industry in the community but the majority of the people in the area reside in a town or city. The largest city in the county has a population of about 40,000 individuals. The Findlay Courier has requested columns to be written for the non-farming community and not to prepare articles that would only be an interest to farmers. The objective of this column is to inform a non-farm audience about agriculture but still be relevant to the farming community. The column is written once a week on various agricultural topics. Newspaper circulation is approximately 20,000 and distributed locally to about seven counties. Articles are submitted electronically to a newspaper editor to be edited at their discretion. Major outcomes of the columns have been a greater appreciation for the agricultural industry, awareness of Extension outreach, and knowledge of food production by the non-farm audience. Farm audience has been reminded of their heritage, their role in the agricultural industry, and informed of upcoming Extension events. Results of the column have been increased weekly requests for more information via email, telephone or office visits to the County Extension Office. The columns have also been a means to inform new and diverse audiences of Extension activities, which have resulted in new participants in County programs. The author was responsible for the content of the columns.

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

In June 2020, I began writing an Extension column entitled "Sow and Grow with Sara." I aimed to seek new avenues to extend the reach of SDSU Extension Agronomy's educational information, to keep more personally contacted with growers in South Dakota, and to fast-track updated agronomy content directly to agriculture producers. I started a bi-weekly column with the intent of reaching clients whose primary source of news is from print publications. I began the process by emailing all South Dakota newspapers with a brief description of the intended column and requested indication of interest. The publication schedule and length was then determined based off the preferences of publication companies that showed interest. In an effort to expand content reach into areas without local SDSU extension agronomists, the column is disseminated state-wide and written to reflect a wide range of growing conditions and commodities. Throughout the growing season, articles include production-related content and up-to-date pest alerts for growers; upcoming events and reminders are occasionally listed as well. Over the winter months, the focus shifts towards planning for the next growing season, safety issues, and big-picture paradigm shifts in agriculture production practices. Every other week. I write the column and personally email it to the publication editor list serve; on occasion, a guest author assists me with writing or provides photographs to accompany the column. "Sow and Grow with Sara" is regularly printed in over 30 newspapers and reaches nearly 90,000 households in over 30 states. The two attached entries were released for publication June 19, 2020 and January 1, 2021.

Judith L Wright
Sr. Agriculture Economic Specialist
Cornell Cooperative Extension
Seneca County

- Dung Beetle copy
- Dung Beetle pdf
- Precision Ag copy
- Precision Ag pdf

I write a weekly column titled EcoTalk for the local daily newspaper, the Citizen with a circulation rate of 22,000 consisting of mostly urban residents. The primary focus of the column is on the environment; however, I do sneak some topics on agriculture through. The first article is about dung beetles and how they can be aiding soil health and water quality which was printed on 7/3/20. The second column introduces the readers to the concepts of precision agriculture and how farmers are adopting this technology which was printed 1/15/21. The weekly EcoTalk columns are written by Judy Wright, Extension Educator with Seneca County CCE.

James J. Barrett
Ag & Natural Resources Extension Agent
WVU Extension Service
Wood

The Backyard Gardener is a weekly horticulture, farm and home gardening column published in the Pakersburg News and Sentinel in Wood County, WV. This paper reaches 26,000 people daily in the Mid-Ohio Valley. This column provides a valuable educational resource to the surrounding community. The column is a great tool to disseminate research based information to the public, who are eager to learn home gardening tips, the newest farm research and lawn care advice. The Backyard Gardener focuses on timely recommendations during the growing season and mixes in local themes as well as personal stories to engage readers.

As an unbiased source of information, WVU Extension Service must continue these avenues of communication to a mass audience. The column generates numerous phone calls and emails to the Extension Office for follow up information and expert advice. The column covered various topics in 2020 including growing carrots, planting cabbage, heirloom squash, container gardening, growing flowering herbs, oak gall controll, watering in the summer heat, growing peonies, all about lightning bugs, making jams and jellies, canning and freezing green beans, shade tolerant grasses and growing green onion sets in spring.

The Mortage Lifter Tomato and Spinach:A Nutrient Powerhouse for the Garden are prime examples of the appeal of the column to home gardeners, small farmers, and home owners. The real impact of the column is many readers take the research based information from WVU Extension and apply it to their farm, garden, or home landscape. Good Luck and Happy Gardening!

Annette Meyer Heisdorffer
County Extension Agent for Horticulture Education

DAVIESS COUNTY

The column provides information and educates clientele on consumer horticulture topics. By providing the latest, timely information, my objectives are to save clientele money and time, promote proper plant care, select appropriate plants, and improve the home environment. The purpose of recommended practices are explained so that clientele understand the reasons for the actions. The column appears weekly in the Lifestyle section in the Sunday edition of the *MessengerInquirer* newspaper from Owensboro, Kentucky· The entry on «Mother›s Day Reminds Us about Heritage Plants» was printed on May 10, 2020 and the article on “Planting Bulbs in the Fall for Spring Cheer” was printed on September 20, 2020. Circulation for the Sunday edition is approximately 16,000 within six counties. The newspaper has an online option as well. As a result of the column, clientele have increased their horticultural knowledge and awareness of what the Cooperative Extension Service has to offer. Many positive comments have been received concerning the helpfulness of the information.

Darrin Parmenter
COUNTY EXTENSION AGENT
CSU EXTENSION
La Plata County

I write a monthly column on a variety of topics - from agricuture, home horticulture, and community development - to our local newspaper which has a readership of approximately 10,000 people but a strong web and social media presence.

Nicole D. Sanchez
Horticulture Ext. Field Faculty
Oregon State University Extension Service
Klamath

Now in its third year, the *Klamath Basin Horticulture* article series continues to address local and regional horticulture perspectives in the *Herald & News*, a newspaper based in Klamath Falls, OR. In 2020, the series engaged with more

readers via the Lake County *Examiner,* increased sharing on social media, and an article archive on Oregon State University's Klamath County website. in early 2021, the web-based *Klamath Falls News* began sharing the column on a regular basis. In 2020, a column was published 45 Wednesdays over the course of the year.

This weekly column continues to address existing client questions and concerns and drive new clients to Extension. Emails to the author begin, "I saw your article on XXX and thought I would ask about YYY..." or include questions that expand upon that week's topic. In addition, the column is used to highlight and promote Extension work and publications. For example, Oregon State University released new publications on growing raspberries, blackberries, and strawberries, the following week's column addressed "Five tips for growing raspberries" or "Five tips for great Strawberries", linking readers back to the publications for additional information.

An archive of articles maintained on the Klamath County website enables the author to refer clients to the articles after the publication date. Because many of the articles are derived from frequently asked questions in the area, the article archive is an efficient way to eloquently address future questions. The article archive current through 2020 can be found at https://extension.oregonstate.edu/newsletter/klamath-basin-horticulture and has been especially helpful for answering relevant questions on social media, introducing new readers to the series and answering their horticulture question with a single comment. The examples submitted to represent the series were chosen for their especially high engagement on social media: Five ways to Encourage Pollinators in the home landscape, June 24, 2020 (for pollinator week) and Five facts about those annoying Boxelder Bugs on October 21, 2020.

State Winners

State Winner	
North Central Region	
Kansas	Gregory W McClure
Michigan	Sarah Fronczak
Minnesota	Brad M. Carlson
Missouri	Tamra Reall
Nebraska	Melissa Bartels
Wisconsin	Katie L Wantoch
Northeast Region	
New Jersey	Michelle Infante-Casella
Southern Region	
Georgia	Alicia Holloway
Mississippi	Gary Bachman
South Carolina	Alana W. West
Tennessee	Christopher Cooper
Texas	Katherine Whitney

Feature Story

National Winner

Brooke Latack
Livestock Advisor
University of California Division of Agriculture and Natural Resources
Imperial/Riverside/San Bernardino

Latack, B.*[1], , Ozeran, R.*[2],
[1] Livestock Advisor, University of California Division of Agriculture and Natural Resources, Holtville, CA, 92250
[2] Livestock and Natural Resources Advisor, University of California Division of Agriculture and Natural Resources, Fresno, CA, 93710

Food safety has been a hot topic in the news as several E. coli O157:H7 outbreaks in lettuce have been traced back to farms in California and Yuma, Arizona (located very near the Imperial Valley of California). These regions produce a substantial quantity of fresh produce in the winter season while also producing cattle and sheep in large numbers. This led to conversations about concerns surrounding the interaction between livestock and fresh produce. The risk of pathogen contamination has sparked debate and doubt about set back distances of produce fields from feedlots. This publication aimed to inform readers of the science-based food safety information related to livestock currently available, the response of both industries and the public to the outbreaks, and research and extension actions that would aid in increasing food safety practices. The publication was directed toward those in academic, extension, government, and commodity group positions. It was also directed toward those in the general public who want to better understand the issues that affect their food system. Imperial, Riverside, and San Bernardino counties are heavy livestock production areas, specifically feedlot and heifer lot operations. This article was very timely and critical to not only the clientele in these counties, but the rest of the state as well. This article was published March 17, 2020 and was shared with California Agriculture's 9,000+ print subscribers as well as shared online. Additionally, the article was sent via email and county website posts to clientele in the two California regions covered by the authors. Both authors were invited to speak on an agriculture-based podcast/radio program to discuss the article in May 2020. Article content development was equally shared with co-author Rebecca Ozeran. California Agriculture formatted the final version.

National Finalists

Jeremy Jubenville
Extension Floriculture & Greenhouse Educator
Michigan State University Extension
Kalamazoo

Jubenville, J.*[1], , Lindberg, Heidi[2],
[1] Extension Floriculture & Greenhouse Educator, Michigan State University Extension, Kalamazoo, MI, 49007
[2] Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

The goal of this article is to help aspiring cut flower growers prepare for a successful first season. It is not uncommon to hear stories of passionate and idealistic individuals dropping everything to start a small farm (with or without previous agricultural experience). The specialty cut flower industry is particularly susceptible to this phenomenon, due in no small part to the eye-catching beauty of flowers and the way they're marketed. Experience has shown us that many new cut flower farmers have no agricultural background and little or no horticultural training. "Cut flower farming: Is it right for you?" was published on September 11, 2020 in Michigan Farmer magazine, a regional publication of the Farm Progress agricultural media network (link). The article emphasizes planning considerations, financial risk-reducing strategies, and educational and professional networking resources. In the months after publication, Jeremy has been contacted by several new flower farmers that read the article and were seeking guidance on specialty cut flower production. Jeremy Jubenville served as primary author, created the photograph, and submitted the article for publication. Heidi Lindberg provided key edits and suggestions. Jeremy and Heidi are both members of the MSU Extension floriculture team and serve commercial flower growers throughout the state Michigan.

Anne E. Sawyer
Extension Educator, Watershed Education
University of Minnesota Extension
MN

Sawyer, A.E.*[1],
[1] Extension Educator, Watershed Education, University of Minnesota Extension, Farmington, MN, 55024

After nearly three years as an Extension educator for on-farm food safety in horticulture, in August of 2020 I transitioned into an educator position with the Extension water resources team. For my last *Yard and Garden News* article about produce safety, I decided to reflect on what I had learned during my time as an EE in produce safety and highlight the changes that I made in my garden as a result. My objective was to inspire others to do the same - whether in their home, school, and/or community garden. This article uses text and photos from my garden to showcase some of the simple and effective ways to keep people safe by reducing the risks of foodborne illness from fresh produce. Bonus: some of the same practices also apply to reducing COVID risks!

This article was written for the July 21, 2020, online Yard and Garden (Y&G) News. The Y&G News has ~10,000 subscribers to a biweekly email that contains article summaries, photos, and links to content. Articles are written for a general audience. This article was noticed by Extension's communication team, and they picked it up and shared it via Extension's SOURCE Magazine E-Newsletter in August, 2020. The SOURCE E-newsletter has ~1400 subscribers and is sent quarterly to an audience of Extension enthusiasts and financial supporters. All text and photos contained in the article are mine.

NOTE: Please forgive the awkward Web addresses included in the PDF; the Extension Web page does not print as well as we'd like! For the "as published" version, please follow this link: https://extension.umn.edu/yard-and-garden-news/lessons-learned-view-my-garden. And here's the SOURCE E-Newsletter link: https://z.umn.edu/6q4x

Timothy McDermott
Ext. Educ., ANR

Franklin County Ext. Office

McDermott, T.*[1], , McCartney, M[2],
[1] Ext. Educ., ANR, Ohio State University Extension Franklin County, Columbus, OH, 43210
[2] Ext. Educ., ANR, Ohio State University Extension Washington County, Marietta, OH, 45750

Ohio is on the front lines of tick expansion in the United States. Tick-borne disease is increasing at an alarming rate in Ohio as we have gone from one medically important tick, the American dog tick (*Dermacentor variabilis*), to five medically important ticks including the blacklegged tick (*Ixodes scapularis*), the lone star tick (*Amblyomma americanum*), the Gulf Coast tick (*Amblyomma maculatum*), and the Asian longhorned tick *(Haemaphysalis longicornis*) in the last twenty years. Each of these ticks are capable of transmitting pathogens or causing severe allergic reactions to humans, companion animals and livestock. As a direct result of this influx of ticks, tick-borne disease reports have increased with The Ohio Department of Health (ODH) records revealing a 7-fold increase in the annual incidence of Lyme Disease in human since 2009 and the Companion Animal Parasite Council (CAPC) records showing a comparable upward

trend among dogs in Ohio. Eradication of these ticks is not feasible meaning we will be battling tick-borne disease for the foreseeable future. The emerging threat of tick-borne disease represents a new reality for Ohioans. Who are those who are affected by tick-borne disease? They are our family, our friends, and our colleagues. This feature story gives an update on the state of ticks in Ohio, details personal protective measures to keep yourself and your family safe and drives the point home with a first person report from Agricultural and Natural Resources Extension Educator Marcus McCartney, on how tick-vectored disease affected him, his family and follows them through their journey for diagnosis and successful treatment. This account was printed in the Fall 2020, Volume 27, Number 4 edition of The Ohio Woodland Journal. There were 3142 copies printed of which 100 copies were distributed to the Ohio House of Representatives. The writers presented written material, links to pertinent supplementary information, and photographs. Final arrangement and edits were performed by The Ohio Woodland Journal staff. Printing was done by CDS Printing. Distribution was by the Ohio Forestry Association to woodlot owners and outdoor enthusiasts on their subscription list.

https://cdn.ymaws.com/www.ohioforest.org/resource/resmgr/owj_archives/OWJ_Fall_2020.pdf

Regional Finalists

Margaret Quaassdorff
Dairy Management Specialist
CCE NWNY Dairy, Livestock, and Field Crops Team
NWNY

Quaassdorff, M.*[1],
[1] Dairy Management Specialist, CCE NWNY Dairy, Livestock, and Field Crops Team, Batavia, NY, 14020

This article was a feature story that appeared in the April 2020 issue of the Northwest New York Dairy, Livestock and Field Crops Team's monthly newsletter titled, *Ag Focus.* The "Robotic Milking: Routine Flexibility" article highlights key management practices of New York State dairy producers who operate automated milking systems on their farms. Robotic milking is a growing management style on New York's dairies, with over 60 robotic dairies operating across the state. In early 2020, some of these dairies came together in regional discussion groups to learn from, and share ideas with each other in the hopes of implementing new and more efficient ways to improve their own operations. Topics included daily routines, working with natural cow behavior to complete weekly tasks such as bedding stalls, training heifers to the robot, and hoof health maintenance, as well as how to best schedule employees for maximum success. This article was an attempt to share insight from these discussions to a broader dairy audience with the goal of encouraging more robotic dairies, and those considering implementing robotic technology, to seek out peers and extension resources in this developing area. It also strived to challenge current operators of robotic dairies to evaluate their own management practices, and inspired them to consider other techniques to improve. The publication of this article in April 2020 encouraged additional New York robotic dairy producers to seek out more information regarding precision dairy technologies, and inspired further development of extension programming in this topic area for 2021. At the time of publication, the newsletter article was emailed directly to over 250 farmers, extension educators and allied dairy industry members. An additional 240 readers receive a printed copy of *Ag Focus* in the mail.

D. Eddie Mcgriff
Regional Extension Agent - Agronomy
Alabama Cooperative Extension System
Blount, Cullman, Cherokee, Etowah, Jackson, Marshall, Dekalb, Madison

McGriff, D.E.*[1],
[1] Regional Extension Agent - Agronomy, Alabama Cooperative Extension System, Cullman, AL, 35055

Beneficial insects play a critical role in controlling harmful insects in cotton. Their actions in a cotton field can reduce or eliminate the need for insecticide applications.They are undervalued and often not recognized for their contributions. The purpose of this feature story is to describe the benefits of these insects from a historical perspective and how as the boll weevil eradication program, *Bt* cotton cultivars, and insecticides that were more pest specific and "softer" on beneficial insects increase the role of beneficial insects and greatly reduced insecticide applications.

This feature story appear in the March 2021 edition of the Cotton Grower magazine. The article was not only aimed at cotton farmers, crop scouts and agribusiness but also the general public. The feature story was limited to 1200 words in the magazine but a more detailed version of this feature story can be found at CottonGrower.com.

Dr. Bonnie C. Wells
Extension Agent II, Commercial Horticulture
University of Florida
Brevard

Wells, B.C.*[1],
[1] Extension Agent II, Commercial Horticulture, University of Florida, Cocoa, FL, 32926

The bermudagrass mite, *Eriophyes cynodoniensis*, is a serious pest of the most widely used turf in the world — bermudagrass, *Cynodon dactylon*. The tiny mite pest inflicts severe aesthetic damage and plant decline in several high-maintenance turf systems, such as golf courses, athletic fields, and sod production. The pest was first documented in an Arizona lawn in 1959 and again a few years later at a golf course in Brevard County, Florida, before spreading northward to Georgia and North Carolina. However not a new pest, the bermudagrass mite is becoming an increasing problem in recent years for bermudagrass fields across the southeastern U.S.. The reason for this is largely unknown and creates a curious case for turf professionals, superintendents and scientists concerned with the bermudagrass mite and its management. The objective of this feature story was to create an interesting and informative article that reviews the history and current status of the bermudagrass mite in the U.S., and to provide current University of Florida/IFAS pest management recommendations and resources for Florida turfgrass maintenance professionals battling the bermudagrass mite in their production systems. I researched the topic using refereed journals, trade journals and University of Florida EDIS documents, while writing the article using Microsoft Word. The article was published in the Florida Turfgrass Association's *Florida Turf Digest* magazine's "Pest Issue" (Vol. 38, No. 4, pages 12-13) on September 1, 2020. *Florida Turf Digest* has a print circulation of 3,400 per issue nationwide, with 6 issues per year. The issue can also be found online: http://bit.ly/FLTURFDigest.

Colby Lambert
Area Specialized Agent-Forestry
NC State Extension

Lambert, C.*[1],
[1] Area Specialized Agent-Forestry, , Lillington, NC, 27546

The National Woodland Owners Association published a five part series on "Protecting Your Forest Investment" from 2019 through 2020 in their quarterly magazine. Part 4 published in summer of 2020 featured an article titled "What's a Timber Sale Contract? What Landowners Need to Know". This article was adapted for a national audience based on a fact sheet written by the agent. The article describes the critical components of a timber sale contract and what the landowner needs to have in the contract to protect themselves as well as the buyer before, during, and after the contract is executed. A timber sale contract is an important legal document and this article was written to help landowners make important decisions regarding the sale of timber and professionals they should seek out to help them to have a positive experience selling timber. The National Woodland Owners Magazine is published quarterly with a distribution of 10,000 copies per quarter.

State Winners

State Winner	
North Central Region	
Kansas	Cassie Homan
South Dakota	Sara Bauder
Wisconsin	Sandra Stuttgen
Northeast Region	
New Jersey	Michelle Infante-Casella
Pennsylvania	Emelie Swackhamer
Southern Region	
Arkansas	Sherri Sanders
Georgia	Ashley Hoppers
Kentucky	Bryce Roberts
Mississippi	Gary Bachman
Tennessee	Matthew Webb
Texas	Rebecca L. Coward

Newsletter

National Winner

Ashley Best
County Extension Agent
UGA
Newton/Southern

Best, A.*[1], , Wassel, B.[2], , Jackson, C.[3], , Jackson, B.[4],
[1] County Extension Agent, UGA, Madison, GA, 30650
[2] County Extension Agent, UGA, Zebulon, GA, 30295
[3] County Extension Agent, UGA, Forsyth, GA, 31029
[4] County Extension Agent, UGA, Chatsworth, GA, 30705

Many equine owners in Georgia rely solely on veterinarians, industry professionals, or other equestrian enthusiasts for production information and advice as they are unaware of the expansive equine Extension resources available. To promote Extension equine resources and build relationships with local horse owners and professionals, a team of University of Georgia Extension Agents collaborated to develop "The Leading Rein", a quarterly newsletter for Georgia horse owners and professionals across all equestrian disciplines. The purpose of "The Leading Rein" is to provide equine owners timely, research-based, and unbiased information about general equine ownership and has rotating articles on forage management, reproduction, nutrition, and 4-H horse programs for youth. Two permanent segments include the "Tack Corner", which is a discussion of tack and equipment, and the "Mark Your Calendar", a list of upcoming events and trainings through brief explanations and clickable links to

register or learn more. Quarterly articles are authored by Ashley Best, Newton County, Brooklyne Wassel, Pike County, Caitlin Jackson, Monroe County, and Brenda Jackson, Murray County in addition to occasional scholarly contributions from UGA Extension Equine Specialists. Articles are submitted to Ashley Best and Brooklyne Wassel, who also design and edit each edition utilizing Canva to add related graphics and photographs. Each newsletter is proofread by contributing Agents and Specialists before being distributed electronically via both social media and an email list of equine owners and professionals. Issues of "The Leading Rein" were published in September 2020, December 2020 and March 2021 and distributed to over 2,000 people per issue.

National Finalists

Paul Vining
Regional Extension Agent
Alabama Cooperative Extension System
NE AL Region

Vining, T.P.*[1], , Tigue, D.A.[2], , Brannon, Z. D.[3], , Cole, K.C.[4], , Mcwilliams, D.B.[5], , Brasher, R.R.[6],
[1] Regional Extension Agent Animal Science and Forages, Alabama Cooperative Extension System, Moulton, AL, 35650
[2] Regional Extension Agent Animal Science and Forages, Alabama Cooperative Extension System, Auburn, AL, 36849
[3] Winston County Extension Coordinator, Alabama Cooperative Extension System, Double Springs, AL, 35553
[4] Franklin County Extension Coordinator, Alabama Cooperative Extension System, Russellville, AL, 35653
[5] Colbert County Extension Coordinator, Alabama Cooperative Extension System, Tuscumbia, AL, 35674
[6] Fayette County Extension Coordinator, Alabama Cooperative Extension System, Fayette, AL, 35555

Northwest Alabama Livestock Update Newsletters were designed to provide timely educational articles to livestock producers. Northwest Alabama refers to a region consisting of nine counties: Colbert, Fayette, Franklin, Marion, Lamar, Lauderdale, Lawrence, Winston and Walker. Four newsletters were distributed on a quarterly basis with a total of 21 total articles written and shared during 2020. Newsletters were distributed via USPS, e-mail, and social media (Facebook). Newsletter articles provided information regarding soil testing, soil health, pasture weed identification and management, ruminant nutrition, beef cattle economics, forage management, and livestock record keeping. Four counties (Colbert, Fayette, Franklin, and Winston) mailed hard copies of the newsletter directly to livestock producers in each respective county. Paul Vining, Regional Animal Science and Forage Extension Agent, edited and formatted all newsletter articles. Vining wrote 19 of 21 newsletter articles, with fellow Regional Animal Science and Forage Extension Agent, Alex Tigue contributing 2 newsletter articles. A total of 1,145 livestock producers received copies of this newsletter via USPS. Of these 1,145 individuals, 81% were adult males and 19% were adult females. The ethnicities of the 1,145 newsletter recipients were as follows: 1,123 White, 19 Black, 2 Hispanic, and 1 American Indian. An email listserv was utilized to distribute newsletters to 178 livestock producers in Northwest Alabama. This email list was compiled by collecting email addresses of livestock producers that attended past extension programs. Newsletters were posted to the Northwest Alabama Livestock and Forages Facebook Page. Four Facebook posts received a total of 74 reactions (likes, shares and comments) and reached 2,475 individuals. Sending newsletters in the mail allowed individuals in underserved rural areas the opportunity receive important, timely livestock production information. Extension agents received positive feedback (phone calls, emails, and in-person comments) regarding the information provided in the newsletters. Future newsletters will be evaluated via Qualtrics, a mailed evaluation form, or similar evaluation tools. Positive feedback from livestock producers, extension administrators, stakeholders, and fellow extension agents indicated that these newsletters provided beneficial, educational information.

Adriane Good
Agricultural Extension Agent

Pondera

Good, A.*[1], , Forseth, K[2], , Fulbright, J[3], , Hatlelid, K[4], , Lane, T[5], , Lewis, K.[6], , Malisani, R[7], , Snedigar, J[8], , Standley, E[9], , Woodring, K.[10],
[1] Agricultural Extension Agent, MSU Extension Pondera County, Conrad, MT, 59425
[2] Agricultural Extension Agent, MSU Extension Teton County, Choteau, MT, 59436
[3] Agricultural Extension Agent, MSU Extension Liberty County, Chester, MT, 59522
[4] Agricultural Extension Agent, MSU Extension Judith Basin County, Stanford, MT, 59479
[5] Agricultural Extension Agent, MSU Extension Chouteau County, Fort Benton, MT, 59442
[6] Agricultural Extension Agent, MSU Extension Glacier County, Cut Bank, MT, 59427
[7] Agricultural Extension Agent, MSU Extension Cascade County, Great Falls, MT, 59404
[8] Agricultural Extension Agent, MSU Extension Blaine County, Chinook, MT, 59523
[9] Agricultural Extension Agent, MSU Extension Fergus/ Petroleum Counties, Lewistown, MT, 59457

[10] Agricultural Extension Agent, MSU Extension Toole County, Shelby, MT, 59474

The Golden Triangle Ag Update Newsletter is a combined newsletter geared towards livestock and crop producers in north central Montana. Local Extension agents started the newsletter in response to the Covid-19 pandemic restricting our ability to host traditional in-person programming. The Golden Triangle Ag Update is distributed on a bi-monthly basis as a pdf file emailed from each county's agricultural agent. Each newsletter reaches 1,085 producers in a twelve-county area. The newsletter is also converted to images and posted on Facebook to extend the reach to another 270 people. The Golden Triangle Ag Update newsletter's purpose is to provide timely updates and production information to local farmers and ranchers, as well as information on current events at research centers in the region. I solicit timely topics from area Extension agents and Montana Agricultural Experiment Station staff and compile each edition. The newsletter contains an average of six pages with five articles – four Extension topics and the research center update. The emails sent with the newsletters also contain information on upcoming educational opportunities. The Extension information combined with upcoming events provides important information to producers in one place, rather than in several emails. In a survey sent with the last two issues of the newsletter, all respondents were either extremely or somewhat satisfied with the quality, timeliness, length, frequency, and usefulness of the Golden Triangle Ag Update. When asked if they had used any of the information from the newsletter on their operation, 66% of the survey respondents said they had, 22% said they want to but haven't yet, and 11% said they want to but are not yet in a position to be able to make those decisions on their operation. Half of the survey respondents indicated that they had shared information from the newsletter with others, suggesting a wider reach than the 1,085 producers it is sent to. The survey responses and informal conversations with producers indicate that the Golden Triangle Ag Update has provided valuable information to agricultural producers in north central Montana and we will continue to produce it after Covid-19 restrictions have been lifted.

Marion S. Murray
Integrated Pest Management Specialist
Utah State University Extension

Murray, M.S.*[1], , Alston, D.[2], , Nischwitz, C.[3], , Schumm, Z.[4], , Spears, L.[5], , Volesky, N.[6],
[1] Integrated Pest Management Specialist, Utah State University Extension, Logan, UT, 84322
[2] Entomologist, Utah State University, , ,
[3] Plant Pathologist, Utah State University, , ,
[4] Insect Diagnostician, Utah State University, , ,
[5] Invasive Species Specialist, Utah State University, , ,
[6] Vegetable IPM Associate, Utah State University, , ,

Utah Pests News is a quarterly newsletter that was started in 2007 to bridge gaps in communication between Utah State University Extension pest management research and the wider reaches of the state. Utah is the 13th largest state in the U.S., and because there is a widely dispersed rural population, information distribution can be a challenge. This newsletter began with a subscription of 200 people and has grown in popularity every year, currently reaching over 10,500 professionals and homeowners from 15 states and 5 countries. The newsletter topics cover all areas of pest management news to appeal to as broad an audience as possible, such as bed bugs, alfalfa weevil, insects as food, and conservation biocontrol.

The newsletter entries were designed and edited by Marion Murray, and articles were authored by Murray and the members of Utah Pests (six USU Extension personnel in pest management). Murray delivers the newsletter as a pdf email attachment four times per year, uploads it to our website, and announces it on our Facebook (1,460 followers) and Instagram pages.

We survey newsletter subscribers every other year to determine impacts. In the fall 2020 survey, 99% said they plan to continue their subscription, and 92% use the newsletter as an important source of pest management information. Over the last 14 years, we have documented that the newsletter has helped audiences improve knowledge of topics such as pest biology, pesticide risks, and pollinators, and have adopted behaviors, such as various forms of non-chemical pest management.

Regional Finalists

Eric Anderson
Extension Educator
Michigan State University Extension
St. Joseph County

Anderson, E.*[1],
[1] Extension Educator, Michigan State University Extension, Centreville, MI, 49032

I produce a weekly e-newsletter during the cropping season (monthly in the off season) for field crop growers and agribusiness professionals in southwest Michigan. The purpose of the newsletter is four-fold: to educate on a wide range of topics pertinent to field crop farmers and agribusiness professionals; provide a regional update on weather impacts/forecasts and crop and pest management; highlight upcoming calendar events for programs and deadlines; and summarize crop-related news articles published in the Michigan State University Extension News

Digest. The newsletter is distributed to approximately 600 people. Recipients are added by request and when attending local meetings in the region. I prepare the newsletters in Word and they are then copied into Constant Contact and sent by the St. Joseph County office support staff.

Claire LaCanne

University of Minnesota Extension

LaCanne, C.*[1],
[1] Extension Educator, Rice and Steele Counties, University of Minnesota Extension, Faribault, MN, 55021

This email newsletter is intended to deliver relevant University of Minnesota Extension news to subscribers in Rice and Steele counties. The main objectives are to deliver timely news, provide resources, and give updates on upcoming Extension events in or near Rice and Steele counties. The purpose of the newsletter is to keep subscribers informed of Extension's contributions to the community and bring awareness to how Extension strives to connect University resources with the needs of Rice and Steele county residents. I send the newsletter out monthly, with additional editions as needed. The audience consists of a mixture of farmers, landowners, ag professionals, and gardeners in Rice and Steele counties. There are currently 250 subscribers, which was an increase from the 195 subscribers the newsletter had at the beginning of 2020. In 2020, the newsletter was emailed out 13 times, and 3 times so far in 2021, typically during the first week of the month unless it's an additional edition. The open rate for each edition is typically around 50% and click rates are around 10%. I create the newsletter electronically in Salesforce Marketing Cloud and mail it out through that platform as well. I gather or create the content and do the majority of the newsletter building, including editing and formatting pictures. I have occasional assistance adding content to the newsletter template. Extension Learning Technologies personnel helped me build the template and provided training on using this program. Most of the content is new each month, but there are some resources that remain consistent throughout the year so that subscribers don't have to reference old editions. As for impacts, I often get email replies to the monthly newsletter asking clarifying questions about the content, registering for highlighted events, or asking questions that are tangentially related. This, along with open and click rates, gives me indication that recipients are engaging with the newsletter content. **Please note that the formatting of the newsletter drastically changes when saved as a pdf.** For a feel of the real aesthetic of the newsletter, please view the March newsletter and August/September newsletter on the web.

Katie Pekarek
Extension Educator-Water Quality
University of Nebraska-Lincoln Extension
Southeast

Aiken, Becky*[1], , **Ingram, Troy*[2],** , Johnson, Leslie*[3], , **Koelsch, Richard*[4],** , **Pekarek, K.*[5],** , Powers, Crystal*[6], , Schuerman, Becky*[7], , **Stoner, Nicole*[8],**
[1] Interactive Design Specialist, University of Nebraska - Lincoln, Lincoln, NE, 68583
[2] Extension Educator, University of Nebraska Extension - Howard County, St. Paul, NE, 68873
[3] Manure Management Research Technologist, University of Nebraska - Lincoln, Concord, NE, 68728
[4] Extension Specialist, University of Nebraska - Lincoln, LIncoln, NE, 68583
[5] Extension Educator-Water Quality, University of Nebraska-Lincoln Extension, Lincoln, NE, 68583
[6] Research and Extension Communication Specialist, University of Nebraska - Lincoln, Lincoln, NE, 68583
[7] Extension Personel, University of Nebraska - Lincoln, Lincoln, NE, 68583
[8] Extension Educator, University of Nebraska Extension - Gage County, Beatrice, NE, 68310

Nebraskans recognize the value of water and look to develop their understanding on the subject. E-newsletters have become an effective form of information dissemination. In 2017 the University of Nebraska Water Website Team developed a monthly, electronic, peer-reviewed e-newsletter called the *Nebraska Water Column* with the **objective** of providing timely, research-based information to Nebraska's water stakeholders in four core focus areas: Water Sources, Agricultural Production, Residential Water Use, and Water & Climate. The *Nebraska Water Column* is a monthly newsletter produced from the articles published in each of the focus areas on the water.unl.edu website during the previous month. The articles in the newsletter include focus area information with a weblink that directs readers to the UNL water website for the full article content. Contributing authors have included University of Nebraska Extension personnel; graduate students and faculty in Biological Systems Engineering, Agronomy-Horticulture, School of Natural Resources, Ag-Econ, Biochemistry and Biology; local and state agencies; and professionals from across the industries represented on the website and in the newsletter. The **purpose** of the newsletter is to drive website traffic on the water.unl.edu website and develop a trusted relationship with clientele using the website. The newsletter is **prepared** by the University of Nebraska Water Website Team. The newsletter is **distributed** monthly to 1,200 subscribers through the email marketing platform MailChimp. This audience is comprised of individuals who have self selected the focus areas which they are most interested in. The average open rate for our newsletter is

36.1%, compared to 33.8% for average open rates in similar newsletters. The click rate for the Nebraska Water Column is 8.2%, compared to a 6.2% click rate average in similar newsletters.

Newsletters are attached as pdf, but most effectively viewed via web links at:

- February: https://mailchi.mp/71ed892f9ec4/february-nebraska-water-column
- July: https://mailchi.mp/df73adfdcef3/july-nebraska-water-column

Andrew Kness
Agriculture Agent
University of Maryland Extension
Harford County

Kness, A.*[1],
[1] Agent, University of Maryland Extension, Street, MD, 21154

Maryland Agronomy News is a statewide Extension newsletter containing educational articles contributed by Extension agents and specialists and distributed monthly throughout the growing season (April-November) to 830 constituents interested in agronomy information. 615 subscriptions are emailed and 215 are mailed hard copies. The primary audience of this publication are farmers, ag service providers, fellow Extension professionals and University faculty in Maryland and the surrounding states

Emma Erler
Extension Field Specialist
University of New Hampshire
Hillsborough

Erler, E.*[1],
[1] Extension Field Specialist, University of New Hampshire, Goffstown, NH, 03045

The Granite State Gardening (GSG) is a monthly email newsletter that is all about sharing proven tips and solutions for non-commerical New Hampshire gardeners. GSG features montly gardening advice, new articles, fact sheets, videos, and notifications about upcoming UNH Extension events. The newsletter currently reaches 5,256 active subscribers. The goal of GSG is to provide information and recommendations that gardeners need, when then need them, to take their gardening, landscaping and homesteading to new heights.

Jason Detzel
Livestock Educator
Cornell Cooperative Extension
Ulster

Detzel, J.*[1], , Proscia, M.*[2],
[1] Livestock Educator, Cornell Cooperative Extension, Kingston, NY, 12401
[2] Agricultural Educator, CCE Sullivan, Liberty, NY, 12754

Livestock 360 is a digital quarterly newsletter produced by the Southeast New York livestock team. Each newsletter has a theme and contains livestock-related articles. The publication is distributed to the agriculture lists in three Counties, Ulster, Orange, and Sullivan for a reach of over 3500 subscribers. The newsletter is then archived on the webpage of the Counties for one year for future reference.

Sara Rutherford
Associate Extension Agent
Virginia Tech
Greensville/Emporia

Rutherford, S.*[1],
[1] Associate Extension Agent, Virginia Tech, Emporia, VA, 23847

The purpose of the Greensville County/City of Emporia quarterly newsletter is to keep our small, rural community informed of local, regional, state and virtual agriculture and natural resources (ANR) programs. It also highlights current homeowner and producer topics of interest, like the recent establishment of red imported fire ants in our area. An effort is also made to address stress management techniques and highlight mental health awareness. It is composed of a seasonal weed identification segment, written by myself, two main subject matter articles, pulled from Virginia Cooperative Extension publications, local, regional, state and virtual program and event announcements, and a brief synopsis of a recent Greensville/Emporia ANR program, written by myself. Content also varies by season based on current topics. Both newsletters submitted were composed using a Microsoft Word document template and printed in color in the unit office and mailed to 157 recipients. With the majority of the county not having access to a broadband internet provider, a reliable cellular signal, or a smart device/computer, the printed newsletter is still needed to reach residents. Digital copies were sent to 91 recipients, via email as a PDF document, and it is available on our unit website in the same format. Recipients were captured from inherited mailing and email lists, recent program participants and those who submit their mailing or email addresses through our unit website. The distribution of the newsletter in digital form allows for a broader reach as many have reported they

forward the email or send the website link to family, friends and co-workers. The digital newsletter has clickable links for direct access to online registration or additional extension publications and information. Recipients include, but are not limited to, homeowners, vegetable and flower growers, row crop and livestock producers, county and city officials and other important stakeholders, such as our local Farm Bureau and soil and water conservation district offices. The winter 2020/2021 newsletter was distributed the last week of November, 2020, and the Spring 2021 newsletter was distributed the last week of January, 2021, because of delivery delays through the U.S. postal service in our area.

Sonia I. Rios
Area Subtropical Horticulture Advisor
University of California Coop. Ext.
Riverside & San Diego Counties

Douhan, G.*[1], , El-Kereamy, A.*[2], , Faber, B.*[3], , Kallsen, C.*[4], , Mauk, P.*[5], , **Rios, S.I.*[6],** , Rivera, M. J.*[7], , Rolshausen, P*[8], , Takele, E.[9],
[1] Citrus Farm Advisor, UCCE Tulare, Tulare, CA, 93274
[2] UCCE Citrus Specialist, UC ANR, Exteter, CA, 93221
[3] Subtropical Horticulture Farm Advisor, UCCE Ventura, Ventura, CA, 93003
[4] Citrus, Subtropical horticulture and Pistachio Farm Advisor, UCCE Kern County, Bakersfield, CA, 93307
[5] Subtropical Horticulture Specialist, UC ANR/UC Riverside, Riverside, CA, 92521
[6] Area Subtropical Horticulture Advisor, University of California Coop. Ext., Moreno Valley, CA, 92557
[7] Extension State Specialist, Entomologist of Subtropical Crops,, UC Riverside, Riverside, CA, 92521
[8] Extension State Specialist Subtropical Crops, UC Riverside, Riverside, CA, 92521
[9] Area Advisor Farm Management/Agricultural Economics, UCCE San Bernardino, San Bernardino, CA, 92436

The *Topics in Subtropics Newsletter* is a quarterly release that has been in publish for the last 19 years. The newsletter consists of articles that are written and compiled by a team of University of California Subtropical Horticulture Farm Advisors, State Specialist and occasionally will have guest coauthors from other universities, government agencies, and commodity boards. Every team member will take their turn and serve as rotating newsletter editor. It is available to anyone who is on a team member email group, to anyone who subscribes, and it is also located on 8 different County websites for free. We have subscribers from local, regional, state, national, and international subtropical horticulture stakeholders, growers,' producers, packing houses, pest control advisors, certified crop advisors and state and federal agencies. Hard copies are also available at local county Farm Bureau and county cooperative extension offices. To increase the maximum amount of exposer and outreach, a blog was created 7 years ago that is associated with the newsletter to ensure that the newsletter material was placed on several different media platforms to increase viewing. The goal of the newsletter is to keep our 6,000+ readers up to date on current subtropical fruit (dates, citrus, avocados, macadamias, olives, etc) crop pests, pesticide regulatory changes, best management practices, farm management resources, university-based research updates, and an announcements section that promotes future workshops, webinars, seminars, and short courses.

State Winners

State Winner	
North Central Region	
Indiana	John Hawley
Iowa	Jennifer Bentley
Kansas	Shad Marston
North Dakota	Renae Gress
Ohio	Brad Bergefurd
South Dakota	Philip Rozeboom
Wisconsin	Tina L. Kohlman
Northeast Region	
Delaware	Dan Severson
West Virginia	Emily Morrow
Southern Region	
Arkansas	Amy Tallent
Florida	Ajia Marie Paolillo
Kentucky	April Wilhoit
Mississippi	Dr. Eddie M. L. Smith
North Carolina	Billy Barrow
Oklahoma	Carla Smith
South Carolina	Katie Altman
Texas	Tyler Mays
West Region	
New Mexico	Jessica Swapp
Oregon	Jacob Powell

Educational Video Recordings

National Winner

Jason Thomas
Extension Educator
University of Idaho
Minidoka County

Duellman, Kasia*[1], , **Thomas, J.*[2],**
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[2] Extension Educator, University of Idaho, Rupert, ID, 83350

Potato production in Idaho is a billion-dollar industry and among the top three commodities in the state. Ensuring an adequate supply of healthy seed potatoes is a critical activity to Idaho's large potato production. One critical piece of information that seed potato growers request is data about the movement of aphids that vector diseases like Potato virus Y. Understanding when aphid flights occur can help farmers decide when to implement pest management actions and reduce the spread of pathogens. With over 300,000 potato acres planted annually across areas that vary widely in terms of weather and aphid pressure, combined with a limited number of potato researchers, the challenge is how to effectively monitor aphids across such diverse farm operations and growing conditions. To assist with this challenge, an aphid monitoring network was created where farmers, agronomists and researchers can cooperatively participate with placement and servicing of bucket traps in fields across the region to collect insect samples over the growing season. Many farmers have showed a hesitancy to participate due to their lack of knowledge about monitoring insects. To assist these farmers and increase participation, a video was developed in conjunction with plant pathologist Kasia Duellman. The purpose of the video was to briefly show farmers how to setup a bucket trap, check it regularly and send samples to researchers. Thomas and Duellman created a script together for the video. Thomas directed, filmed, edited, designed graphics and distributed the video. The video was completed on November 4th, 2020, but efforts to share the video were not made until late January 2021 during the annual Idaho Seed Potato Seminar. Following the seminar, a link to the video was sent out to over 3,000 growers and farmers in Idaho, Oregon and Washington via the Pacific Northwest Pest Alert Network and emails to commodity groups. It has also been shown on multiple zooms to teach farmers how to use this tool. As of March 4th, 2021, the video has 51 views on YouTube, but the video has also been shared over zoom and as a direct file.

https://youtu.be/9C-V09gDfY8

National Finalists

Kenneth Johnson
Horticulture Educator
University of Illinois Extension, Calhoun/Cass/Greene/Morgan/Scott unit
Central

Johnson, K.*[1],
[1] Horticulture Educator, University of Illinois Extension, Calhoun/Cass/Greene/Morgan/Scott unit, Jacksonville, IL, 62650

Garlic is an underutilized vegetable crop in many home gardens. This video was created to inform gardeners on how to grow garlic. The video discusses the different types of garlic, when it should be planted in Illinois, how to prepare the garden, and how to plant garlic. The recording was made in the educator's home garden. The video was edited by the educator in Adobe Premiere Pro. The video is a part of University of Illinois Extension's Good Growing content. The video was shared via social media as well as being embedded into a Good Growing blog post on growing garlic. The video was uploaded to YouTube on October 28, 2020, and to Facebook on October 29, 2020. The video has been viewed over 1,350 times.

Video link (YouTube):https://youtu.be/NwzuCqchqqQ

George W Hamilton
Extension Field Specialist, Food & Agriculture
UNH Cooperative Extension

Hamilton, G.W.*[1],
[1] Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Goffstown, NH, 03045

Here's Another Quick Tip for Using Your Sprayer – Clearing A Clogging Nozzle

After a presentation on sprayer calibration, a group of growers expressed they enjoyed the little tidbits of information that I provided during the presentation. After thinking about the growers' comments, I thought it would be nice to create a video series on these little tidbits of information calling them "Quick Tips for Using Your Sprayer." While videotaping two sprayer calibration videos in Delaware, I ask the videotaping crew if we could tape a series of quick tips on sprayer calibration where each video was around one minute long. Everyone said sure, lets do it! A series of seven videos were videotaped during that session in 2019. The second planned session in 2020 was cancelled due Covid 19 but planned for late summer of 2021. The video "*CLEARING A CLOGGED NOZZLE*" was videotaped during the 2019 session. Once in final form and approved

by the UNH Extension Marcom Department and the UNH computer department, the video was placed on the UNH Extension YouTube channel as part of a series. Information provided from the UNH Extension Marcom Department stated the YouTube channel site had 1500 impressions and was viewed 283 times; 54% of viewers originated from a Google Search and 7% of viewers came from a unh.edu domain. UNH Extension Marcom Department developed an UNH Extension Facebook series on Quick Tips. Statistical information from the 5/1/2020 Facebook post featuring this video stated it had reached 2,667 people and was viewed 203 times with an average watch time of 1:04 minutes (the length of the video). The video will be used in future sprayer calibration or spray coverage presentations given to agricultural audiences. The video was made possible with a grant from the EPA Region #1 through the New England Vegetable and Berry Growers Association, and technical support from the Chazzbo Media (videotaping, editing and video production), University of Delaware Cooperative Extension (filming site) and the National Pesticide Safety Education Center (coordinating filming site and film crew).

The video location: https://www.youtube.com/watch?v=r9WuMDxqgCA

The Webpage location: https://extension.unh.edu/resource/quick-tips-and-more-guidance-using-your-sprayer-videos

Nicole Santangelo
Extension Educator
Penn State Extension
Potter County

Santangelo Carutis, N.*[1],
[1] Extension Educator, Penn State Extension, Coudersport, PA, 16915

The video "Ag Working for You: New Lambs on the Farm" was created and recorded by the educator for a series of videos featuring farming practices in Pennsylvania. The series challenged educators to work with their family farms to record a very basic video to show to the general public. This promotional series was a multiteam collaboration in response to interest in farming due to local food shortages and an increased awareness of agriculture as a "essential industry". The educator contributed this video to the series. Photos and videos were all contributed by the educator in addition to the content. The video was stitched together with addition of music and introductory branding by Penn State Extension, creative services and then final edits made in accordance to educator requests. The videos were launched as part of a social media campaign. The campaign consisting of 13 videos generated over 2,500 views, with this video contributing 239 individual viewers. The video was published on July 24, 2020 on YouTube and shared to Facebook shortly after. It is my hope the series will prove useful to future endeavors as it is shared further. It can be found at: https://m.youtube.com/watch?v=W844rjmf6Mw

Regional Finalists

Cassie Homan
District Agent
K-State Research and Extension
Post Rock District

Hatesohl Kelsey*[1], , **Homan, C.*[2],**
[1] Extension Agent, K-State Research and Extension, Washington, KS,
[2] District Agent, K-State Research and Extension, Beloit, KS, 67420

This video was made with River Valley District's Horticulture Agent, Kelsey Hatesohl. We wanted to have a program on Fall Garden Tasks, however, with COVID restrictions we decided to make an educational video. This made it easier to reach clients and they wouldn't have to leave their homes. This information was timely because we often get questions towards the end of the season on how to clean up the garden and prepare for winter. The video was made for residents in North Central Kansas. It was published on our YouTube Channel and on both River Valley and Post Rock Extension's Facebook. We use it as a guide for people with questions. It was also a great reminder about chores that needed to be done in the fall. This video had 691 views on Facebook, there were also 901 engagements on Facebook, meaning the video was liked, shared, and commented on. The video has gotten 16 views on YouTube.

It can be found on YouTube here: https://www.youtube.com/watch?v=XVlf_Jgs14s&list=PLnWJCPggj6a-uWkzmid8xkRPzyDzO3BqM&index=38

Jared Goplen
Extension Educator, Crops
University of Minnesota Extension
WC Regional Office

Goplen, J.*[1], , Naeve, S.[2], , **Nicolai, D[3],** , Sarangi, D[4],
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[2] Extension Soybean Agronomist, University of Minnesota, St. Paul, MN, 55018
[3] Extension Educator, Crops, University of Minnesota Extension, Farmington, MN, 55024
[4] Extension Weed Scientist, University of Minnesota, St. Paul, MN, 55108

The *Managing Foreign Material in Soybean: Pre-harvest Preparations* video is a resource that was created as part of a multi-video series addressing the importance of managing foreign materials in soybean. There have been growing concerns over foreign materials like weed seeds contaminating soybean exports. The objective was to develop a short video to help farmers and agricultural professionals understand the importance of pre-harvest preparations in managing both weed seed banks and foreign materials in harvested grain. This video had a specific focus on identifying weed populations and how to mitigate concerns around escaped weeds. It was produced by the University of Minnesota Extension with collaborative funding from the Minnesota, South Dakota, and North Dakota soybean research and promotion councils. The video was outlined and scripted by Jared Goplen, David Nicolai, Debalin Sarangi and Seth Naeve during the spring and summer of 2020. Video was captured in the summer of 2020, including in-field recording sessions with Jared Goplen and David Nicolai. Videography and editing was performed by a private contractor, and voiceover performed by Tom Rothman. The video was posted to YouTube on the University of Minnesota Extension Crops channel and distributed via the Minnesota Crop News Blog to farmers and crop consultants throughout the upper Midwest. The Minnesota Crop News Blog article had more than 700 views, while the video has had over 250 unique views since it was posted on September 17th, 2020. This video has continued to accumulate views and will be a lasting resource for use in future educational programs and supporting materials.

Managing Foreign Material in Soybean: Pre-harvest Preparations video link: https://www.youtube.com/watch?v=yiI85RTsVXw

Rebecca J Long
Agriculture and Food System Professional
University of Maine Cooperative Extension
Oxford County

Long, R.J.*[1], , Hargest, P.[2], , Fitzgerald, C.[3], , Peronto, M.[4],
[1] Agriculture and Food System Professional, University of Maine Cooperative Extension, South Paris, ME, 04281
[2] Horticulture Professional, University of Maine Cooperative Extension, Falmouth, ME, 04105
[3] Extension Educator, University of Maine Cooperative Extension, Augusta, ME, 04330
[4] Extension Educator, University of Maine Cooperative Extension, Ellsworth, ME, 04605

This is the 6th video in the 10 part "Victory Garden for ME" series which was created in the spring and summer of 2020, in response to the growing interest in vegetable gardening and surge in first time gardeners as a result of the Covid-19 pandemic. "How to Water Your Garden," (14:34) posted on June 16, 2020, covers the basics of irrigating your vegetable garden including how much to water, when to water and irrigation equipment options. The video was recorded by participants separately during the pandemic and footage was edited together using Premier Pro. Resource lists were prepared to accompany each video. The videos were posted on Youtube and the video and resource list were also both posted on the UMaine Cooperative Extension website. Videos were promoted through social media, newsletters and a press release. The purpose of this video series was to cover the basics of vegetable gardens and the intended audience was first time gardeners. As of 3/8/21 this video has been viewed online 626 times and the entire series has surpassed 7,000 views. Additionally, these videos have been used in response to client questions and as part of a new virtual statewide Master Gardener Volunteer training program curriculum, including a version of the program being offered to three cohorts at the Maine State Prison. The Vermont Master Gardener Volunteer program plans to use the series for continuing education with their volunteers. This episode was written by Rebecca Long and Pamela Hargest, edited by Rebecca Long, reviewed by Caragh Fitzgerald and Marjorie Peronto and the resource list was compiled by Lynne Holland and Liz Stanley.

URL to Youtube: https://youtu.be/yXavcp1F2lI

URL to website including resource list: https://extension.umaine.edu/gardening/2020/06/16/how-to-water-your-garden/

Colin Massey
County Agent II-Horticulture
University of Arkansas Division of Agriculture Cooperative Extension
Washington County

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

The COVID-19 pandemic caused many Arkansas residents to have a renewed interest in growing one's own food. However, Northwest Arkansas soils can be limited by poor drainage or shallow, rocky conditions unsuitable for traditional gardening. Additionally, extension educators and the public were restricted to virtual education due to quarantine. A survey of over 200 residents in 2020 indicated most Northwest Arkansas clients preferred to receive education via short, how-to videos. National data from GlobalWebIndex (2019) also confirmed video to be

the most preferred social media content. Their survey of over 170,000 internet users showed "56% of internet users watch videos on Facebook, Twitter, Snapchat or Instagram each month." In response, the horticulture agent scripted, filmed, edited, and produced a step-by-step video demonstrating construction of a cedar raised-bed garden for vegetables costing less than $100, and requiring fewer than 10 cuts with a saw. The instructional video was posted on the NWA Extension YouTube channel and Facebook page in April 2020 garnering 987 views, 20 likes, and a reach of 1,398. Additionally, Extension communications staff requested a webpage with written step-by-step instructions to accompany the video. This educational outreach not only helped educate gardeners on best practices for vegetable production, but also increased awareness to many residents who were not previously aware of extension resources. One viewer commented "Extension is new to me, and it was great to hear about all the information that is available through them!" The video can be viewed at https://www.youtube.com/watch?v=PFmjK_vE3rA or https://www.facebook.com/109674090687668/videos/856401878119586.

Andrea W. Gibbs
Extension Agent
NC Cooperative Extension
Hyde and Tyrrell

Gibbs, A.W.*[1],
[1] Agriculture - Field Crops, Extension Agent, NC Cooperative Extension - Hyde & Tyrrell County, Swan Quarter, NC, 27885

Agriculture is a dangerous occupation; accidents can happen in a blink of an eye. In 2019, there were two grain bin accidents in the Blacklands of Eastern North Carolina. One resulted in death, while the other resulted in serious injuries that limited the farmer's ability to work full time for about six months. Andrea Gibbs worked with the injured farmer, Demock Mann, to develop an educational video to raise awareness of farm dangers and to educate farmers on farm health and safety resources available through the NC Agromedicine Institute (the Institute).

The video was posted on YouTube on November 19, 2020. It was distributed to area farmers via email and was posted on the NC Agromedicine Institute and Hyde County Extension's website and social media accounts. The video was also distributed to agriculture agents across the state and used in agent training in hopes that they would become better educated on the resources available through the Institute. Through its distribution, it has caught the attention of multiple local news channels, newspapers, as well as the Farm Press. In three months, the video has been viewed 3,475 times.

YouTube Link: https://youtu.be/f9j4hPnjzCk

Michael J. Parrish
Senior Extension Agent, Crop and Soil Sciences
Virginia Cooperative Extension
Dinwiddie

Parrish, M. J.*[1], , Deitch, U. T.[2], , Pittman, T. L.[3],
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[3] Agriculture Extension Agent, Virginia Cooperative Extension, Accomack, VA, 23301

This video is part of a set of agriculture awareness videos that are hosted on the Desktop Farm Day Google site. The *Growing Potatoes* video was created to be a resource for educators and the general public to learn how potatoes are grown on the Eastern Shore of Virginia. Production of the video was supported by the potato growers on the Eastern Shore, who assisted with making an educational video that showcased their industry and region in the state of Virginia. This video presents information from field to market for the Virginia potato crop. The Eastern Shore Agriculture Extension Agents and the Association of Virginia Potato and Vegetable Growers showed this video during the Eastern Shore Agriculture Conference, the Virginia Agriculture Leaders Obtaining Results (VALOR) Eastern Shore Tour and the Virginia Young Farmer Meeting. It was also used as a tool during interviews for the Horticulture Cropping Systems faculty position at the Virginia Tech Eastern Shore AREC, in lieu of in-person visits during COVID-19 to showcase vegetable production in the region. Finally, local legislators on the state house and senate Agriculture Committees were made aware that this video was available to educate other legislators on potato production in Virginia. *Growing Potatoes* was posted on the Desktop Farm Day site December 7, 2020 and has had hundreds of views through the Dinwiddie, Accomack & Northampton Cooperative Extension Facebook pages, Dinwiddie Extension Office Website, Google Docs, and the Google Drive Site. Educators are viewing the video during face-to-face classes and virtual classroom activities. The production of this video was conducted by the listed extension agents and recorded with an XA15 Canon HD camera and a DJI Mavic Pro drone. The editing software was Adobe Premier Elements, 2018.

Web link: https://youtu.be/DpKdm878exM

Andrew Brischke
Area Assistant Agent
University of Arizona Cooperative Extension
Mohave County

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[2] Area Agent, Natural Resources, The University of Arizona Cooperative Extension, Willcox, AZ,
[3] Area Assistant Agent, Agriculture & Natural Resources, The University of Arizona Cooperative Extension, Globe, AZ,

The Arizona Rangeland Monitoring Program has been helping agencies and ranchers monitor their rangeland resources for over 20 years. The purpose of the Arizona Rangeland Monitoring program is to work side-by-side, on the ground, with federal agencies and ranch managers to help collect, analyze, and educate about trends in rangeland soil and vegetation resources and help land managers make the most informed decisions based on science and best management practices. Some of the objectives of the Arizona Rangeland Monitoring Program are to 1) assist agencies in collecting federally mandated monitoring data, 2) educate ranchers and agencies about monitoring, rangeland resources, and how to use the data to inform management decisions and 3) help to improve rancher/agency relationships. The video highlights how the monitoring program delivers on these objectives.

The ACEMP is comprised of three similar programs: Southeastern Arizona Monitoring Program (SEAMP), Reading the Range (RtR), and the Arizona Cooperative Rangeland Monitoring Program (ACRMP). Over 2,500 sites have been sampled over the 20-year history of the program. Since 2018, 989 sites on 344 federal grazing allotments have been sampled. Numerous one-on-one education sessions, workshops, demonstrations, field practice, publications, newsletters, guides, etc. have reached hundreds of stakeholders. Rancher participation varies greatly from year to year and program to program but averages: 52% (SEAMP), 100% (RtR), & 12 – 46% (ACRMP).

The video is shared through networks, local cattlegrowers' meetings, conservation groups, and during workshops as a quick introduction to encourage rancher and agency participation in monitoring. It has been used to inform agency administrators to promote and develop new monitoring programs/agreements. It also led to the development of a statewide Arizona Cooperative Extension website, where the video is featured. The video was originally posted in May 2020. https://www.youtube.com/watch?v=kVyZKsWjCqY

Brooke Edmunds
Commmunity Horticulture Faculty
Oregon State University
Linn and Benton

Edmunds, B.*[1], , Breece, C.[2],
[1] Commmunity Horticulture Faculty, Oregon State University, Tangent, OR, 97389
[2] Faculty Research Assistant, Oregon State University, , ,

The Oregon State University Oak Creek Center for Urban Horticulture is a hidden six-acre oasis on the OSU campus. Multiple OSU research and Extension programs utilize the site for dry farming vegetable experiments, turfgrass demonstrations, honeybee research and outreach, pollinator plant studies, student-led research, organic vegetable production, annual flower trials, and more. Each summer an in-person field day is organized to showcase the projects to the public. Due to COVID-19 restrictions, the 2020 field day was offered in a virtual format. "The OSU Honey Bee Lab at the Oak Creek Center for Urban Horticulture" is one of the five videos in the field day series. Carolyn Breece, OSU faculty research assistant, walks viewers through the typical tour given at a field day. She describes the types of hives on display in the honey bee demonstration area and shares a behind-the-scenes peek into research on the effect of pesticides on honeybee health. Other videos in the field day series feature the Student Organic Growers Club and community supported agriculture program, the OSU Garden Ecology Lab (focused on pollinator and urban agriculture research), an urban garden demonstration plot featuring plantings for smaller spaces and a student project with plants from Equador, and the trial of annual flowers and vegetables. Each video features the key researchers in their field plots. I worked with each presenter to record the still images and video, edited the videos, published on YouTube, and promoted on social media. The field day series has been viewed over 1,100 times and was featured on the Oregon Master Gardener Program's Facebook page. Full field day playlist: https://www.youtube.com/playlist?list=PLIelD7ZO8N57Bv9kJocnWrRoaH6kMuECA

Video for judging: https://youtu.be/yecq_ZgddqY

State Winners

State Winner	
North Central Region	
Indiana	Jenna Nees
Iowa	Alan Ladd
Michigan	Lori Imboden
Missouri	Patrick L Byers
Nebraska	Francis John Hay
North Dakota	Rick Schmidt
Ohio	Rob Leeds
South Dakota	Adele Harty
Wisconsin	Tina L. Kohlman
Northeast Region	
New Jersey	William Errickson
New York	Kayela Statom
Southern Region	
Alabama	David Cline
Florida	Sylvia Willis and Jay Capasso
Georgia	Blake Carter
Kentucky	Adam Huber & Kevin Lyons
Mississippi	Gary Bachman
Oklahoma	Shannon Mallory
South Carolina	Ryan Bean
South Carolina	Parker Johnson
Tennessee	Chris Hicks
Texas	Paul Winski
West Region	
California	Zheng Wang
New Mexico	Jessica Swapp
Utah	Candace Schaible
Washington	Pam Watson

Fact Sheet

National Winner

Whitney Ingram
CEA-NR
Texas A&M AgriLife Extension Service
BELL

Ingram, W.*[1],
[1] CEA-NR, Texas A&M AgriLife Extension Service, Belton, TX, 76513

Following our 2020 Bell County Youth Fair, a leader of a prominent buyers group called our office to share how disappointed he was with the thank you notes that he received following the Bell County Youth Fair and Junior Livestock Auction. He explained that he even received a card from senior level 4-H member that was written on construction paper with colored pencils. He noted poor handwriting, misspelled words, and lack of effort from many of the cards that he received. As a parent and volunteer too, he wanted every buyer to feel appreciated. He called to suggest that we should find a way to make sure that other buyers do not receive poor quality thank you notes in the future. I suggested the idea of hosting a series of Summer workshops offering a class to Junior, Intermediate, and Senior level 4-H and FFA members. This handout was created for the workshop using Canva on an 8.5" X 11" page, front and back. Due to restriction due to COVID-19, I was unable to host our Summer workshops in 2020. However, when major show buyer lists came in the mail, I mailed a copy of the handout to each of our auction qualifying exhibitors along with their buyer information (about 30 copies). Parents called our office sharing their appreciation for the tip sheet. During the 2021 Youth Fair, the handout was also printed for exhibitors who earned a buckle or qualified for the Junior Livestock Auction (about 300 copies). For further improvement, the Youth Fair provided stationary for exhibitors who earned a buckle and asked each committee to review the notes submitted before awarding prizes or premiums.

National Finalists

George W Hamilton
Extension Field Specialist, Food & Agriculture
UNH Cooperative Extension

Hamilton, G.W.*[1],
[1] Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Goffstown, NH, 03045

Growers understand the importance of calibrating boom sprayers in order to know the rate of application per acre. However, few growers check the spray coverage to insure proper application of products across the boom area. People assume boom sprayers are only applying pesticides, however, thinners, growth hormones, foliar nutrients, fruit ripening materials, etc. all are applied by boom sprayers for various crops and need to have proper coverage for the best results. If improper spray coverage takes place, this results in poor pest control, or potential damage to crops, or over application of spray materials. Growers expressed the need for printed spray coverage information on program evaluations for a sprayer calibration presentation. The New England Vegetable and Berry Growers (NEVBGA) Executive Committee supported the educational need of information on spray coverage, specifically how to conduct spray coverage checks, and asked if it could be written. US-EPA

Region 1 saw this need and provided a grant of financial support for the development, printing and distribution of an informational fact sheet on boom sprayer- spray coverage evaluation. The fact sheet was developed, peer reviewed, then revised and printed. A PDF of the fact sheet was emailed to the NEVBGA membership, reaching over 400 members, and copies were mailed when requested. Copies of the fact sheet have been distributed at meetings where boom sprayer calibration or boom sprayer - spray coverage presentations were made. Over the past three years, eleven presentations have been given in New Hampshire, Massachusetts, Connecticut and Maine educational events with 428 individuals attending. Also, this fact sheet is part of a packet given to individual farmers/growers where on-farm sprayer calibrations were conducted (28 farms, 37 sprayers). In addition, during the past two years the fact sheet was presented at an educational event for landscapers (75) that are applying chemical products with boom type sprayers.

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

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Florida has approximately 100 commercial dairy farms, mostly concentrated in the Suwannee Valley and Okeechobee Lake areas. Two counties have the highest concentration of dairies, with half of the states milking parlors located within their boundaries. Florida dairy only accounts for 2% of US milk sales yet brings in over $473 million to the states economy each year. Because the Florida dairy industry is concentrated into small, rural areas of the state it is not a prominent feature for the public and there is a rampant lack of dairy industry education for the general consumer. The 'Dairy Cows' fact sheet aims to provide basic education concerning the commercial dairy industry to the public. Defining the terminology, illustrating the cow breeds, and discussing aspects like housing, feed, and milk this fact sheet is able to give consumers a basic idea of the animals producing their dairy products. Misinformation surrounding the dairy industry, or even simply lack of education, can lead to confusion and mistrust of dairy products, particularly as animal agriculture fights to maintain their place on the grocery store shelves. Regional specialized dairy agent Izabela Toledo and county agent Alicia Halbritter developed this fact sheet to help inform consumers and support the Florida dairy industry. The high quality graphics were solicited from the UF/IFAS Communications team in conjunction with royalty-free stock photos to increase the quality of the document and make it more appealing for both youth and adults. Currently the fact sheet is housed on the University of Florida Animal Science website for Home Dairy Resources which has been viewed 269 times.

Apurba K. Barman
Area Low Desert IPM Advisor
University of California- Division of Agriculture and Natural Resources
Imperial County

Roberts Phillip*[1], , Toews Michael*[2], , **Barman, A.K.*[3],**
[1] Extension Specialist, University of Georgia-Tifton Campus, Tifton, GA, 31793
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[3] Area Low Desert IPM Advisor, University of California-Division of Agriculture and Natural Resources, Holtville, CA, 92250

Silverleaf whitefly, *Bemisia tabaci* (Hemiptera: Aleyrodidae) is a serious pest of cotton and vegetable crops in Georgia. An outbreak of silverleaf whitefly in Georgia during 2017 resulted in more than a 200-million-dollar loss to the state's agricultural economy, which warranted significant investment in research and Extension. Multi-disciplinary research projects have been investigating the various aspects of ecology and management of this insect pest. With a sufficient forewarning system, farmers should be able to address future outbreaks of this pest and protect their crops. However, educating the farmers and Extension agents plays a critical role in highlighting the whitefly problem in cotton and the available research-based information to mitigate this pest. The objective of this fact sheet was to provide simple and clear information on sampling and management of silverleaf whitefly on cotton crop based on years of research and Extension experience of the authors. This fact sheet includes compressive information and pictorial aids regarding whitefly species identification, symptoms of injury to cotton, sampling protocol, various risk factors of pest infestation, and potential management options. The first author prepared the initial draft, credited with 9 of the 10 photographs in the text and the final version was peer-reviewed by two external reviewers. Approximately 300 color printed copies of this fact sheet have been directly distributed to participants in various Extension meetings and field days. Additional copies are provided to county agricultural agents for their needs. An electronic version of this fact sheet is also freely available for easy and quick access.

Regional Finalists

Kapil Arora
Field Agricultural Engineer
Iowa State University Extension

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[4] Field Agricultural Engineer, Iowa State University, Lewis, IA, 51544
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Fresh air intake and distribution in a swine production building is critical to providing a good environment for animals, but can have a negative impact on building longevity with certain designs. Air generally will flow into the building attic to supply fresh air to the production room through the ceiling air inlets. A typical design brings air into the attic through soffit intakes at the eave. However, this design can negatively impact the building by contributing to corrosion and deterioration of roof metal.

Air intakes at the soffit, while providing an unrestricted opening to the attic, can promote corrosion of building components due to pit gases entering the attic at he soffit intakes. An alternative exists to provide attic air intakes on the gable ends of the building. This option will allow the attic air intakes at the building eaves to be completely closed to avoid corrosion from pit fans as shown in the fact sheet. Thus, the ventilation system can bring in the cleanest possible air into the building attic. Closure of soffit intakes can help reduce or eliminate roof steel corrosion.

Applicant developed this fact sheet to teach swine production facility owners and contractors with the reasoning on why the fresh air intakes should be placed on the gable end of the building. The fact sheet also provided design guidance on how to size the intakes to meet ventilation requirements, while closing off the air intakes at the soffit end of the building roof.

The fact sheet was included in the online offering of the webinar on this topic in August 2020. The webinar was attended by 182 participants and the webinar recording was viewed an additional 115 times. This fact sheet was directly emailed to the webinar participants. Thus, the total distribution numbers for the fact sheet were 506 including 209 direct web downloads. The webinar was attended by people from twelve different states as well as Canada. Evaluation results indicated that ninety percent (90%) of participants learned that the gable end attic air intake would improve the life of their building components.

Chris Zoller
ASSOCIATE PROFESSOR & EXTENSION EDUCATOR ANR
Ohio State University Extension Tuscarawas County
Tuscarawas

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Farming and fishing have always been unpredictable ways to make a living, and the financial risk that comes with these businesses contribute to that unpredictability. Faced with increasing debt, bankruptcy may seem like a viable option for a farm or fishing operation. To help farmers with navigating the bankruptcy process, the Educators authored the Facing Farm Financial Stress Series for a project funded by the National Agricultural Law Center. The submitted factsheet (Thriving After a Farm Bankruptcy) published on August 4, 2020 was written to help farmers after they have gone through the bankruptcy process. In the midst of a bankruptcy, it is easy to focus your energy on getting through the process. But what happens after the bankruptcy is critical in determining the long-term viability and success of the farm business. The goal of this factsheet was for farmers to set a course for thriving after bankruptcy and avoiding a return to financial hardship. This plan should include relying on an accountability team, focusing on your business goals, maintaining records, establishing business spending protocols, rebuilding credit, engaging in financial training, repairing relationships, and listening to advice from those who have been through the bankruptcy process. Because yes, there is life after a farm bankruptcy. The factsheet also includes "Farmer to Farmer Advice" which provides insight from farmers who have faced similar financial situations. This factsheet was written to complement two additional bulletins and one page infographic sheets in the series. No print copies of the publication were made as the factsheet was posted on the National Agricultural Law Website at https://nationalaglawcenter.org/wp-content/uploads//assets/articles/bankruptcy/Thriving-after-a-farm-bankruptcy.pdf as well as on OSU Extension's Farm Office website at https://farmoffice.osu.edu/ag-law-library/farm-finance-law

The factsheet's corresponding infographic sheet can be accessed at: https://nationalaglawcenter.org/wp-content/uploads//assets/articles/bankruptcy/info-

ThrivingAfterBankruptcy.pdf Since it's publication in August 2020, the resource has been downloaded 490 times from these two websites. Each member of the team contributed 33% effort to the literature review and development of the manuscript.

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

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[3] Professor, University of Wisconsin- Madison, Madison, WI, 53706

The "Round Bale Storage Conservation" fact sheet was published in June 2020, following a round bale demonstration that took place at the SDSU Southeast Research Farm near Beresford, SD. South Dakota typically ranks in the top five hay producing states in the US; however, forage production is often overlooked in favor of row crop production, and hay storage practices are rarely discussed. Results from the demonstration proved to be quite compelling and aligned well with research performed in surrounding states. We created this fact sheet to provide hay growers with succinct written guidelines and visual diagrams of best hay storage practices. The fact sheet was written by the three listed authors, and designed and produced by our Extension IT team. It is posted as an online resource at https://extension.sdstate.edu/round-bale-storage-conservation and has received 622 page views as of March 15, 2021. In addition, the SDSU campus print lab printed 500 copies of the fact sheet and SDSU Extension staff have disseminated approximately 300 copies through mailings and programs to date.

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1],
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The Breeding Season Preparations for Sheep Flocks fact sheet was developed as a handout for a webinar for sheep and goat producers. A similar fact sheet was also developed for goat producers who attended the webinar. The declining dairy industry and the interest in small farm food production in the state has increased the need for education on basic sheep and goat production. Thus, the objective of the webinar was to introduce beginning producers to basic concepts related to preparing sheep and goats for the breeding season as well as help existing producers improve their lambing percentage. The purpose of the fact sheet is to provide an overview of the information presented at the workshop. The fact sheet discusses information on evaluating body condition, flushing to increase the plane of nutrition and thus result in a higher percentage of twins, conducting breeding soundness exams for rams to insure they are ready for the breeding season, and aspects that will help to promote embryonic survival that will also result in more twins born during the lambing season. The webinar for this fact sheet was held in September 2020. 60 people registered for the webinar. Results of the post evaluation indicated that 84% of participants learned a moderate to significant amount of information and 53% planned to use the information to make changes to their operation's breeding season practices. I wrote the fact sheet, took photos, and worked with Penn State Creative Services to format the fact sheet for print and the web. The fact sheet is also available on Penn State Extension's website at https://extension.psu.edu/breeding-season-preparations-for-sheep-flocks.

Brandy E Brabham
Extension Agent

Roane County

Brabham, B.E.*[1],
[1] Extension Agent, , Spencer, WV, 25276

This publication is part of the Grow This! West Virginia Garden Challenge developed by WVU Extension Family Nutrition Program in partnership with the WVU Extension Ag and Natural Resources Program Unit. I developed the Microgreens Factsheet for this project. The graphics and lay-out were added by our graphic designer. The publication was distributed to 55 counties through their youth and adult health educators. It was also posted on our WVU Extension ANR website page and printed for distribution to numerous school age children throughout WV as part of the Grow This! WV Garden Challenge microgreen kits that included seeds and an abbridged version of how to grow microgreens complete with activities and a daily observation journal for the youth to utilize while growing their own microgreens.

Rebecca A. Melanson
Assistant Extension Professor - Plant Pathology
Mississippi State University Extension Service
CMREC

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In Mississippi, tomatoes are produced commercially in the field, under protection in greenhouses and high tunnels, and in home gardens. A multitude of diseases affect tomatoes throughout Mississippi's growing season, causing various symptoms that can reduce crop yield and fruit quality. Successful disease management throughout the season involves implementation of a variety of disease management practices, which are based on the knowledge of the pathogen causing the disease and its life cycle. Accurate diagnosis, therefore, is the critical first step in disease management. Other considerations for disease management include producer preferences, cost, product availability, and general production practices. In 2017, bacterial spot was observed in several fields in Mississippi, and research determined that bacterial isolates causing this disease in these fields were tolerant to copper, the active ingredient in many products commonly applied for management of bacterial spot. Bacterial spot is easily confused with another bacterial disease, bacterial speck, and both diseases share similarities in pathogen spread and disease management. The MSU Extension publication (fact sheet) "Bacterial Speck and Bacterial Spot in Tomatoes" was written to educate stakeholders on the identification of these diseases, their available management options, and the recent findings regarding bacterial spot in Mississippi. It was designed and produced by MSU Extension's Office of Agricultural Communications and was reviewed by colleagues with expertise in plant pathology as well as by a Mississippi county Extension agent to ensure that it provided relevant and accurate information that was understandable to all intended audiences, which includes commercial tomato producers, home gardeners, and those who educate others about disease management in tomato production. Because this fact sheet was developed during the COVID-19 pandemic, only limited numbers of hard copy publications were distributed; however, a digital version of the publication was posted as a PDF and in HTML format on the MSU Extension website (http://extension.msstate.edu/publications/bacterial-speck-and-bacterial-spot-tomatoes), and the link was shared with stakeholders via webinars, emails, and social media. The publication webpage has received 825 unique page views since becoming available.

Ashley Wright
Livestock Area Agent
The University of Arizona
Southeastern Arizona

Wright, A.*[1],
[1] Livestock Area Agent, The University of Arizona, Vail, AZ, 85641

The year 2020 wasn't just the year of the human coronavirus outbreak, it also saw an emerging disease issue for all rabbit producers, including 4-H, hobby/show, and pet owners. For the first time, Rabbit Hemorrhagic Disease Virus (RHDV) surfaced in wild rabbits in North America, posing a serious threat to these populations as well as domestic rabbit herds. I worked with Arizona 4-H Agent Peter Hooper, with input from AZ State Veterinarian Dr. Mundschenk, to create this fact sheet providing rabbit owners with scientific information about RHDV. In addition to explaining the signs and transmission potential of the disease, this fact sheet also gives understandable, actionable steps owners of all ages and experience levels should implement. This was vitally important: the disease is exceptionally contagious and persistent in the environment. Additionally, the disease is reportable to the state veterinarian and positive cases could result in the depopulation of a producer or 4-H member's entire herd, a major loss that could include irreplaceable genetics. This fact sheet was distributed to all 4-H families in Arizona via email and publicized through social media outlets targeting both youth and adults. It was utilized in the inaugural AZ 4-H Ag at Home webinar where Dr. Mundschenk discussed the disease with 4-H youth and leaders, and I presented a section on Rabbitry Biosecurity, specifically with RHDV in mind (60 live attendees, 44 recorded views). Finally, this article has been disseminated to the public through several community forums. Many Arizona residents were alarmed about an increase in deceased wild rabbits on their properties; concerns ranged from illegal hunting to intentional poisonings. This article explained the situation and informed those who might have pet rabbits of the risk. A readership count is difficult to gather due to the multiple avenues of distribution, but the feedback received has indicated many will now take steps to protect their animals. With RHDV likely to remain endemic in North American wild rabbit populations, this article will continue to serve as an educational tool; those who raise rabbits for food or fun will need to maintain constant vigilance to protect their herds.

Jason Turner
Extension Horse Specialist
NMSU
NM

Turner, J.*[1],
[1] Extension Horse Specialist, NMSU, Las Cruces, NM, 88003

Outbreaks of vesicular stomatitis virus (VSV) have become more commonly reported in the Southwestern USA over the last 20 years. The 2019 index case of VSV for the United States was in Texas on June 24, followed by a case in New Mexico on June 26. At that time the New Mexico State University (NMSU) Cooperative Extension Service (CES) did not have a fact sheet resource available for clientele that provided the most current recommendations on dealing with the disease. Therefore, the Horse Specialist wrote an updated fact sheet, Vesicular Stomatitis Virus in Horses Guide B-717, for horse owners that described the clinical signs of the disease, the most current thoughts on disease transmission, recommended management practices to prevent the disease, and the importance of good communication with their veterinarian and the New Mexico Livestock Board relative to suspect cases. The 2019 outbreak occurred primarily in Texas and the Intermountain West from June to December 2019. Unfortunately, the fact sheet that was submitted for publication in September 2019 was not published until April 2020, and the 2019 outbreak carried over into 2020 with the first index case in the USA and New Mexico occurring in April 2020. The 2020 outbreak lasted into October, and cases were reported in the desert Southwest, Texas, Central Great Plains, and the Ozark regions of the USA. The fact sheet was distributed electronically to all CES offices in New Mexico on April 21, 2020. Once published, the fact sheet was the focus of an April 30, 2020, news article by the NMSU News Center to inform the citizens of New Mexico of its recent publication, and its availability online. As the disease spread, the Horse Specialist shared the publication by email with specialists in other states with VSV cases. According to the NMSU Extension and Experiment Station Publications Office, the pdf from the website has been viewed over 300 times since it was posted, and through Facebook posts from that office, the information has reached over 2800 people. The publication is available at the following URL: https://aces.nmsu.edu/pubs/_b/B717/welcome.html.

State Winners

State Winner	
North Central Region	
Indiana	Ann Kline
Kansas	Cassie Homan
Michigan	Eric Anderson
Minnesota	Natalie Hoidal
Missouri	Donna Aufdenberg
North Dakota	Ashley Ueckert
Wisconsin	Stephanie Plaster
Northeast Region	
Maryland	Jonathan R. Moyle
New Jersey	Henry Bignell, Jr.
New York	Judith L Wright
Southern Region	
Alabama	David P. Russell
Arkansas	Chris Elkins
Georgia	Brenda L. Jackson
Kentucky	Nick Roy, Ricky Arnett, Pat Hardesty, Kiersten Wise
South Carolina	Karen Jackson
South Carolina	Guinn Wallover
Tennessee	Jason de Koff
West Region	
Idaho	Jennifer Jensen

Publication

National Winner

Edwin M. Lentz
Extension Educator and Professor
The Ohio State University Extension
Hancock County

Lentz, E.M.*[1], , Culman, S. W.[2], , Fulford, A.[3], , Camberato, J.J.[4], , Steinke, K.[5], , Lindsey, L.E.[6], , **LaBarge, G.A.[7],** , Watters, H.D.[8], , Haden, R.[9], , **Richer, E.[10],** , Herman, B.[11], , Hoekstra, N.C.[12], , Thomison, P.R.[13], , Minyo, R.[14], , Dorrance, A.E.[15], , Rutan, J.[16], , Warncke, D.[17],
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[2] Associate Professor, The Ohio State University, Wooster, OH, 44691
[3] Postdoctoral Researcher, The Ohio State University, Wooster, OH, 44691
[4] Professor, Purdue University, West Lafayette, IN, 47907

[5] Associate Professor, Michigan State University, East Lansing, MI, 48824
[6] Associate Professor, The Ohio State University, Columbus, OH, 43210
[7] Professor, The Ohio State University Extension, London, OH, 43140
[8] Associate Professor, The Ohio State University Extension, Bellefontaine, OH, 43311
[9] Associate Professor, Ohio State ATI, Wooster, OH, 44691
[10] Assistant Professor, The Ohio State University Extension, Wauseon, OH, 43567
[11] Research Assistant, The Ohio State University, Wooster, OH, 44691
[12] Research Associate, The Ohio State University, Wooster, OH, 44691
[13] Emeritus Professor, The Ohio State University, Columbus, OH, 43210
[14] Research Associate, The Ohio State University, Wooster, OH, 44691
[15] Professor, The Ohio State University, Wooster, OH, 44691
[16] , Michigan State University, East Lansing, MI, 48824
[17] Emeritus Professor, Michigan State University, East Lansing, MI, 48824

The revised Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa is a compilation of the latest research by Extension specialists and educators from The Ohio State, Purdue, and Michigan State Universities. The original publication was completed in 1995 so recommendations would be the same in Ohio, Indiana, and Michigan -- since soils were similar, and producers farmed across state lines. Specialists from the three states could speak in each state knowing that the fertilizer recommendations were the same. Since the original publication, crop production practices in this region have changed, including general reductions in tillage and crop rotations, greater plant populations and grain yields, new pests and diseases, and the emergence of precision soil sampling and fertilizer rate and placement technologies. Water and air quality issues in this region also underscore the need to manage nutrients as judiciously and profitably as possible. The goal of the revision was to provide fertilizer recommendations for industry agronomists, crop advisors, Extension agents, environmental regulators, and producers to optimize crop production while protecting water quality. The beginning of the bulletin has a summary of the changes from the original publication which includes the rationale for the change and the location of the revision. The bulletin consists of six main sections: Soil Sampling and Testing; Soil pH and Lime Recommendations; Nitrogen; Phosphorus and Potassium; Calcium, Magnesium, and Sulfur; and Micronutrients. Each section is highlighted with a sidebar tab for quick location. Distributions have been limited because of Extension and industry meeting restrictions during the coronavirus pandemic. However, since its release on December 1, 2020, the bulletin has become one of the top sellers for Extension Publishing. Of the 1,000 copies printed, 909 have already been sold and an additional 893 pdf copies have been downloaded. Demand for the bulletin is expected to increase once the pandemic meeting restrictions are removed. The submitting author contributed to the content of the wheat nitrogen management section, provided research data for recommendation tables, assisted with layout design, and editing of the manuscript.

National Finalists

Gregory J Endres
Extension Cropping Systems Specialist
NDSU Extension
CREC/North Central Region

Endres, Gregory J.*[1], , Kandel, Hans[2], , Schmitz, Peder[3], , Eric Eriksmoen[4], , Pradham, Gautam[5], , Rickertsen, John[6],
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[2] Extension agronomist, NDSU Extension, Fargo, ND, 58108
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[4] Research agronomist, NDSU, Minot, ND, 58701
[5] Research agronomist, NDSU, Williston, ND, 58801
[6] Research agronomist, NDSU, Hettinger, ND,

This publication summarizes data from thirty-seven North Dakota State University research trials conducted during 2008 to 2019 throughout North Dakota to provide guidelines for optimizing soybean seed yield with the establishment factors of planting rates and row spacings. In eastern North Dakota, the combination of narrow rows (12 to 14 inches) and planting rates of about 170,000 PLS per acre provided optimum yield. If planting in wide rows (24 to 30 inches), planting rates to reach the optimum yield were about 190,000 PLS per acre. In western North Dakota, the combination of narrow rows (7 to 10 inches) and planting rates of about 150,000 PLS per acre provided optimum yield. This information provides updated and more precise guidelines for increasing soybean yield compared to the traditional NDSU Extension recommendation of establishing 150,000 soybean plants per acre among all row spacings. The targeted audience to use this publication are North Dakota farmers and crop advisers, including NDSU Extension agricultural agents. This publication has been electronically available through NDSU Extension since June 2020. The publication's availability has been promoted through media, and information presented during field tours and winter meetings, including a NDSU Extension webinar 'Getting-it-Right in Soybean Production' presented on February 17, 2021. The publication's website has received 347 hits (legitimate views by real persons) as of March 2021. If consistently implemented by farmers, the

information has potential for substantial impact considering annual production of about 6 million soybean acres in the state. The main author conducted several of the field research trials, and lead the tasks of compiling and analyzing the data, and writing the publication. NDSU Extension Ag Communication edited the narrative, formatted content, and posted the publication on the web.

Danielle Rhea
Extension Educator
Penn State Extension
Jefferson County

Boser, S. M.*[1], , Cotrone, V. J.*[2], , Fetter, J. F.*[3], , Koch, K. L.*[4], , Meinen, R. J.*[5], , **Ressler, L.*[6],** , **Rhea, D.R.*[7],** , **Santangelo, N. L.*[8],** , Sjolander, S. A.*[9], , Sulpizio, J.*[10], , Yencha, A.*[11],
[1] Water Resources Educator, Penn State Extension, Beaver, PA, 15009
[2] Extension Urban Forester, Penn State Extension, West Pittston, PA, 18643
[3] Water Resources Educator, Penn State Extension, Dauphin, PA, 17018
[4] Program Manager, Penn State Agriculture & Environment Center, Middletown, PA, 17057
[5] Senior Extension Associate, Penn State Extension, University Park, PA, 16802
[6] Extension Educator, Penn State Extension, Lancaster, PA, 17601
[7] Water Resources Educator, Penn State Extension, Brookville, PA, 15825
[8] Agronomy Educator, Penn State Extension, Coudersport, PA, 16915
[9] Extension Urban Forester, Penn State Extension, Meadville, PA, 16335
[10] Natural Resources Educator, Penn State Extension, York, PA, 17402
[11] Water Resources Educator, Penn State Extension, Carlisle, PA, 17013

The Roadside Guide to Clean Water is a field guide style publication that was created to help the public identify water quality best management practices (BMPs) in their community. The guide was developed after stakeholder feedback indicated that many Pennsylvanians are unable to recognize BMPs, which often results in insufficient support and sometimes even complaints about BMP implementation. The print publication features 10 popular BMPs and is enhanced by an online version with supplemental factsheets and videos. BMPs were chosen based on partner surveys of which practices were most common, most visible, or generated the greatest volume of calls or complaints. The role of the applicant was to assist with parnter surveys and to create a template that defined the content of the publication. The applicant as well as a team of educators composed content and gathered photos for each BMP which was provided to a Penn State College of Agricultural Sciences Creative Specialist who worked with educators to complete the final design which is printed professionally. Due to COVID-19, the Roadside Guide debuted in June 2020 at two webinars available to Penn State Extension staff, partner organizations, and interested citizens. A total of 278 participants watched the live or recorded webinars and free printed guides were mailed to 72 participants as requested. Completed evaluations (N=72) indicated that 67% gained knowledge about BMPs, 71% planned on using the guide, and 66% planned to spend more time looking for BMPs in their community. Recipients were resurveyed six months later and completed evaluations (N=33) indicated 100% had used or still planned to use the guide, 24% recognized new BMPs, 20% talked to others about BMPs, 24% considered implementing a BMP, and 28% felt more supportive of BMPs being installed in their community. This product was promoted on Facebook through “BMP of the Day” posts, where the total reach was over 3,100 people. This project was funded by a Pennsylvania Department of Environmental Protection Environmental Education Grant which covered the cost of printing 6,000 copies. To date, 2,232 printed copies have been distributed and the online guide has 3,261 views.

Brooke Edmunds
Commmunity Horticulture Faculty
Oregon State University
Linn and Benton

Kowalewski, A*[1], , **Edmunds, B.[2],** , McDonald, B.[3], , Braithwaite, E.[4], , Donnelly, J.[5],
[1] Turfgrass specialist and associate professor, Oregon State University, , ,
[2] Commmunity horticulture faculty and associate professor (practice), Oregon State University, Tangent, OR, 97389
[3] Senior faculty research assistant, Oregon State University, , ,
[4] Faculty research assistant, Oregon State University, , ,
[5] Communications Specialist, Oregon State University, , ,

The Oregon State University (OSU) Extension publication “Managing Crane Fly in Lawns” is a new, six-page publication co-authored with the OSU Turfgrass Extension team (Beaver Turf). It provides an overview of the basic biology and life cycle of the European crane fly and the damage caused by larvae feeding on turfgrass roots. The publication also emphasizes a sustainable IPM-based approach focused on preventing damage to lawns by emphasizing simple maintenance practices (mowing, irrigation, fertilizing, improving soil drainage) to help reduce use of unnecessary

pesticides. Numerous high-quality color photos are used to illustrate the publication. This publication is available as both a pdf and an accessible webpage. From the release date in September 2020 through early March 2021, this publication has been viewed 1,413 times. This publication was shared on the Oregon State University Extension Service Facebook page in September 2020 and reached 2,294 people with 98 engagements. This publication was also shared in an OSU Extension gardening story press release on crane fly management that was distributed to 155 media sources across Oregon. The publication has been shared with participants in numerous public presentations (Sustainable Lawn School and local lawn care presentations) and is being used as a teaching and reference source for the Oregon Master Gardener Program. This publication is one in a series of new or updated publications from the Beaver Turf team aimed specifically at home lawn management. It can be viewed online at https://catalog.extension.oregonstate.edu/em9296

Regional Finalists

Jeanne S Falk - Jones
Multi-County Specialist, Crops and Soils
K-State Research & Extension
NW Area

Falk - Jones, J.S.*[1], , **Lancaster, S. R.[2],** , Jugulam, M.[3],
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[2] Weed Science Specialist, K-State Research and Extension, Manhattan, KS, 66506
[3] Weed Physiologist, Kansas State University, Manhattan, KS, 66506

The K-State Herbicide Mode of Action publication is designed to show farmers and agronomy professionals how different herbicides work in plants and how the environment affects herbicide efficacy in weeds. In addition, the publication discusses herbicide resistance and gives examples of weeds with herbicide resistance. Pictures are included for each herbicide mode of action to show the symptoms of herbicide damage. The latest version of the Herbicide Mode of Action publication was published online on March 2, 2021 after being updated by the current authors. The current authors are K-State Weed Science Specialist Sarah Lancaster, K-State Weed Physiologist Mithila Jugulam and K-State Multi-County Agronomist Jeanne Falk Jones. The publication was previously published in May 2015 and had over 7800 unique downloads in 2020. The authors worked with the K-State Agriculture Communications department on content changes and on formatting changes to fit within ADA website guidelines. For changes in content, a table with herbicide mode-of-actions and the corresponding group number was included. The definitions section was also expanded to include six additional commonly used herbicide terms. Information was added for temperature inversions and pictures were added to show additional herbicide symptoms. A large chart with herbicides, active ingredients, WSSA site of action classification, and labeled crops was taken out of the publication because it is quickly outdated and this publication is meant to be a long-lasting reference publication. Jeanne Falk Jones' role in the publication was reviewing content, suggesting and writing additional content, supplying pictures and reviewing the updated publication. She also helped publicize the updated publication via social media. The publication will be utilized in discussing herbicide mode of action at weed schools for farmers, at the Crop Pest Management Schools for commercial applicators and in the Weed Science class at K-State. The Herbicide Mode of Action publication is available as print on demand and is available online at https://bookstore.ksre.ksu.edu/pubs/c715.pdf.

Paul Goeringer
Sr. Faculty Specialist and Extension Legal Specialist
Department of Agricultural & Resource Economics,
University of Maryl
State of Maryland

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Bankruptcy is a financial and legal process designed to help those who can no longer pay their debts get a fresh start. The word bankruptcy can make people cringe because it is widely misunderstood as a type of failure. In fact, pursuing bankruptcy can be a smart risk management and restructuring strategy for people with the courage to start over. This Extension Publication was drafted to help producers understand the implications of Chapter 12 bankruptcy and understand how it can be used as a tool in a number of situations. With this, we hoped to remove some of the stigma associated with bankruptcy and help struggling producers understand how it could help their operations.

Jodi Richmond
EXTENSION AGENT

Richmond, J.*[1], , Jett, L.[2],
[1] EXTENSION AGENT, WVU Extension Service, Princeton, WV, 24740
[2] Extension Specialist, WVU Extension Service, Morgantown, WV, 26506

This publication was developed in 2020 for distribution for the Grow This! Progrom in 2020 and 2021. 2021 seed distribution is focusing on the "three sisters" (corn, beans and winter squash). This factsheet will be distributed this year to 31,000+ newsletter contacts. Seeds are going out next month.

Beginning in 2018, West Virginia's SNAP Ed and WVU Extension's Grow This! Program has combined horticultural production and nutritional education. A state-wide social media and community outreach campaign to increase awareness, interest and participation in gardening, Grow This! has an overall goal of improving diet quality and food security among participants. 36, 734 people throughout West Virginia participated in 2020, receiving free seeds, grower guides for the vegetable plants, weekly educational and Facebook posts, or engaging in ask the expert sessions or in-person events. Some participants had never gardened before; others had gardened many years before and were eager to try again. 21,773 received an electronic newsletter over 31 weeks.

444 of these individuals responded to the post-participation survey. Respondents indicated that because of the campaign they ate, shared, and preserved the produce from their gardens. 46% of the respondents ate more vegetables than before, therefore increasing their diet quality; 29% reported increased food security and food self-reliance, and 17% of respondents reduced their grocery bills. One participant said, "during this crisis we have been having issues of there not being much food on the shelves in the store, so we want to grow some vegetables of our own to eat and possibly can for later." The Grow This Challenge has extended beyond the state of West Virginia. The program was replicated in three other states; Oregon's debut had more than 975 sign-ups within the first two days of advertisement. WVU Extension Service is continuing to develop partnerships and programming to combat food insecurity in the state. Grow This has expanded for 2021 with collaboration across Extension program units, identifying those interested in gardening, food preservation, and nutritional information. 31,000 contacts are now participating in the newsletter and five new Grower Guides are going out this year.

Rebecca A. Melanson
Assistant Extension Professor - Plant Pathology
Mississippi State University Extension Service
CMREC

Melanson, R.A.*[1], , Wintermantel, W. M.[2], , **Sikora, E.J.[3],** , **Singh, R.[4],**
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[2] Research Plant Pathologist, USDA-ARS, Salinas, CA, 93905
[3] Extension Specialist Professor, Auburn University, Auburn, AL, 36849
[4] Associate Professor and Director of the Plant Diagnostic Center, Louisiana State University, Baton Rouge, LA, 70894

Various cucurbit crops, including cantaloupes, cucumbers, pumpkins, squashes, and watermelons, are produced in home gardens and commercial operations in the central Gulf Coast states of Alabama, Louisiana, and Mississippi. Several whitefly-transmitted viruses are known to infect cucurbits and have been reported in some of the major cucurbit-producing areas of the United States (U.S.), including California, Florida, and Georgia. As of 2019, few of these whitefly-transmitted viruses were known to occur in Alabama, Louisiana, or Mississippi. These viruses cause a variety of symptoms, including foliar yellowing, mottle, and/or leaf deformation, in infected plants, and can lead to reduced yield and fruit quality. As such, these viruses threaten cucurbit production in areas where they are introduced or occur. The Extension publication "Whitefly-transmitted and Yellowing Viruses in Watermelon and Other Cucurbit Crops" was produced as part of a project funded by the National Watermelon Association to survey watermelon and other cucurbit fields in Alabama, Louisiana, and Mississippi for these whitefly-transmitted viruses and to educate stakeholders on their identification, threat to cucurbit production, and management. The publication is intended for audiences (stakeholders) who produce cucurbit crops or have an interest in cucurbit production and educate other stakeholders about virus management in cucurbit production. It was written by the project participants (authors) and was designed and produced by MSU Extension's Office of Agricultural Communications. The publication was reviewed by colleagues with expertise in plant pathology, plant virology, and entomology, as well as a Mississippi county Extension agent to ensure that it provided relevant and accurate information that was understandable to all intended audiences. Because this publication was developed during the COVID-19 pandemic, only limited numbers of hard copy publications were distributed; however, a digital version of the publication was posted as a PDF and in HTML format on the MSU Extension website (http://extension.msstate.edu/publications/whitefly-transmitted-and-yellowing-viruses-watermelon-and-other-cucurbit-crops) and the link was shared with

stakeholders in the southeastern U.S., other regions of the U.S., and world via webinars, emails, and social media. The publication webpage has received 550 unique page views since becoming available.

Rachel Painter
Extension Agent, Agriculture and Natural Resources
University of Tennessee
Rutherford

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[2] Extension Agent, Tennessee State University, Manchester, TN, 37355
[3] Extension Specialist, University of Tennessee, Knoxville, TN, 37996

Through our work in our local communities, we identified a need for a comprehensive resource for educators who are interested in establishing and maintaining school gardens. School teachers are often tasked with developing innovative programs and facilitating engaging learning experiences. In an effort to meet these expectations, school gardens are becoming increasingly popular and educators are seeking information and guidance from Extension. Therefore, we co-authored this publication which seeks to address the many facets of school gardening including learning and health outcomes, financial support, garden design, garden management, and curriculum enrichment. To do so, we compiled information from peer-reviewed studies, university publications, and school garden programs and organizations. We used the Ludidpress online document editor to create and format our publication before sending it to Natalie Bumgarner who reviewed the document and oversaw its peer review and publication. Once published, *Gardening Guide for Tennessee's Teachers* was made publicly available on Tennessee Extension's online publication library. It also became a featured publication in the Tennessee Farm Bureau Federation (TFBF) Ag in the Classroom Teacher Workshop Curriculum. These teacher workshops were attended by 325 educators in 2020. All participants received a digital copy of the publication. TFBF also funded and provided printing services for 200 copies of the publication to be distributed through Extension offices.

Adam Downing
Forestry & Natural Resources Extension Agent

Northern District

Jennifer Gagnon*[1], , **Downing, A.[2],** , Santucci, M[3], , Mountain, T.[4],
[1] Extension Associate, Virginia Tech, Blacksburg, VA, 24061
[2] Forestry & Natural Resources Extension Agent, , Madison, VA, 22727
[3] Forester, , , ,
[4] Extension Specialists, Virginia Tech, Blacksburg, VA, 24061

This 56-page, full-color, guide takes readers through the 9 steps they can take to help ensure a successful legacy planning process. The book includes landowner case studies and worksheets. Also included is a small booklet highlighting the 9 steps to be removed and shared with other family members (only available in the print version). As one of the four authors, I contributed content which was peer reviewed. A professional graphic design artist was employed with grant funds.

The target audiences include private woodland owners & natural resource professionals (public or private) who work with landowners. Most woodland owners want their land to stay intact, in forest and in the family. Unfortunately, this is most at risk when land is passing from one generation to the next. This is often the result of poor (or no) planning. With proper planning and communication, this can be avoided.

Five-thousand guides have been printed to be used with educational programs and otherwise distributed broadly and without cost. Digital copies are also available for free form the Extension storefront: https://resources.ext.vt.edu/contentdetail?contentid=1109&contentname=Legacy%20Planning%20-%20A%20Guide%20For%20Virginia%20Landowners

Evaluation results from landowner outreach indicate an increased likelihood of participants property staying intact (83%), in the family (79%) and in woodland (81%). Follow-up surveys reveal that in the 6 months following short-course completion, 80% have begun estate planning on over 132,000 acres and with 350 families (600+ individuals).

Betsy Greene
Extension Equine Specialist

Arizona

Greene, B.*[1], , A. D. Wright[2],
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[2] Area Livestock Agent, University of Arizona Cooperative Extension, Willcox, AZ, 85643

Arizona is one of the top producing states in the nation for alfalfa hay according to the 2016 USDA Census of Ag, with approximately 300,000 acres producing 2.52 million tons of alfalfa (8.4 tons per acre - the highest of any state in the nation!). While much of this hay is consumed by dairy cattle or exported, a significant amount becomes feed for horses. Alfalfa hay can contain a deadly risk for horses, blister beetles. This publication was written for two audiences: 1. The horse owner: offering practical advice for monitoring hay for beetles and identifying signs of toxicity in their horse to immediately contact a veterinarian, and 2. The hay grower: highlighting the importance of having an integrated pest management (IPM) program in place to decrease the possibility of beetle infestations when harvesting hay. With all information in the same article, the horse owner can understand the challenges the hay grower faces, how to select a reputable grower to purchase hay from, and what questions to ask. The hay grower can understand the importance of preventing blister beetles from becoming baled into hay for livestock. Photos, contributed by a UArizona entomologist, serve to highlight the variety of colors and appearances of the beetle, which is not always as brightly colored as many think. This article has been utilized at many extension events, including the Southern Arizona Equine Health symposium, a yearly event targeting horse owners (250+ attendees). Additionally, this article will be in the new “Equine” section of the Arizona Ranchers Management Guide update, and is included in the San Carlos Apache Rancher Resource Guide. One horse owner shared that her non-horsey husband can now identify the blister beetles and she feels safe to let him feed their horses. Continuing to bridge the gap between horse owners, many of whom do not have an agricultural background, and those who produce hay is one way we can continue to work to educate the public about agriculture and IPM. This article is available free online and has also been distributed to at least 260 horse and hay industry members.

Mark Nelson
Agricultural Agent
UTAH STATE UNIVERSITY
Beaver County

Frey, N.*[1], , **Nelson, M.*[2],**
[1] Extension Wildlife Specialist, Utah State University
[2] Agricultural Agent, Utah State University, Beaver, UT, 84713

https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=3103&context=extension_curall

This peer-reviewed Extension Publication was written to aid farmers and landowners in controlling ground squirrels. The Piute Ground Squirrel, (*Urocitellus mollis*), populations on agricultural lands are increasing in southwest Utah. It is a small gray squirrel found mostly in the Great Basin. It eats alfalfa, grasses and other agronomic crops. The reduction in alfalfa and other crop yields and the cost of controlling Piute ground squirrels to farmers in western Utah exceeds hundreds of thousands of dollars annually. Squirrels have increased in infested areas and are showing up in places not previously found. Previous control programs such as shooting, flooding, treating with zinc phosphide and gopher bait have not been effective. Utah State University Extension has conducted trials to determine the best way to control ground squirrels. These different methods are discussed in detail in this publication. They include baiting with baits that the squirrels prefer and fumigating with aluminum phosphide, ignitable gas cartridges and carbon monoxide machines. (PERC). Fifty-five copies of this publication were handed out at a crops workshop held in southern Utah last spring. The author has also been contacted many times for copies of this publication. This publication has also been downloaded 224 times in 2020 in Utah and other parts of the U. S. and internationally. I was involved as the primary author and there by responsible for taking pictures, drafting, revising, and managing the publication process for the paper.

State Winners

State Winner	
North Central Region	
Iowa	Jennifer Bentley
Michigan	Sarah Fronczak
Minnesota	Natalie Hoidal, Annalisa Hultberg, and Claire Strader
Nebraska	Francis John Hay
South Dakota	Philip Rozeboom
Wisconsin	Sandra Stuttgen
Northeast Region	
New Hampshire	Olivia Saunders
New Jersey	Megan Muehlbauer
Southern Region	
Alabama	Anthony Shane Harris
Arkansas	Sherrie Smith
Florida	Tina L Mcintyre
Georgia	Paula J. Burke
North Carolina	Kelsey Lichtenwalner
South Carolina	Justin Ballew
Texas	Katie Pace
West Region	
Nevada	Lindsay M. Chichester, PhD
New Mexico	Jessica Swapp

Web Site/Online Content

National Winner

Brad M. Carlson
Extension Professor
University of Minnesota Extension

Carlson, B.M.*[1], , Bongard, P.M.[2], , Miller, R.P.[3],
[1] Extension Educator, University of Minnesota Extension, Mankato, MN, 56001
[2] Content and communications specialist, University of Minnesota Extension, Farmington, MN, 55024
[3] Extension Educator, University of Minnesota Extension, Rochester, MN, 55903

The Nitrogen Smart program teaches farmers about how Nitrogen behaves in the environment for the purpose of building confidence in University recommendations and learning how to adapt management based on conditions. The program is in its sixth year, with an online version being two years old. Over 1100 have attended over this time. Previous attendees have expressed interest in the ability to review materials without having to sit through the entire training. The website: https://sites.google.com/umn.edu/nitrogen-smart-review/home was developed for this purpose. This site is open access, and allows viewers to browse materials in various formats, including video originally produced for the online version of the training, key points for the topic, and links to Extension publications which provided the basis for the section. Overall leadership for the program, as well as the structure of the training, both with respect to the flow, and the informational content were the responsibility of Extension Educator Brad Carlson. Web design was done by Phyllis Bongard, content and communications specialist, and video production and editing were handled by Extension Educator Ryan Miller. Various non-members including state specialists, state agency staff, Experiment Station staff, and retired faculty provided interviews and informational content. The site was promoted for its intended purpose for via email and direct mailing (for those we did not have email addresses for) to previous attendees for the first time on July 29 of 2020, and has had over 1000 page views.

National Finalists

Katie Pekarek
Extension Educator-Water Quality
University of Nebraska-Lincoln Extension
Southeast

Aiken, Becky*[1], , Johnson, Leslie*[2], , **Milander, Jeremy*[3],** , Powers, Crystal*[4], , Schuerman, Becky*[5], , **Pekarek, K.*[6],** , **Ingram, Troy[7],** , **Koelsch, Richard[8],** , **Stoner, Nicole[9],**
[1] Interactive Design Specialist
[2] Manure Management Research Technologist
[3] Cropping System Educator
[4] Research and Extension Communication Specialist
[5] Waste Water, Domestic Water Managerial-Professional
[6] Extension Educator-Water Quality, University of Nebraska-Lincoln Extension, Lincoln, NE, 68583
[7] Cropping System Educator
[8] Professor, Livestock Waste Management
[9] Horticulture Extension Educator

The objective of the University of Nebraska's Water Website, water.unl.edu, is to provide relevant and engaging, evidence-based, water-related information to clientele. The *Water Website* team consists of two cropping systems educators, two manure management specialists, an onsite wastewater and well specialist, a water programs specialist, a horticulturalist, and a water quality educator. The team meets monthly to discuss content themes, emerging issues, skill improvement and timely topics. Content contributions to the site are made by the team, faculty-led classroom activities in agriculture and journalism, UNL faculty experts and partner organizations. The *Water Website* team re-developed the website using the Drupal-based platform.

Aesthetics were improved using original and copyright verified photos in combination with a University of Nebraska branding scheme. The site features 22 content landing pages centered on five core *Focus Areas*: Water Sources; Agricultural Production; Residential Water Use; Water & Climate; and Water Entities. Peer-reviewed extension articles, publications, presentations, training materials and other useful resources are posted in all 22 content areas. Advertising for the site has occurred through Extension and partner programming, Extension announcements, and conference handouts, both online and in print. In addition, all website content is also disseminated through a newsletter, the *Water Column,* which targets specific audiences with relevant information and links them back to the resources on water.unl.edu. Articles are further disseminated through content-specific sister websites and social media accounts. I provided leadership for site architecture and led five subject area teams, reviewing existing educational materials, and creating or sourcing new materials to meet emerging needs. The website has realized a 50% increase in traffic since 2018 with a total of 129,573 visits in 2020. Water is a broad topic with significance to all Nebraskans. This website provides online content to help meet the outreach goals of water programming at the University of Nebraska.

Team:

- NACAA Members
    - Katie Pekarek, Nebraska, Statewide
    - Troy Ingram, Nebraska,
    - Nicole Stoner, Nebraska, Gage
    - Rick Koelsch, Nebraska, Statewide
- Members
    - Leslie Johnson, Nebraska
    - Becky Aiken, Nebraska, Lancaster
    - Becky Schuerman, Nebraska, Statewide
    - Crystal Powers, Nebraska, Statewide
    - Jeremy Milander, Nebraska, Madison

URL: https://water.unl.edu/

Stacie Hritz
4-H Youth Development Educator

Indiana County

Hritz, S.*[1], , Kasanicky, D.[2],
[1] 4-H Youth Development Educator, Penn State Extension, Indiana, PA, 15701
[2] 4-H Youth Development Educator, Penn State Extension, Kittanning, PA,

In March of 2020, when the COVID pandemic hit and immediately changed the face of all Extension programming, it was abundantly clear that as 4-H educators, we needed to pivot our programming and the ways that we deliver content to remain relevant and to meet the needs of those we serve. During this time, as 4-H educators, we were working rapidly to plan how we would deliver our summer day camp content and figure out how to actively engage youth and provide them with meaningful educational experiences.

I began brainstorming ideas of how to deliver a virtual version of a day camp opportunity that I had already been planning for some time, focused on career exploration for Cloverbud aged youth. I wanted to find ways to provide hands-on activities to allow the youth to explore various careers that they may consider one day while also building in components of literacy, which I feel is important for this age group. One of my main concerns while developing this program was when we should schedule the day camp to be held because of factors such as where would the children be during the day while their parents worked, if there were multiple computers or devices in the home that youth could use while parents were focused on their own careers, and if an adult would be available to help them through the learning process. Ultimately, I decided that to meet the needs of as many youth as possible, I would design a self-guided webpage that families would have access to at all times so that their child could learn at any point that was convenient for the family and the family could have activities to do together while they could not go out and do the typical everyday activities that they normally did because of government enforced stay at home orders. I would additionally hold weekly optional Zoom sessions that the members could join and we would review the content for the week and do an additional hands-on activity that would help reinforce the two weekly careers that we were exploring.

https://sites.google.com/view/4h-cloverbud-career-explorer/home

Michael J. Parrish
Senior Extension Agent, Crop and Soil Sciences
Virginia Cooperative Extension
Dinwiddie

Parrish, M. J.*[1], , Gregg, C.L.[2],
[1] Senior Agriculture Extension Agent, Virginia Cooperative Extension, Dinwiddie, VA, 23841
[2] Agriculture Extension Agent, Virginia Cooperative Extension, Lawrenceville, VA, 23868

The creation of the *Desktop Farm Day* Site was in response to two major needs created by COVID -19. First was how to respond to the loss of the Annual Farm Day events conducted by the local Soil and Water Conservation Districts for elementary age students. Second was how to respond to the increased requests from both the public and home-school educators during the COVID-19 outbreak for information to use with virtual learning for Agriculture, Biology, Natural Resources and Environmental subjects. The inclusion of quizzes helped educators measure learning and have proof of work completed by students. Each video has links embedded related to Extension publications and 4H activities. Theses links had two purposes, to provide support materials for student activities and to help with Extension Agriculture and 4H marketing. Google Sites was selected as the platform due to its easy accessibility to the public, and it was more economical than fee-based platforms. The site was developed in a way that enables easy access to the videos, quizzes and related publications and materials for each topic. YouTube was utilized as the video platform which includes closed-captioning if needed by viewers. The site is easy to access from the Dinwiddie Cooperative Extension website and Facebook page. The links can be shared between educators. This Desktop Farm Day Google site has been visited over 1,500 times since late October when it was advertised on the Dinwiddie Cooperative Extension Facebook Page.

https://sites.google.com/vt.edu/desktop-farm-day/home

Regional Finalists

Sarah Fronczak
Environmental Management Educator
Michigan State University Extension
Hillsdale

Fronczak, S.*[1], , Baas, D.[2], , Curell, C.[3], , Jean, M.[4], , Kaatz, P.[5], , Gross, P.[6], , Marrone, V.[7], , Costa, R.[8],
[1] Environmental Management Educator, Michigan State University Extension, Hillsdale, MI, 49242
[2] Sustainable Agriculture Educator, Michigan State University Extension, Centerville, MI, 49032
[3] Cover Crop and Soil Health Educator, Michigan State University Extension, Baldwin, MI, 49304
[4] Field Crops Educator, Michigan State University Extension, Saint Johns, MI, 48879
[5] Field Crops Educator, Michigan State University Extension, Lapeer, MI, 48446
[6] Field Crops Educator, Michigan State University Extension, Mt. Pleasant, MI, 48858
[7] Academic Specialist, Michigan State University Extension, East Lansing, MI, 48824
[8] Field Crops Educator, Michigan State University Extension, Adrian, MI, 4922

The global pandemic of 2020 created extraordinary challenges for everyone in society. For educators with responsibilities in Extension, delivery of educational programs by traditional venues such as in-person meetings and field days was not possible, which required innovative solutions. As we faced lockdowns and social distancing the Michigan State University Cover Crops Team decided to try something innovative with our normal in-person field day. To convey a sense of place and provide a connection with farmers in the virtual environment the team set about creating a Google Earth map that included interviews with farmers and researchers across the state. The team includes Dean Baas, Ricardo Costa, Christina Curell, Paul Gross, Monica Jean, Vicki Morrone, and Phil Kaatz. The team was led by Sarah Fronczak along with Dean Baas. Together the team populated the map created by Sarah with video interviews, photos, text, and links. The map then became the basis for a live Zoom presentation on September 12, 2020 where 96 farmers were able to interact about cover crops topics with specialists and educators. The map is an active resource for farmers looking for information; the link is available on the MSU website. https://earth.google.com/earth/d/1Um-RZfNzKOcvzHZ7gP6-gBwI9JuwS_Yb?usp=sharing

Paul Goeringer
Sr. Faculty Specialist and Extension Legal Specialist
Department of Agricultural & Resource Economics,
University of Maryl
State of Maryland

Goeringer, P.[1], , Ellie Pearson[2],
[1] Sr. Faculty Specialist and Extension Legal Specialist, Department of Agricultural & Resource Economics, University of Maryl, College Park, MD, 20742
[2] Website Designer, University of Maryland, College Park, MD, 20742

The Maryland Risk Management Education blog was started in 2014 as a way to provide information related to agricultural law and crop insurance information. The blog is hosted by the University of Maryland's Department of Agricultural and Resource Economics and was created by me. The blog has grown to include 2 other contributors and in 2020 was

given a facelift. The site puts out weekly content related to crop insurance and agricultural law issues requested by the Maryland agricultural community. I'm submitting one such post related to how to prevent lawsuits in your operation.

https://www.agrisk.umd.edu/post/being-proactive-in-your-operation-can-help-prevent-lawsuits

Steven Yergeau
Environmental & Resource Management Agent
Rutgers Cooperative Extension
Ocean County

Yergeau, S.*[1],
[1] Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755

https://ocean.njaes.rutgers.edu/ANR/Get-the-Dirt-on-Your-Soil.html

Healthy yards and gardens start with healthy soil, so a three part lecture series was developed to educate the public on soil basics, how to maintain soil health, and ways to assess and address soil compaction. The 'Get the Dirt on Your Soil' educational series gave homeowners the tools needed to maintain soil health and encourage aesthetically pleasing, low maintenance, environmentally-friendly landscapes. The series was held in both the spring and fall of 2020. Due to the COVID-19 pandemic, the lectures were held online. Speakers for both sessions were from the Ocean County Soil Conservation District, the Rutgers Soil Testing Laboratory, and Rutgers Cooperative Extension of Ocean County. A total of 331 people from 19 of New Jersey's 21 counties attended the webinars when conducted live. To consolidate the resources from this webinar series, the 'Get the Dirt on Your Soil' web page (https://ocean.njaes.rutgers.edu/ANR/Get-the-Dirt-on-Your-Soil.html) was created as a site to direct viewers to the video recordings of the webinars as well as give homeowners the tools needed to maintain soil health and fashion and encourage aesthetically pleasing, low maintenance, environmentally-friendly landscapes. The website went live in November 2020 and was researched and written by Dr. Yergeau, with maintenance conducted by Ocean County staff. The website has received 361 views from November 2020 to March 2021, and the videos have generated 525 views and 9 likes.

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

Halbritter, A.*[1], , Dacey, J.[2], , Dossin, C.[3],
[1] Agriculture & Natural Resources Agent, UF/IFAS Baker County Extension, Macclenny, FL, 32063
[2] Natural Resource & Agriculture Agent, UF/IFAS Extension Nassau County, Callahan, Fl, 32011
[3] Agriculture & Natural Resources Agent, UF/IFAS Extension Clay County, Green Cove Springs, Fl, 32043

In a difficult year of limited in-person instruction, three county agents sought to maintain a long-standing tradition and fulfill an educational need of their clients. Each year extension clientele are afforded the opportunity to visit cool season forage demonstration plots to view varietal and species differences as well as receive education on the establishment of those forages. Unfortunately, as a result of the pandemic an already developed in-person forage program had to be cancelled. In order to make use of the established forage demonstration plot, an Annual Forages website was developed to showcase available species to clientele. Three county agents developed a website with 4 educational sections to disseminate the important information to producers looking to plant cool season forages. Four educational presentation videos on planting and establishing forages, soil testing, cool season forage economics, and winter grazing in addition to 10 videos highlighting the available species and varieties were developed to showcase the plot. The species overview videos were created using mostly footage of the demonstration plot that was planted in Nassau County. Supplemental publications and materials from the University of Florida and other land grant institutions accompanied the presentations in order to provide an all encompassing educational site for clients. The website was promoted via email and social media channels just prior to peak cool season planting dates in order to deliver timely information to the region's producers. Since publishing, the website has been viewed over 290 times and the videos have a total of 115 views. Website survey participants indicated an average satisfaction score of 4 out 5 regarding the material presented and stated an 8 out of 10 knowledge gain average. In winter of 2020 the website was updated to begin including information regarding warm season forages in preparation for the educational need arising in spring of 2021. The website can be viewed here: https://sites.google.com/ufl.edu/annual-forages

Joanna Coles
County Extension Agent for Agriculture and Natural Resources
UK Cooperative Extension Service

Coles, J.*[1], , Hildabrand, Kristin[2],
[1] County Extension Agent for Agriculture and Natural Resources, UK Cooperative Extension Service, Bowling Green, KY, 42101
[2] County Extension Agent for Horticulture, University of Kentucky Cooperative Extension Service, Bowling Green, KY, 42101

Facebook has over 2.7 billion active users and represents a huge potential for outreach for the Cooperative Extension Service. Since July of 2016, the Warren County Agriculture's Facebook page has increased its scope and interaction. The page has focused on timely agriculture and horticulture educational information, promotion of events, agriculture awareness campaigns, and recognition of local farmers. From July 2020-February 2021, Warren County Agriculture Facebook page reached 83,127 accounts and engaged 5882 people with 1920 likes and 2106 followers. Social media blue book values each post on the page at almost $10.10/post. Based on the 255 posts made this year, that is a $2 marketing value to our local extension program. In addition, to marketing value, the Facebook page has served as an outreach to non-extension users. The agents receive many questions from non-extension users through the Facebook messenger feature and some have even attended events promoted on the page.

The Facebook page link is https://www.facebook.com/warrencountyag/. The horticulture and agriculture agents are the content contributors to the site and the Warren County staff assistants help with graphic development and calculating analytics.

Zheng Wang
Vegetable Crops Farm Advisor
University of California Cooperative Extension
Stanislaus County

Wang, Z.*[1],
[1] Vegetable Crops Farm Advisor, University of California Cooperative Extension, Modesto, CA, 95358

In 2020, I hosted the Biologics Educational Webinar Series which attracted over 400 participants worldwide. However, the actual registration for the four webinars exceeded 700. Therefore, preparing recorded presentation videos and posting onto a platform that is widely accessible are necessary for those who missed the webinar to watch and participants to revisit. Currently, three out of the four webinar recordings have been posted onto our UC Cooperative Extension Stanislaus County YouTube Biologics Webinar Channel (https://www.youtube.com/playlist?list=PLCS00JbWUwgo6_X6qWaYrCUo9vVdodRbf). The recordings are publicly available and do not require a password. For each video, I included the closed captions in compliance with the ADA and UC's requirements. The raw transcripts were edited and corrected by my Student Research Assistant and Office Associate before adding to the video. In the future, this channel will be expanded with more recorded videos about biologics.

Sheriden Hansen
Extension Assistant Professor
Utah State University Extension
Davis County

Hansen, S.[1], , Gunnell, J.[2], , Goodspeed, J.L.[3], , Penman, C.[4],
[1] Extension Assistant Professor, Utah State University Extension, Kaysville, UT, 84037
[2] Extension Professor, Utah State University Extension, Logan, UT, 84321
[3] Extension Professor, Utah State University Extension, Kaysville, UT, 84037
[4] Extension Program and Communication Coordinator, Utah State University Extension, Kaysville, UT, 84037

In response to the COVID-19 pandemic, along with a dramatic increase of home gardening, the Garden Guys and Gal social media campaign was launched in April, 2020. The goal was to provide sound gardening information that was easily accessible to the public. The campaign utilized social media platforms, primarily Facebook and Instagram, to disseminate short videos on a range of gardening and horticulture topics including how to grow edible crops, trees and shrubs selection, perennial care, irrigation tips, and weed management. The information provided was tailored to the Intermountain west region. Social media posts were made available several times a week during the growing season. From April to January 2021, the program produced 471 posts. 125 of the posts were short videos, 346 were still photos with caption information and often included links to other university-based information. As of January 25, 2021, the Garden Guys and Gal social media pages are followed by 1,510 individuals on Facebook and 626 individuals on Instagram. Since April 2020, posts reached 228,270 individuals, received 7,600 likes, 908 comments, and were shared over social media platforms 829 times. Individual participants were surveyed in August, 2020 to evaluate the effectiveness of the program. Ninety-five percent of survey participants (n=81) ranked the program as "excellent" or "very good", 95% said that the videos were timely and 94% said the length was "just right".

Eighty-eight percent of respondents indicated the videos gave enough information to make informed decision and had implemented recommended practices into their own gardens.

URL (Facebook): https://www.facebook.com/gardenguysangal

URL (Instagram): https://www.instagram.com/gardenguysandgal/

State Winners

State Winner	
North Central Region	
Iowa	Jennifer Bentley
Kansas	Terry Griffin
Ohio	Ashley Kulhanek
South Dakota	Sara Bauder
Wisconsin	Sandra Stuttgen
Southern Region	
Alabama	Kimberly C. Mullenix
Arkansas	Rachel Bearden
Georgia	Hailey Robinson
Mississippi	Gary Bachman
North Carolina	Andrew Baucom
South Carolina	Karen Jackson
Tennessee	Jason de Koff
Texas	Matthew March

Learning Module/Notebook

National Winner

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1],
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The Sheep Management and Production Online Course was developed with the objective to introduce new sheep producers to concepts and practices related to sheep production. A secondary objective was to assist experienced sheep producers to improve their management skills in the areas of basic production, reproduction, nutrition, health, marketing, and financial management. The course includes reading materials, short videos to emphasize certain concepts, check your learning questions and a final check your learning quiz at the end. Course materials may be accessed by participants for 6 months after they enroll. Participants who complete the course and pass the final quiz with a 70% or greater score receive a completion certificate. Entrant wrote the course content, took most of the photos that appear in course and worked with Penn State creative services to develop and record videos and design the course layout. The course was first released in July 2020 and there have been 93 people register for the course and 35 have successfully completed the course. Instructions for how to access the course have been uploaded with the entry.

National Finalists

Tana Haugen-Brown
Extension Educator
University of MN Extension
Pesticide Safety & Environmental Education

Haugen-Brown, T.*[1], , Behnken, L.[2], , **Bugeja, S.[3],** , **Drewitz, N.[4],** , **Goplen, J.[5],** , **LaCanne, C.E.[6],** , **Nicolai, D.[7],** , **Stahl, L.A.B.[8],** , Holland, A.[9],
[1] Extension Educator & Co-Coordinator, Pesticide Safety & Environmental Education Program, University of Minnesota Extension, Andover Regional Extension Office, Andover, MN, 55304
[2] Retired Extension Educator–Crops, University of Minnesota Extension, Rochester Regional Extension Office, Rochester, MN, 55903
[3] Extension Educator - Ag Production Systems, University of Minnesota Extension, Blue Earth and Le Sueur Counties, Mankato, MN, 56002
[4] Extension Educator - Ag Production Systems, University of Minnesota Extension, Stearns, Benton, and Morrison Counties, Foley, MN, 56329
[5] Extension Educator–Crops, University of Minnesota Extension, Morris Regional Extension Office, Morris, MN, 56267
[6] Extension Educator - Ag Production Systems, University of Minnesota Extension, Rice and Steele Counties, Faribault, MN, 55021
[7] Extension Educator–Crops, University of Minnesota Extension, Farmington Regional Extension Office, Farmington, MN, 55024
[8] Extension Educator–Crops, University of Minnesota Extension, Worthington Regional Extension Office, Worthington, MN, 56171
[9] Digital Learning Designer, University of Minnesota Extension, Extension Technology, St· Paul, MN, 55108

The Private Pesticide Applicator Online Course was created with the objective of training private pesticide applicators in Minnesota to safely and responsibly apply agricultural pesticides. This training is required by the state of Minnesota

for the use of Restricted Use Pesticides. A total of 702 participants took part in this self-paced, online course in 2021. The purpose of the online recertification course was to provide applicators with an understanding of a variety of pesticide safety and pest management topics. Each module covers information that qualifies as recertification material for private pesticide applicator certification. To receive recertification credit, participants must entirely complete the honor statement, all modules and assignments, and all quizzes with 100%. The course was created by a team of eight Extension educators with help from a UMN Extension Digital Learning Designer and was designed to take 180 minutes for applicators to complete. Tana Haugen-Brown provided leadership for the course and created or co-created modules with other team members. Team members created and developed the modules using Canvas, an online learning management platform. Prior to 2021, the modules existed as PowerPoint presentations, which were then converted to content appropriate for online learning. Additional written material and expanded explanations were added to clarify points for the online learner. Quizzes were added throughout the course to check that certain learning objectives were met and that participants were understanding the material. Some course impacts to highlight: end-of-program evaluations showed that respondents in 2021 (n=430) agree to strongly agree that as a result of this workshop: 79% are *"more likely to check for endangered, threatened, or critical habitat species.";* 88% are *"more likely to follow recommended laundering procedures for pesticide contaminated clothing"* and 81% are *"more likely to calibrate my sprayer equipment."* To view course modules, resources, and quizzes, log in to the Private Pesticide Applicator Training Course by clicking the linked text or typing https://canvas.umn.edu/courses/229491 into any web browser. Once you arrive at the UMN Canvas Sign In page, enter maeapmember@gmail.com as your internet ID. Your password will be Maeap&nacaa2021!

Joy Kirkpatrick
Farm Succession Outreach Specialist
University of Wisconsin Madison Division of Extension

Kirkpatrick, J.*[1], , Jarek, K.[2], , Koepp, G.[3], , Kohlman, T.[4], , Seefeldt, L.[5], , Wagner, T.[6],
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[4] Agriculture Educator, UW-Madison Division of Extension Fond du Lac County, Fond du Lac, WI,
[5] Agriculture Educator, UW-Madison Division of Extension Eau Claire County, Altoona, WI,
[6] Farm Management Program Manager, UW-Madison Division of Extension, Black River Falls, WI,

Cultivating Your Farm's Future: *A workbook for Farm Succession Planning in Wisconsin* was developed by University of Wisconsin Madison Division of Extension educators as a companion workbook for participants in Extension's farm succession programs. The workbook was designed to be used by service professionals as they facilitate conversations around farm succession planning with their clients. The goal for the workbook was to 1. Provide ways to facilitate the necessary conversations among farm members and 2. Help farm members organize their own thoughts, goals, values, and information so meetings with their attorneys, accountants or other service providers are more efficient. It provides worksheets and checklists to help farm and family members through a three-step process: Where is the farm now? Where do you want to be? And how do you get there? The workbook content was based on information gleaned from farm succession focus groups held in summer/fall of 2017. Graphic design was provided by the UW–Madison Division of Extension Natural Resources Institute's Marketing & Communications Services. The 64-page, spiral-bound workbook was completed in September of 2019, printed by the University of Wisconsin's printing service. It was distributed to farm succession professionals in October of 2019 and used in University of Wisconsin-Madison Division of Extension's farm succession workshops and individual meetings throughout 2020 and early 2021. Approximately 100 workbooks were distributed. In February 2021, 24 professionals received an evaluation asking questions about how they used the workbook with their clients. Eleven professionals responded to the evaluation for a 46% response rate and indicated that they shared it with 40 clients. Respondents had used at least one worksheet, with 64% indicating the action steps checklists were helpful to their clients. The evaluation also asked for suggestions for improving the workbook and for additional worksheet topics. This evaluation data will be used to inform the second edition of the workbook. The second edition will be made available for download from a UW-Madison Division of Extension website. Kirkpatrick authored many of the worksheets and was the editor and project manager for the entire project, from the focus group, development, design, distribution, and evaluation.

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

Halbritter, A.*[1],
[1] Agriculture & Natural Resources Agent, UF/IFAS Baker County Extension, Macclenny, FL, 32063

Backyard Poultry Basics was developed to fulfil an educational need for north east Florida extension clientele. Three cities in north east Florida require an extension backyard poultry course in order for residents to obtain a permit to have chickens. However, with an empty agent position in the prominent county and a pandemic preventing in-person instruction there was limited opportunity available. An online learning module was developed utilizing the in-person instructional presentation in order to help clientele meet the educational requirement and earn the ability to own chickens at their residence. This thirteen part module educates participates on all aspects of owning chickens, including raising chicks, housing, nutrition, breeds, disease management, and interesting topics like incubating eggs. The course is completed at their own pace and generally takes approximately two hours to finish. Self-paced instruction was a crucial part of making the course as available as possible to all clientele. Utilizing a new online course host for the University of Florida was an important milestone as this course was the first county level extension program to be hosted on Canvas. The use of Canvas was important for the modules development as program surveys and educational quizzes were required tasks for each participant, allowing for the accumulation of important data for the extension agent regarding outcomes and impacts. Since publication in April of 2020 the course has had 89 enrollments, generating $1,335 in program revenue. Surveys indicate between 94% and 100% of users increased their knowledge of poultry production, chicken breeds, basic management, nutrition, and egg production. 82% of respondents intended to start raising poultry and 32% stated an intention to change current poultry production practices. Follow up surveys completed by 13 participants indicated 77% acquired chickens after the course, generated approximately $12,800 in feed sales for the local community and an additional $4,200 in coop building materials according to the survey. Participants of the course will save an estimated total of $14,800 on egg costs as a result of the course (average 5 chickens each participant producing over 80 dozen a year at $2/dozen).

Log-in information

https://ifas.instructure.com/courses/172

Username: a.halbritter1221@gmail.com

Password: NACAA2021

Regional Finalists

Amy Timmerman
Extension Educator
University of Nebraska-Lincoln
Holt

Timmerman, A.*[1], , Giesler, L.[2], , **Glewen, K.[3],** , Jahla, A.[4], , **Nygren, A.[5],** , **Seymour, R.[6],** , Shapiro, C.[7], , **VanDeWalle, B.[8],**
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[3] Extension Educator, University of Nebraska, Ithaca, NE, 68033
[4] Associate Professor, University of Nebraska, Lincoln, NE, 68583
[5] Extension Educator, University of Nebraska, Schuyler, NE, 68661
[6] Extension Educator, University of Nebraska, Hastings, NE, 68902
[7] Emeritus Professor, University of Nebraska, Concord, NE, 68728
[8] Extension Educator, University of Nebraska, Geneva, NE, 68361

Today's youth adapt rapidly to the ever-changing world, crave change and challenges, are global in perspective and are constantly creating things. These are the attributes that will move agricultural production forward if we ensure that our youth are actively engaged. With proper mentoring, youth can explore numerous career opportunities in the agronomy industry and on their own farms. Nebraska has offered youth the opportunity to compete as a team in the Youth Crop Scouting Competition at a state and regional level. The youth showcase their ability to identify weeds, herbicide injury, insects, diseases and various production complications (i.e. planting depth – too deep/shallow, etc.).

Youth use various extension publications from University of Nebraska, Iowa State University and Purdue. However, there was not an interactive on-line tool that explored all aspects of soybean production, herbicide injury and pest management. The Soybean Management Guide (https://cropwatch.unl.edu/soybean-management/introduction) was developed to allow youth the option to explore deeper in topics of interest and engage youth with visual, auditory and reading learners.

Information is divided into: History, Soil & Nutrients, Plant Disease, Insects and Weeds. To meet the needs of visual learners, there is animation of subject matter coming onto the page, important topics are highlighted in larger text and color, incorporation of several photos and lastly quick facts are in individual boxes. Several YouTube videos from

University and industry partners are strategically placed throughout the sections to accommodate the auditory learners. Example of videos include “Soybean Aphid Speed Scouting – How To?” and “Scouting Soybean Aphids” the conventional way.

The members of this team contributed 100% of the content of the final product with the lead author contributing 50% of the content.

Natalie Bumgarner
State Specialist
UT Extension
Knox/Eastern

Bumgarner, N.*[1], , **Duncan, A.[2],** , Mote, M.[3], , **Painter, R.[4],** , **Rose, M.[5],** , **Scott, C.[6],** , Upchurch, W.[7],
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[2] , TSU Extension, Manchester, TN, 37355
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[4] , UT Extension, Murfreesboro, TN, 37129
[5] , UT Extension, Greeneville, TN, 37745
[6] , UT Extension, Jackson, TN, 38305
[7] , UT Extension, Crossville, TN, 38557

The Tennessee Extension Master Gardener (TEMG) program has over 2,600 active volunteers and trains around 500 interns who become a part of the program annually. Typically, this intern training experience, which consists of 40 hours of instruction and 40 hours of volunteer service, is conducted in person by the county Extension agent coordinator of the program. However, the COVID-19 pandemic has disrupted the ability of local county offices to conduct in-person trainings. So, for spring 2021, a statewide collaborative distance intern training program is being conducted. This program will include live zoom webinar sessions taught by agents and specialists as well as a suite of course material designed to provide additional engagement and education outside of the live class sessions. Existing web platforms and pages did not provide an easy access site for volunteers, so a new Google website was designed specifically for the 2021 intern training program. This site provides a clean and appealing interface for new EMG interns and a simplicity that is disarming even for relative technology novices. From the main page, participants can select the training topic and week from either a side dropdown panel or from a picture icon in the center of the page. Either of these selections will take them to one of 13 subpages that contains all the information and resources for each of the 13 training weeks. For each week, a checklist provides access to the live training link, training handbook chapters and all supplemental material. These resources include videos designed to go along with live teaching as well as Extension publications and an integrated Google form study guide quiz that provides answers and handbook page numbers to each question to support learning. All videos and publications as well as quizzes are embedded in the site for ease of use and viewing. This TEMG intern training website has been a crucial part of the success of the distance training program and will support new volunteers during their training and as a resource site with valuable content even after their training is completed.

Edward Olsen
Extension Agent
Virginia Cooperative Extension
Henrico County

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[3] Extension Agent, Virginia Cooperative Extension, Richmond, VA, 23223
[4] Associate Extension Agent, Virginia Cooperative Extension, Goochland, VA, 23063
[5] Associate Extension Agent, Virginia Cooperative Extension, Chesterfield, VA, 23832
[6] Volunteer Coordinator, Virginia Cooperative Extension, Ashland, VA, 23005
[7] Horticulture Technician, Virginia Cooperative Extension, Henrico, VA, 23228
[8] Volunteer Coordinator, Virginia Cooperative Extension, Chesterfield, VA, 23832

In the summer of 2020, the extension agents in five Virginia Cooperative Extension (VCE) units realized that COVID-19 restrictions would disrupt the traditional, in-person training for new Extension Master Gardeners (EMGs). To overcome this, the Richmond City, Henrico, Hanover, Goochland/Powhatan and Chesterfield units came together to collaboratively plan a virtual Winter 2021 EMG Training. Traditionally, these five units conduct individual EMG trainings; however, in adopting a virtual model, they were able to combine their efforts in one program. The RVA Regional Master Gardener training program resulted. The program was administered through an on-line course created in the Canvas learning management system. Each unit had their own section to deliver any unit specific content. The training ran from January to March 2021 on Mondays, Tuesdays and Thursdays. On Mondays and Tuesdays, all 5 units participated in joint lessons presented via Zoom. The Thursday sessions were unit specific; each unit presented a program via Zoom on a topic that supported the work of the individual unit. In addition to the agents from all of the units,

three support staff were part of the group administering the program. By presenting the program virtually, the group was able to instruct 76 EMG Trainees and access a diverse set of instructors from across the Commonwealth. Other VCE agents were invited to teach, as were Extension Specialists housed at the two VCE Land Grant Universities, Virginia Tech and Virginia State University, and the Hampton Roads Agriculture Research Extension Center. All trainings were recorded via the Kaltura platform and stored on the Canvas site. Thus, trainees who were not able to attend the live Zoom presentation could watch the recording at their convenience. Additionally, they will be able to go back and review the content at a later date.

URL: https://profdev-lms.tlos.vt.edu/courses/1808

Jason Turner
Extension Horse Specialist
NMSU
NM

Turner, J.[1], , Oates, A.E.[2],
[1] Extension Horse Specialist, NMSU, Las Cruces, NM, 88003
[2] Horse Judging Team Coach, Clarendon College, Clarendon, TX, 79226

This learning module submission was prepared for the specific purpose of teaching the "Judging Western Pleasure" segment of the 2021 TexMex Horse Judging Clinic held virtually on Zoom on March 6, 2021, by the New Mexico State University (NMSU) Cooperative Extension Service (CES) Horse Specialist and the Horse Judging Team Coach at Clarendon College (CC). The specialist began in December 2020 by recording video with an Apple, Inc. iPad of horses completing western pleasure class requirements at a horse training operation in New Mexico. The raw footage was edited in January and February 2021, using Filmora X video editing software from Wondershare. The specialist then shared the final video with the coach at CC who prepared the official class placing, cuts, questions, and a sample set of reasons on the class. The final "Western Pleasure" video was uploaded to CC YouTube Channel where registered participants of the clinic were emailed an unlisted link to the video so they could access and view the high quality video necessary for the judging evaluation on the morning of the clinic. The coach from CC also prepared the PowerPoint presentation "Western Pleasure" that was used to instruct participants on the judging criteria for western pleasure prior to judging the practice video class. After this segment of the clinic was complete, pdf files of the PowerPoint presentation, class questions and answers, and the sample reasons were emailed to the registered clinic participants to supplement what they learned in the virtual clinic. The pdf files of the PowerPoint, class questions and answers, official placing, cuts, and sample reasons are attached to the abstract, and the YouTube link to access the video component of the submission is: https://youtu.be/V1Ug8B4zNHE

Andrea Stith
Horticulture and Master Gardener Coordinator
Oregon State University Extension Service
Wasco County

Locher, L.*[1], , **Stith, A.*[2],**
[1] Master Gardener Outreach Coordinator, Oregon State University Extension Service, Corvallis, OR, 97331
[2] Horticulture and Master Gardener Coordinator, Oregon State University Extension Service, The Dalles, OR, 97058

Due to COVID-19, training for new Extension Master Gardener volunteers was put on hold, and we pivoted to providing training to existing Master Gardener volunteers to support transitioning their excellent in-person skills to on-line skills. We identified social media as a prime opportunity to deliver garden education content, and developed this course to demonstrate how several different social media platforms can elevate and amplify their local chapter work, and deliver education. The course was designed for those familiar with the basics of social media, we introduced them to more advanced tools and techniques in Facebook and Instagram. Using the Thinkific Online Course Platform we created 7 chapters, 29 lessons, incorporating videos and live lectures, and written content. We incorporated two guest speakers and alternated who appeared in videos to keep the learners engaged. This course was part of a statewide continuing education push and all Oregon Master Gardener volunteers were invited to attend. The class was advertised by all county coordinators and publicized on the Statewide Master Gardener blog. We had 191 volunteers across the state register for the class. Feedback has been overwhelmingly positive with 100% stating they would recommend it to their peers and are doing so. One participant stated, "It was relevant with content that I can immediately put into use." From this course we have also hosted a live Zoom check in for idea sharing and created a Facebook group to help connect participants for networking and continued learning. We have already seen an increase in social media success from some of our participants. A few groups that had not branched into Instagram have now done so. We hope to continue to see more positive outcomes from our participants for years to come. To register follow this link: https://envisionextension.thinkific.com/courses/Social-Media.

State Winners

State Winner	
Southern Region	
Arkansas	Rachel Bearden
Kentucky	Jason Phillips & Adam Huber
Mississippi	Brady Self
South Carolina	Mallory Dailey

Bound Book/eBook

National Winner

Bonnie Hopkins Byers
County Extension Agent/Agriculture
New Mexico State University
San Juan County

Hopkins Byers, B.*[1], , Havens, Erin[2], , Ritz, Megan[3], , May, Melissa[4],
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[2] Project Manager, The Harvest Food Hub, San Juan College, Farmington, NM, 87402
[4] San Juan Soil and Water Conservation District

The Northwest New Mexico Local Food Guide was created by the NWNM Buy Fresh Buy Local Chapter to educate the community about local food system developments, access opportunities, agricultural operations and community health. The guide was intended to be used as a resource for community members to learn about the legacy of agriculture in the region, as well as to develop a deeper appreciation for the farmers and ranchers. As our community shifts from rural to urban, there is a disconnect in our food system, a gap this guide aimed to reduce through a carefully selected list of publications and personal stories. The guide encourages community members to choose to buy locally grown products, which in turn supports local families, building our local economy and a healthy food system. The guide was a collaborative effort between the San Juan County Extension Agent, San Juan College and the San Juan Soil and Water Conservation District. The Agent assisted in collecting farmer stories and information, contributed articles to the 25 page resource, assisted in editing and distributing the guide. The cover of the book was designed by a local artist to showcase the beauty of the region, and the unique agricultural attributes of the community. Over 6,000 printed publications were distributed at local Farmers Markets, restaurants and agency offices in San Juan County in 2020. The online document has been viewed over 1,000 times.

https://www.buyfreshbuylocalnwnm.org/images/Local-Food-Guide-pdf.pdf

National Finalists

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

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Increasing interest in homegrown food has been driving many extension efforts over the last decade, including the topic of backyard chickens. 'Raising Backyard Chickens for Eggs' was a publication originally written in April 2010 and was updated by county agents in 2019. The University of Florida IFAS Bookstore approached the authors in 2020 regarding developing a printed book with expanded photos, illustrations, and additional resources. The objective of the book is to educate potential chicken owners on the nuances of purchasing, raising, and maintaining a backyard flock for eggs. Chapters and topics build upon the free publication available and offer more visual aspects. The authors contributed almost all photos and illustrations in the book while UF/IFAS Communications developed the graphic design and layout of the book itself. Often chickens are purchased haphazardly in a feed store because the chicks are cute, however this can lead to problems with the flock. Promoting education of backyard chicken owners can improve animal welfare in regards to housing space and available nutrition but also has a positive economic impact on feed and coop sales in the community, and cost savings on commercial eggs for the owners. The average flock of 5 hens will generate $145/year feed sales (.25lb feed/chicken/day @ $16/50lb bag of feed) and the owner will save over $170 on egg purchases/year (1,000 eggs/year @ $2/dozen). Cost savings could further increase if the owners typically purchased more expensive niche eggs like organic, GMO free, or cage free brands in the grocery store. In addition, a successful backyard flock allows beginning farmers and food entrepreneurs to take advantage of the Florida Limited Egg & Poultry License to sustain their flock by selling eggs or starting a small business. 44 copies of the book have been purchased, generating over $238 in revenue for the University and a potential of $6,400 in economic opportunity for the local communities based on predicted feed sales.

The sale link can be seen here: http://ifasbooks.ifas.ufl.edu/p-1545-raising-backyard-chickens-for-eggs.aspx

Along with the hard copy provided to the judges.

Anthony Carver
County Director & Ext Agent III
UT Extension
Grainger

Carver, A.*[1],
[1] County Director & Ext Agent III, UT Extension, Rutledge, TN, 37861

This book's purpose was to give beef farmers a quick and easy way to keep records on the farm. Farmers are extremely busy in the day to day activities. When they come in from the field they want to relax their body and mind. The pocket size record book was designed specially to carry with them as they go about their daily routine. When farmers wait until the end of the day to write something down, they most likely forget some important information. We all know with better records, better production decisions can be made for the future. I then began designing a record book to meet the needs of general records. I included a gestation table, head count (over time), bull records, cow data (60 head) and calves produced from cow, steer/heifer grouping, sale data, expensive sheet, and capital purchases. I realized that farmers also needed good education about specific topics. I then included EPD's Made Easy, Better Bulls=More Profit, How to Measure your Herd Tool, Hay/Pasture Fertility, Summer-Time Forage Options, Weed Control, Calibrating Sprayers, Rotational Grazing, Pasture Monitoring Sheet, and Weights/Measurements. After designing the book as best I could, I realized I would need help from the local print shop. I let the shop quote an at cost price (beef farmer and loved the idea). I reached out to Farm Credit, Farm Bureau, local Cattlemen's Association, and Cattle Market Mobile. With the help of our sponsors, 125 copies were produced. I held a Drive-In radio tune in class January 7, 2021 which I handed out 85 copies and explained how to use the new book. I have the other copies at the office for pick up to new farmers or replacements. Farmers have given great feedback. They love the handiness of use and great information at their fingertips. The following quotes are from farmers: "This is great, exactly what everyone needs to be doing. I use it everyday. Super job. I needed this. Great idea. This is so helpful!"

Marion S. Murray
Integrated Pest Management Specialist
Utah State University Extension

Murray, M.S.*[1],
[1] Integrated Pest Management Specialist, Utah State University Extension, Logan, UT, 84322

This book arose from a request by Utah's nursery industry for assistance in how to use biological control for managing pests. While biocontrol minimizes human exposure to pesticides and creates a niche market for producers, it requires a great deal of education and time. After completing the first edition of *Greenhouse Biocontrol in Utah: Beneficial Insects and the Pests they Target* in 2018, we used it to complement our demonstrations and hands-on training of 49 greenhouse operations. The book and the extended outreach helped 10% of them to successfully adopt a full biocontrol program, and 75% to use biocontrol for at least one pest. These adopters reported that their costs did not increase, and they reduced pesticide use by 45%.

The 100-page, pocket-sized book was recently updated in 2020 and includes concise instructions for releasing and maintaining biocontrol agents in Utah greenhouses. It is written in easy-to-understand language with identifiable headings, and now includes hand-drawn illustrations, color-coded pages, and multiple full-color images for each pest or beneficial (over 150 images in total). The book was written and compiled by Marion Murray and the recent update is posted on our website for free access. While over 100 copies were delivered by mail (due to COVID-19) to greenhouse operations in 2020-21, we plan to distribute an addition 500 more copies at live trade shows and Extension events, when appropriate.

Regional Finalists

Neith Grace Little
Extension Educator
University of Maryland Extension
Baltimore City

Little, N.G.[1], , Rush Lynch, K.[2], , **Johnson, D.[3],** , Cook, N.[4], , **Myers, G.[5],**
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[3] Farm Management Extension Specialist, University of Maryland Extension, WMREC, Keedysville, MD, 21756
[4] Agricultural Law Specialist, University of Maryland Eastern Shore, ALEI, Princess Anne, MD, 21853
[5] Agricultural Marketing Specialist, University of Maryland Extension, WMREC, Keedysville, MD, 21756

This book was published in 2019, and over 250 hard-copies were distributed, with funding from Northeast Extension Risk Management. In 2020, hardcopies were reprinted in 2020, and distributed to participants in the winter 2021 Maryland Beginning Farmer Success online course, and in

a workforce development program with non-profit partner Intersection of Change. A digital version is available online at https://go.umd.edu/urbanagguide

Jan Yingling
CEA-Agriculture
University of Arkansas Cooperative Extension Servi
AR

Yingling, J.*[1], , Haller, Brian[2], , Heck, Amy[3], , Sanders, Sherri[4],
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The purpose of this bound book was to report all the findings from the agricultural demonstrations conducted by the county extension agents of the White County Cooperative Extension Service. The demonstrations provide experiential learning for the agent and cooperator to take research-based recommendations and apply them to their own farms or home settings. The demonstrations were performed, and firsthand knowledge was gained by each cooperator that the demonstration was completed with, but we believe that that information needed to be shared with all the producers & stakeholders across our county. The experience and knowledge gained was invaluable to the producers in our county. The county extension agents worked alongside producers, homeowners, Extension Specialists, and peers to complete the demonstrations included in the book. The different sections of the book were compiled and written by the respective agent responsible for that subject matter area. The compiling of data and photos, printing, and bounding was completed by the agents in the office. The printing of the color cover page and the back cover page was printed by our state office printing shop. The book was delivered to our clientele in several ways: mailed, delivered to farm shops, distributed at clientele meetings, emailed, and posted on social media pages. There were 80 hard copies printed and bound. The book has been sent electronically, to 2,274 people on 6 different newsletter mailing lists. The educational contacts for this book were 91,583 people on the Facebook and Twitter social media platforms.

State Winners

State Winner	
Southern Region	
Kentucky	Kristin G Hildabrand

NACAA Member Presentations

2021 NACAA

106th
Annual Meeting
and
Professional Improvement Conference

Virtual

4-H & Youth

CASE STUDIES FROM NEVADA AND WYOMING: BEEKEEPING CLUBS AT LOCAL AND STATE LEVELS FOR 4-H YOUTH AND COMMUNITY

Presenter: Chichester PhD, L. M., Extension Educator, University Of Nevada, Reno Extension, Gardnerville, NV 89410

Beekeeping and pollinators serve a very important role in agricultural and food systems. Not only by increasing productivity of agriculture and horticulture spaces, but also by providing pollination for one third of the food we eat. Throughout the COVID pandemic we have seen an increase in the number of people wanting to learn how to be more self-sufficient and gain the knowledge of producing their own food, which includes an interest in honey bees and pollinators. Extension educators will share case studies about why they developed their beekeeping programs and how they are working with both 4-H clubs and their communities to increase learning opportunities about honey bees. To fully embrace the 4-H motto, “Learn by Doing”, the youth and community members focus on hands-on collaboration with Extension sponsored apiaries and have numerous opportunities to put on a beekeeping suit and work in the hives. At the University of Nevada, Reno - Extension, 4-H beekeeping is recognized as a state project, where at the University of Wyoming Extension, 4-H currently does not recognize beekeeping as a project, but it is a self-determined project. The goal is to recognize beekeeping as a project within Wyoming 4-H through increased participation across the state. Youth and community members are learning side-by-side apiary management through all seasons, including decision making in regard to disease and pest management, honey bee nutrition, and cost of production. Youth are responsible for completing record books noting their leadership opportunities, expense/income analysis, community service, and career exploration. Community members are mentoring 4-H youth and other likeminded individuals through local beekeeping clubs and field days. We will explore the marketing, labeling, and selling of honey; working with state and local agriculture inspectors and agencies; as well as discuss value-added products like beeswax, lotion bars, lip balm, repurposed hive ware, art, jewelry, and more. This presentation will also cover creative ways to engage in outreach and education (even during a pandemic), which includes the creation of an educational hive and a virtual beginning beekeeping class.

RAISING YOUR MARKET ANIMAL, A VIRTUAL CAMP

Presenters: Bainum, C. L., Livestock Extension Agent, University Of Florida, Ocala, FL 34470
Cannon, E., 4H Youth Development Extension Agent, University Of Florida, Ocala, FL 34470

When all Extension events came to a screeching halt due to the novel Coronavirus pandemic last spring, there were still needs to be met by Extension clientele, even our 4H youth. In-person 4H events and camps were canceled indefinitely leaving many youth without the engagement of UF/IFAS 4H programs for the summer. Extension stepped in with a virtual market animal camp, where we spent five days going through the process of raising a market animal project for youth fairs. The main objective of this program was to provide education to novice showman and other youth interested in raising a market animal project for the first time. There was a day devoted to each market animal specie and the selection, nutrition, and health management involved in raising that animal for a youth livestock project. The final day of the camp focused on showmanship techniques, what a judge is looking for in the show ring, and proper animal ethics procedures. The teaching method used was Google Suite to create a power point for each day of the camp. Camp was one hour each day, Monday through Friday. Two guest speakers from other land grant universities gave lectures on their market animal of expertise. Seven youth attended this camp for its entirety from 4 Florida counties, with 100% indicating an increase in knowledge of necessary care and management of market animals. Each of those seven youth successfully showed at least one market animal project in the 2021 youth fairs they were involved in.

TEACHING KIDS BEEF QUALITY ASSURANCE PRACTICES WITH ENGAGING AND HANDS-ON ACTIVITIES

Presenter: Butler, L.D, County Extension Director/ Livestock Agent, UF/IFAS, Okeechobee, FL 34972

Beef Quality Assurance (BQA) is a nationwide program that provides education and certification on beef cattle animal husbandry techniques supported by scientific principles. The goal of the program is to increase consistency throughout the beef industry in terms of animal handling, welfare, record keeping and cattle health so as to yield a consistent product consumers can feel confident about. This program has traditionally been presented to adults with little room for the youth of the industry to learn the complex logic behind the techniques. This year I modified the program to make it appropriate for kids to attend and learn the concepts with interactive teaching methods. To accomplish this goal the program was divided into age-appropriate groups. During the hands-on demonstration,

live cattle were used with a hydraulic squeeze chute to show proper techniques to handle cattle with the least amount of stress. The demonstrations also included proper locations of vaccinations, how to humanely castrate, and general anatomy. I utilized new teaching technology with the NearPod app. This app allows the participants to not only view the presentation on their phone, but also answer polls and surveys during the presentation. I also had activities that led to the "ah-ha" moment for kids to more easily understand complex concepts. For example, the activity "Biosecurity" where we used baking soda, flour and vinegar to demonstrate the concept of viruses transferring from one farm to another was particularly successful. Based on the post reflective survey 51 participants indicated at 46% increase in knowledge. The 30 youth that attended expressed their enjoyment of the day in words and on the survey, but it was also evident because they stayed engaged. Their questions throughout the day were higher level. The discussions were also sincere and respectful. By consistently applying learned concepts of the BQA program to reduce carcass defects producers could potentially increase their carcass value by 10%. This statistic is according to the National Beef Quality Assurance audit.

4-H VETERINARY SCIENCE PROGRAM

Presenter: Bearden, R., Cea - Agriculture, Uofa Division of Agriculture Research & Extension, Malvern, AR 72104

The purpose of this educational program is to increase the understanding of veterinary science and related careers for senior 4-H members by providing curriculum based education with hands on demonstrations, field trips, and mentor partnerships. Veterinary schools have one of the lowest rates of acceptance across professional schools, especially for out of state students. In Arkansas, without a veterinary school, our 4-H members need every chance they can to set themselves apart. This program offers that opportunity. This project based 4-H club meets monthly with the county agent to work through the curriculum textbook. Once 4-Hers have completed a year in the program and they are 16, they are paired with a veterinarian or veterinary technician as a mentor. We also take several field trips to tour different animal health facilities and explore careers. This presentation would walk through our program, and provide a package other county agents could implement in their programs.

AG EXPLORATION: PROVIDING HANDS-ON LEARNING OPPORTUNITIES AND CAREER EXPLORIATION FOR AREA HIGH SCHOOL STUDENTS

Presenter: Vittetoe, R., Extension Field Agronomist, Iowa State University Extension, Washington, IA 52353

According to the United States Department of Agriculture, the agricultural sector of the economy can offer a variety of career opportunities for high school and college graduates. In 2015, it was estimated that over the next five years, the agriculture sector of the economy was expected to see nearly 60,000 average annual job openings for graduates with bachelor's or higher degrees in agriculture areas. However, only 61% of those annual jobs are being filled with graduates with agricultural related degrees. For students interested in pursuing a career in agriculture, there are many opportunities. Additionally, during ag advisory meetings held in southeast Iowa as a needs assessment, youth ag education and getting young people interested in either coming back to the farm or involved in agriculture were key challenges and opportunities brought up.

Consequently, a planning committee comprised of Iowa State University Agriculture and Natural Resources field specialists, research farm staff, and 4-H and youth specialists was formed to plan and implement a youth Ag Exploration Day to be hosted at the Southeast Research and Demonstration Farm. The goals for the event were to 1) engage students in hands-on learning, 2) get students excited to enter agriculture as a career, and 3) teach students skills they can take home and use. In 2019, an in-person event was held, and there were 130+ students who participated in the event. Students rotated through eight stations, which featured different topics and hands-on learning activities. Students also had the opportunity to participate in a mini college fair and network over lunch with local agribusinesses. In 2020, due to COVID-19, modifications were made to Ag Exploration Day and schools were invited to receive an "Ag Exploration in a Box" kit that included five hands-on lessons as well as opportunities for students to participate in a virtual career mixer and college fair. Learn more about Ag Exploration Day and Ag Exploration in a Box and how you can implement this type of interdisciplinary programming in your state.

PIVOTING CROP COMPETITIONS FROM AN IN-PERSON TO VIRTUAL FORMAT

Presenter: Vandewalle, B., Ext.Educator, Ne Extension, Geneva, NE 68361

For six years, the Nebraska Youth Crop Scouting Competition (YCSC) has reached 19 teams and 79 youth with in-person programming. It has grown regionally from 3 states to 5 states. In 2019, twenty-eight youth learned about crop scouting and principles of integrated pest management (IPM) for corn and soybeans in Nebraska. Follow-up survey results showed that 83% of youth learned about a new career option and 100% learned crop scouting procedures and how to accurately identify pest species.

As one might expect, in 2020, everything went virtual with the COVID-19 pandemic. Nebraska Extension pivoted to not only judge a revised online contest format, but also provided two “Ask an Agronomist” sessions. These sessions allowed youth the opportunity to learn more about the content that would be asked during the competition, as well as the opportunity to ask any questions in preparation for the event.

Pivoting online, Nebraska took the lead in providing a regional contest between extension professionals in Nebraska, Iowa, Minnesota and Kentucky for six teams from KY, NE, MN and IA. Utilizing zoom breakout rooms, Kahoot and google docs, this same format is planned for a 2021 regional Youth Crop Scouting Competition.

ATTRACTING THE NEXT GENERATION OF AGRONOMISTS AND AG SCIENTISTS

Presenter: Burdine, B., Extension Agronomy Specialist, Mississippi State University, Tupelo, MS 38803

A trio state-wide projects were initiated in 2019 to develop and foster interest in agronomy, ag science and related fields. The 4-H office appreciates the ‘STEM’ nature of the projects. This program has three separate but related components: 1. Agronomy Day Camp - hosted on experiment stations and youth receive classroom and field training; 2. Agronomy Bowl - 4-H youth compete in a speed competition with questions from any disciplines needed in row crop production; 3. Science Experiment Contest - youth are provided all necessary supplies and allowed to be the “Scientist”. Youth develop their hypothesis, research protocol, conduct experiment, reach conclusion, and submit final report. Winners in each age category receive prizes for their efforts. Interest is high in each project and 82 youth conducted experiments in year 1 (2020). This new program is attracting youth toward agricultural careers whom earlier had no Extension project offerings in row crop production or plant science. Funding is provided through grants from the Mississippi Soybean Promotion Board.

YOUTH EDUCATION DURING COVID-19

Presenter: Aufdenberg, D., Field Specialist In Horticulture, Cape Girardeau County, Jackson, MO 63755

In 2020, COVID-19 limited family travel and activities outside of the home. Families turned to gardening and outdoor activities to keep youth active and engaged with the added benefit of growing their own vegetables. After requests from clients and Extension colleagues, I developed one-page guides on various gardening ideas, craft projects, and gardening techniques for youth. These guides provided a way to maintain contact with the public and send out gardening information when we were under stay-at-home orders. It was an opportunity to reach audiences, including underserved audiences, in a way I had not reached them in the past. The guides were sent to families in weekly packets in several counties, published in monthly garden newsletters, emailed to individuals, and posted on social media across the state. The guides were also posted on the Missouri 4-H website where resources are housed and available to 4-H families. Topics for guides include: making seed tapes, starting seeds in pots, cut-flower garden, how to take plant cuttings, butterfly gardening, regrowing vegetable from scraps, three sisters garden, drying flowers, growing sunflowers, fall gardening, crafts with dried flowers, soup can luminaries, raising monarch caterpillars, and raising swallowtail caterpillars. Guides were sent to over 4,000 families through regular U.S. mail, published in monthly garden newsletters reaching 1,385 readers, viewed over 3,000 times on social media and were shared many times over with friends, family, and co-workers. 182 families shared that they completed the activities. Families reported an increase in time spent as a family, increase in outdoor activity, increase in youth physical activity, increase in pollinators on their property, an increase in growing vegetables, and an increase in vegetable consumption in the family.

WEEDS AND GRASS IDENTIFICATION PROGRAMMING FOR 4-H YOUTH

Presenter: Sivits, S. A., Extension Educator, University of Nebraska-Lincoln, Lexington, NE 68850

Fewer youth in 4-H are growing up on farms or in rural areas and therefore do not participate in plant science or agricultural related projects. As a result, youth are more removed from agriculture and may not be able to identify which plants are beneficial and which ones are considered a weed. The purpose of this program was to engage 4-H youth in identifying weeds and grasses in Nebraska and encourage them to consider a career in agriculture. Since 2016, 4-H youth (n=12) in south central Nebraska participated in workshops and practices to prepare for the Nebraska State Fair Weeds & Grass Identification Contest. Youth participated in weed walks, pre-/post-tests, and mock competitions to prepare for contest each year. Curriculum and study materials were also developed for participants to use in preparation for contest including flashcards, PowerPoint presentations, and study worksheets. From 2016-2020, pre-/post-tests demonstrated a 95% increase in knowledge about weeds and grasses by attending practices. During this time, 4-H youth earned 22 individual awards and 8 team awards while competing at the Nebraska State Fair. Youth were surveyed in 2019 to determine the impact of participating in Weeds & Grass ID practices and contests since 2016 (n=10; 91% response rate). Results indicated a 95% increase in knowledge about weeds and grass identification by participating in this program over time. When youth were asked how they plan to use what they learned by participating in this program, top responses included: gardening, FFA contests, Range Judging, farming, and yard/lawn care. When asked if youth had thought about a career in plant science because of this program, 20% of respondents said “yes” with 100% of those respondents showing interest in herbicide technology. This program will be offered in the future.

CAREER AND WORKFORCE READINESS THROUGH COLLABORATIVE SMALL RUMINANT APPLIED RESEARCH 4-H PROGRAMS

Presenter: Travis, A., 4-HExtension Educator, University Of Maryland Extension, Boonsboro, MD 21713

The summer of 2018 was the first year for the University of Maryland Extension (UME) 4-H Small Ruminant Research Academy at the University of Maryland’s Western Maryland Research and Education Center (WMREC), and the summer of 2019 was the first year for the UME 4-H Entrepreneurship Program. These two programs were developed to meet the growing need of college and workforce readiness skills in youth. Both of these programs utilize an applied small ruminant research project that is being conducted at WMREC each summer. The 4-H Small Ruminant Research Academy gives youth ages 16-18 the opportunity to observe and learn about applied research and careers within the field of applied research. The 4-H Entrepreneurship Program exposed youth ages 14-18 to animal science focused entrepreneurship by giving them the opportunity to build a small business selling sheep pelts from the lambs that were used in the research study at WMREC.

YOUTH BIOSECURITY EDUCATION COMMUNITY CONVERSATIONS

Presenters: Greene, B., Extension Equine Specialist, University of Arizona Cooperative Extension, Tucson, AZ 85721
Smith, J.M., Associate Professor, University of Vermont, Burlington, VT 05405
Hiney, K., Extension Horse Specialist, Oklahoma State University, Stillwater, OK 74078
Cummings, J., Web Designer, University of Vermont, Burlington, VT 05405
Kerr, S., Professor Emerita, Washington State University, Mount Vernon, WA 98273

Farm biosecurity is the practice of preventing or greatly reducing the introduction of diseases and pests, and is a whole farm approach for assessing, prioritizing, and addressing the risks to herd/flock health. In October/November 2020, a series of five webinars were held to engage youth in topics which can directly impact them and/or their show or project animals. National experts including veterinarians, epidemiologists, extension specialists, fair and show management, educators, and state and national pork organizations were brought to examine biosecurity risks from the perspective of all aspects and audiences at the exhibitions or at home (e.g. show management, exhibitor, visitor, animals returning home, etc.). These “Biosecurity Community Conversations’’ also highlighted online educational resources available for educators in a variety of settings from 4-H projects, FFA programs, to other high school agriculture programs through the Healthy Farms Healthy Agriculture (HFHA) website. Webinar topics covered HFHA Biosecurity Learning Modules, local and national swine disease outbreaks, youth and livestock risks at the fair/show and upon returning home, the new SCRUB (Science Creates Real Understanding of Biosecurity) hands-on learning laboratories, and finally, biosecurity and zoonotic disease prevention for farm animals and humans. All webinars were recorded and are available online (healthyagriculture.org). Each Community Conversation averaged 38 participants, and feedback was positive. When asked for an important

takeaway, respondents stated “Delivering biosecurity in an engaging manner in order to help youth understand the importance and need in implementing a good biosecurity program with their livestock projects” and “the learning modules will be perfect for some of our older 4H kids!”. Overall, these webinars were very successful and brought important biosecurity content/resource and youth/leaders together.

Agricultural Economics & Community Development

FARM OFFICE LIVE – HELPING OHIO FARMS & AGRIBUSINESS NAVIGATE THE CORONAVIRUS PANDEMIC

Presenters: Marrison, D. L., Associate Professor, The Ohio State University, Coshocton, OH 43812
Hall, Peggy, Associate Professor, The Ohio State University, Marysville, OH 43040
Shoemaker, Dianne, Associate Professor, The Ohio State University, Canfield, OH 44406
Ward, Barry, Assistant Professor, The Ohio State University, Columbus, OH 43210
Brown, Ben, Senior Research Associate, University of Missouri, Columbia, MO 65211

In response to the coronavirus pandemic, the OSU Extension Farm Office Team quickly pivoted from in-person programming efforts to a virtual platform featuring the Farm Office Live webinar series. Using the Zoom® platform, the first webinar was held on April 6, 2020 with additional programs offered weekly through the height of the pandemic. During 90 minute webinars, the team helped producers navigate the federal and state assistance programs initiated in response to the pandemic. To date, 12 webinars have been held with 593 participants with an additional 426 people watching the on-line recordings posted on YouTube®. In addition, the Farm Office web page which includes recordings, powerpoints and references for each session received 2,852 total views. Live participants included, industry professionals (47%), crop and livestock producers (33%), and Extension professionals (20%). Eighty-seven percent of the attendees reported they felt more knowledgeable about the issues facing the Ohio agricultural industry and 65% reported they would take some sort of action as a result of the webinar. One participant remarked on the post program survey, “To all presenters I thoroughly enjoyed the webinar and will definitely be registered next Monday. Some of our government officials should observe what real leaders do in the CFAES Extension. Great job.” In 2021, the team is offering two webinars per month. Additionally, the team has authored 19 scholarly articles which were published on the Farm Office blogs on the coronavirus pandemic legislation.

ECONOMIC AND SOCIAL IMPACTS OF AGRICULTURE IN SW IDAHO

Presenter: Jensen, S., Extension Educator, University Of Idaho, Marsing, ID 83639

Agriculture is the most important sector for Owyhee County’s economy in SW Idaho. It accounts for 43% of employment, 60% of cash receipts, 47% of the county gross product, and 87% of exports. Further, the agriculture base contribution is 54% of total employment, 70% of total output and 60% of total value added. The most critical agriculture-related sectors in Owyhee County’s economy are: crop farming, dairies, beef cattle ranching and feedlots. If the lifestyle of rural Owyhee residents is to continue, it is important for the public to understand the contribution that cattle production and agriculture in general provide to rural economies. A reduction in livestock numbers is not an isolated incident with few repercussions. There are many other individuals and sectors that will feel the economic impacts. Additionally, Owyhee County continues to experience numerous impacts in many forms: wildfires, recreation, litigation... While this list is wide and deep, the community cohesion remains intact even amidst change and new dynamics that create vulnerability for individual households, the municipality as a whole, and the regional economy. Even with something as “small” as the pattern of rescuing stranded or injured recreationists the burden the County bear’s is not trivial. Single cases, while manageable in and of themselves, add up to a pattern over time that heavily impacts available County resources. Resource and land-use conflicts are also a threat. Because Owyhee County is so vast, and the Treasure Valley metropolitan area (Boise area) is likely to continue to grow substantively, the land and resources in the County, both public and private, will remain at risk from land-use change pressures that may continue to intensify and become more complex over time. This presentation will not only discuss this study and implications to Owyhee County but also the potential economic and social impacts to rural communities across the U.S. as land use changes occur.

BOOTS-2-BUSHELS: BOOT CAMP FOR MARKET GARDENERS & FARMERS

Presenter: Devin, A., Maine Agrability Farmer Veteran Outreach Coordinator, University Of Maine Cooperative Extension, Waldo, ME 04915

Boots-2-Bushels (B2B) is a comprehensive 9-month market gardening education and training program for military veterans, their family members, and farmers with disabilities in Maine. This program, led by the University of Maine Cooperative Extension and collaborating with

the Maine Organic Farmers and Gardeners Association (MOFGA), United Farmer Veterans of Maine (UFVM), and Maine AgrAbility, is working with 18 farm participants to go from seed-to-salary in a hands-on, realistic farm business project. During ten weeks of instruction by subject matter experts, students are learning production, marketing, and best business practices for small fruit and vegetable farms. Participants will further implement this knowledge during an intensive 6-month growing season with weekly fieldwork at a demonstration farm. The B2B program uses the "Five Fs" framework (Farming, Family, Finances, Future, Fitness) to address production, marketing, financial and human sources of agricultural risk, and creates a near-peer cohort that fosters unit cohesion in an empathetic, therapeutic environment.

AGRIBUSINESS BASICS WORKSHOP SERIES

Presenter: Carter, B., County Extension Agent, University Of Georgia Cooperative Extension Service, Rincon, GA 31326

The purpose of this educational program was to help new, established, or growing agribusinesses in Southeast Georgia increase their knowledge on business planning while also providing resources they can use. I accomplished this by working with several local agribusinesses to identify areas that they wanted growth in, topics that interested them, and resources they lacked to grow. In order to achieve the overall goal of providing information to help the agribusiness owners increase their business planning knowledge, an organized-well rounded workshop was needed. A plan was created to hold three workshops by partnering with several state and local agencies, such as Georgia Grown, the Georgia Department of Agriculture Licensing Division, and the Small Business Development Center, along with Extension Specialists, a plan was created to hold three workshops, each with a certain portion of an overall business plan being covered. Within this workshop, there were 6-8 hours of instruction and live Q&As, 4 handouts given out, and 3 recordings of the workshop sent out that reached 97 registrants across Georgia, and even all the way to California. The agribusiness owners that participated indicated the information and resources shared through this workshop series, has the potential to save them hundreds of dollars as well as gave them new ideas for avenues to sell their products. Though the dollar amount for impact cannot be shown for all the participants, the access to resources and increased business planning skills gained by these agribusiness owners is a far more priceless indicator of the program's success.

COMPETING LAND USE AND ECONOMIC DEVELOPMENT: SOLAR AND DAIRY

Presenter: Lawrence, J., Dairy Forage Systems Specialist, Pro-Dairy, Lowville, NY 13367

Dairy is a primary agricultural sector in New York State and is a key economic driver in a number of rural communities. A study by Cornell University found that for each dollar of gross milk sales there is $2.29 generated in the local economy. Based on average soil productivity this economic multiplier can be used to determine the economic impact of an acre of land supporting a dairy cow. When agricultural land is threatened by development, this can allow for a comparison of the economic impact of an acre of land to support a dairy cow versus the proposed new land use and can help determine if the new land use will truly contribute to economic development for the town, county and region. Solar energy development has been identified as an important tool in meeting our energy needs and mitigating climate change and is being encouraged through a number of government programs in New York and nationally. However, the footprint of solar is significant and can threaten the agricultural land base that supports many local economies. This presentation will discuss the calculations to determine the economic activity per acre of land for supporting a dairy cow in contrast to a new land use, with a focus on commercial solar farm development. As well as some community planning tools being utilized by Lewis County, NY to balance the need to protect agricultural land with allowing for the growth of other sectors.

THE NEXT BIG THING- HOW DO EDUCATORS RESPOND TO NEW AND EMERGING CROPS?

Presenters: Holden, A, Extension Educator, Ohio State University, Jefferson, OH 44047
Marrison, D, Extension Educator, Ohio State University, Coshocton, OH 43812
Beers, LA, Extension Educator, Ohio State University, Cortland, OH 44410

As new crops emerge on the landscape, it is tough to predict whether they will be a boom or bust. Some farm managers are eager to incorporate new crops into their crop production systems as a way to increase economic returns per acre, diversify their crop portfolio, and to spread economic risk. As an Extension Educator there will be times in your career when you are asked to provide technical assistance to producers who are exploring new crops. The goal of this presentation is to share the best management practices for Extension professionals to follow as they assist

farmers with new crops. These practices were developed as the Educators worked with the recent boom and bust cycles of giant miscanthus (Miscanthus x giganteus) for the biofuels and bio-based product industry, field peas for the commercial dog food industry, and industrial hemp production in northeast Ohio. During the presentation, participants will learn how to remain unbiased and provide necessary information to prospective growers when dealing with new crops that often promise to generate higher profits than traditional crops like corn and soybeans. Learn strategies for providing producer education, on-farm research, scouting, and helping farmers to analyze the risk/reward of raising a new crop. Discussion will also be provided on how to strategically handle the friction between farmers when subsidization programs provide an incentive for land to be transitioned out of traditional crops or have the potential to increase local land rental rates. Lessons will also be drawn from a shift from to forages to soybean production in the region as well as the transformation of the local grape industry from a focus on Concord to Vinifera grapes.

CONSERVATION AND ECONOMIC VIABILITY ON VERMONT SMALL FARMS

Presenter: Cannella, M., Agricultural Business Management Specialist, Uvm Extension, University Of Vermont, Berlin, VT 05641

Vermont implemented new Required Agricultural Practices (RAPs) in 2017 that required the adoption of new conservation practices and necessitated new investments in farm infrastructure. In spring 2019 the UVM Extension Agricultural Business program conducted a survey of Certified Small Farms Operations (CSFO) in Vermont who are required to comply with the RAPs. The project goals were to gather information on the economic situation across Vermont's small farms, explore their adaptation to water quality regulations and to understand the outlook for small farms. An anonymous survey was distributed to the 334 CSFO owners through postal mail. Farm owners received a pre-survey postcard, a hard copy survey instrument, a reminder postcard and a second hard copy survey over an 8-week period. The survey was completed by 173 respondents (51% response rate). Survey results demonstrate that small farm owners are considering and managing three different aspects of business adaptation. The first aspect observed is the identification of changes that must occur to meet water quality goals and remain in compliance. The second aspect is assessing the current enterprise and considering alternative practices or alternative enterprises that can maintain conservation compliance and achieve a viable business. Less than thirty percent of farm owners identify their business as "economically viable" while the majority of farms are relying on off-farm income or built equity to sustain the business. The third consideration farm owners face is the preparation for ownership transfer or business exit. Forty-two percent of owners are considering an exit of the current business in the next five years. Survey findings were presented to regulatory agencies, capital providers and conservation agencies to inform programs and train personnel that work directly with farm owners. Extension programs can use results to identify different beneficiary groups that have unique needs and different program preferences. Meanwhile, program leaders will need to clarify their program outcome priorities as they consider a range of audiences that differ in profitability level, capacity to diversity and goals to remain or exit farm ownership in the near future.

DEVELOPING A COMMUNITY OF NEW FARMERS BASED ON NEEDS

Presenters: Wooten, H., Commercial Horticulture, UF/IFAS, Orlando, FL 32812
Felter, L., Food Systems, RSA, UF/IFAS, Apopka, FL 32703

Extension is continuously changing and so are the needs of our clientele. More and more individuals are leaving their day jobs and taking on urban agricultural production full time, and Extension has an opportunity to interact with these new-to-Extension clientele providing them with resources and support, further building the Extension network. Faculty at UF/IFAS conducted focus groups with identified "new farmers" to understand their teaching, research, and Extension needs. Focus group research is a commonly used qualitative research method allowing researchers to have a better depth of understanding of participants' opinions. Throughout the focus groups, new farmers noted challenges in getting to know other new, local farmers due to time, resource and financial constraints. This finding, paired with Extension agents' desire to better understand new farmer needs, determined a more in-depth approach was needed to talk to new food producers, to get more detailed input on their needs, and to get them talking to each other. A Farmer-to- Farmer networking event took place at a well-known local food market. Farmers and growers were encouraged to self-identify and attend the event, and 49 participants including farmers new and experienced, chefs, market directors, and policy makers attended the event. During the networking event, researchers asked attendees to use dot voting to identify key points under consideration when selecting an alternative enterprise, including limitations and needs. New farmers identified the greatest needs for more education and improvement in pest control, managing operating costs, and effective marketing strategies. As Extension continues to evolve to meet the ever-changing needs of

clientele, Extension must also continue to evolve their approaches and methodology when working with audiences who have never worked in agriculture before. The idea of evolving traditional networking events from conferences and tradeshows to local food markets and breweries will appeal to younger, new-to-the game producers while building strong foundations to communicate science-based information, now, and into the future as farmers' needs continue to evolve.

IOWA ANNIES PROJECT: FULL CIRCLE LOGIC

Presenter: Schultz, M. M., Women In Ag Program Manager, Iowa State University Extension And Outreach, Ames, IA 50011

Full circle logic is achieved by the Iowa State University Annie's Project team to maintain and build an extension program now in its seventeenth year. Paying attention to our logic model is a key factor of success. Logic models are useful tools to help conceptualize and share change efforts. Our model describes the underlying rationale for educating farm women. It shows the logical relationships between the resources we invest, the activities that take place, and the benefits that result. This enhances program performance through outcomes accountability. Our model includes important components. Situation: Women have significant employment, management and ownership on family farms and agribusinesses in Iowa. The 2017 Census of Agriculture reported 49,085 women farm operators, representing 34 percent of all farm operators in Iowa. Assumptions: Women of all ages and experience levels are willing to take on influential roles with education, research-based information, and support. External Factors: Cultural norms and traditional patriarchal influences in Iowa's social structure, and broad economic factors, may sometimes constrain successful outcomes. Inputs: The farm management team has a long-term commitment to educate women in agriculture to improve food security. Investments include internal and external funding. Outputs/Activities: The team's activities center on the program development process of needs assessment, educational design, scheduling, program implementation, and evaluation. Outputs/Participation: The team educated 2,145 women with 125 multi-session courses from February 2004 to March 2021. In addition, the team developed ten new multi-session farm management courses for women based on needs identified through evaluation. The team delivered 75 other multi-session courses reaching 1,034 women. Results: Evaluation data show a statistically significant difference in the overall mean knowledge gains from pre-course surveys to post-course surveys in five areas of risk management. Participants took important actions towards managing agricultural risks during the multi-session courses. Women participating in focus groups revealed long term societal changes such as greater involvement and success in the farm business. This presentation offers an example to extension educators who are interested in developing long-term impactful programs using logic models.

Ag Issues & Public Relations

GROWING OUR OWN: THE WV WOMEN IN AGRICULTURE CONFERENCE

Presenter: Morrow, E. W., Extension Agent, West Virginia University Extension Service, Kearneysville, WV 25430

The West Virginia Women in Agriculture Conference is an annual conference with the goal of providing female farmers with educational and networking opportunities. Between 2014 and 2019, we have had nearly 1,000 participants at this two-day event. Participants tour local farms on Friday afternoon, and spend Saturday attending educational sessions. The conference addresses the variety of needs of female farmers across the nation, including finances, childcare, travel, and the need for peer-to-peer learning opportunities.

To keep registration costs low, we seek agency sponsorships and source foods from West Virginia farms. With childcare being a challenge for farm families, we provide a youth tract for the entirety of the conference at a small fee, allowing parents to attend sessions and focus. Preliminary results from a comprehensive survey started in 2020 show that 67% of participants have reported increasing their profitability. Not only are we making it more feasible for farmers to attend the conference, but participants are increasing profits. West Virginia is a state very diverse in terrain and geography. Traveling from one part of the state to another can be difficult, especially for busy farmers. We have met this challenge by changing the location of our event every year. This is more challenging on the part of the Women in Agriculture Team, but we have found that repeat attendees are eager to travel to a new location, and we gain new attendees in that region.

Moving locations has allowed us to provide more diverse tours for our Friday program. Of the attendees, 62% have made changes to their operation because of the on-farm, peer learning opportunities provided through the tours.

Our conference evaluations have always guided the planning process, and we are constantly looking for ways women can learn from each other, participate in classes that provide hands-on skills to strengthen the viability of farms in West Virginia. Nearly 70% have diversified their operation because of attending the conference. It is clear

we are making an impact for our farmers, and our program can serve as a model for other states to do the same.

USE OF CANINES IN AGRICULTURAL BIOSECURITY

Presenter: Gehrett, S., Dairy Business Management Educator, Penn State Extension, Carlisle, PA 17013

Thomas Jefferson once said that "agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals, and happiness." Diverse invasive species that threaten agriculture have been entering the United States since the first boats arrived on US soil, and their movement has accelerated due to globalization. Combating these invasive organisms has always been a big challenge to those on the front line. Enter man's best friend, the dog, an animal scientifically known as Canis lupus familiaris. Dogs have been man's best friend for centuries. Besides companionship, this special relationship has provided many different types of services. Dogs were present in Xerxes' invasion of Greece in 479 BC, during Spartan sieges in the 4th century BC, and as early as 600 BC in a battle in the Iron Age kingdom Lydia in Greece (Willingham, 2019). In the United States, the military has been using canines for a wide range of crucial activities, starting with using them as tunnel and sentry dogs during the Korean and Vietnam wars. More recently, they have been used widely for discovering improvised explosive devices (IEDs), tracking people, and detective work. Different breeds have been employed depending on the nature of task. Working dogs are trained to view the task at hand as a game. They want to satisfy their trainer and obtain a prize for accomplishing the job. Dogs are now being used to detect invasive pests by the United States government and agricultural industry. Canines are currently being used to detect the dreaded bed bug, an insect species that is difficult to eradicate from home once infested. Scientists and engineers have tried to replicate canine olfactory glands for many years. These glands are 10,000 times more sensitive than any machine that has been developed (Willingham, 2019). Their superb ability to detect specific items via chemical sensing now presents new opportunities to defend the United States in diverse and creative ways. Most recently, dogs are being used to detect the Spotted Lanternfly, a relatively new pest that invaded US soil. The United States government is now utilizing dogs in ways that 50 years ago would have been looked upon as a far-fetched idea that would never happen. Working with canines is at the forefront of advances that are in place to protect the agricultural industry. Canis lupus familiaris could provide increased opportunities for preventing other devastating pests from entering the United States and disrupting our agriculture industry, especially our food supply

WASHINGTON STATE AGRABILITY: BUILDING A NEW EXTENSION PROGRAM DURING COVID-19

Presenter: McMoran, D. W., Agriculture And Natural Resources Extension Faculty-Director, Washington State University, Burlington, WA 98233

Affiliated with the National AgrAbility Project, the USDA-funded Washington State AgrAbility Project (WSAP) based at Washington State University Skagit County Extension serves farmers, ranchers, and agricultural workers throughout the state inhibited by injury, illness, or disability. The program helps ease the return to work and daily living activities and reduce the rate of secondary injury. In early 2020, WSAP was developing assistive technology lending library kits and home/worksite assessment protocols while delivering trainings and demonstrations in person. At these events, WSAP was presented alongside the topics of farm stress, agricultural behavioral health and suicide prevention. With the emergence of COVID-19, in-person outreach was severely limited. Initially, we intended to embed coexisting farm stress and behavioral health programming into WSAP outreach. However, with an elevated focus on behavioral health and excessive stress brought on by the pandemic, farmers and stakeholders were eager for behavioral health messaging which opened the door for WSAP to present to more audiences. For example, WSU Skagit County Extension was invited to share behavioral health information at Washington Farm Bureau PPE giveaways which provided opportunity to promote WSAP as well. At these events WSAP distributed bilingual Spanish-English information on the program and approximately 500 First-Aid kits including suicide prevention wallet cards to farmers and farmworkers from multiple counties. WSAP also gave presentations to County Farm Bureaus in WA Farm Bureau's Safety & Claims division, reaching over 140 individuals. Additionally, WSAP partnered with the Department of Veterans Affairs and non-profit Growing Veterans, delivering webinars and an in-person outdoor presentation following social distancing guidelines, including an assistive technology demonstration. Given the difficulty of developing an outreach-based program under the circumstances of COVID-19, WSAP's resiliency relied on a diversified and well-connected Extension system and seizing relevant opportunities to collaborate. We anticipate that WSAP will continue to be resilient and utilize its position and knowledge of holistic agricultural health to further the WSU Extension mission of "engaging people, organizations, and communities to advance knowledge, economic well-being, and quality of life by fostering inquiry, learning, and the application of research."

USING COLLABORATION TO ADDRESS FOOD INSECURITY

Presenters: Bennett, A.M., Ext.Educ.,Anr, Ohio State University Extension, Troy, OH 45373
Barton, A.N., Ext.Educ.,FCS, Ohio State University Extension, Troy, OH 45373

Food insecurity exists whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain (S.A. Anderson, 1990). Food security is…access by all people at all times to get enough food for an active, healthy life (USDA, 2014). According to Feeding America, one in seven of the state's residents are food insecure.

Within the state, Extension is in a valuable position to address food insecurity in their local communities. This work is often cross disciplinary as Family and Consumer Sciences, SNAP-Ed, and Agriculture and Natural Resources Staff become involved in a local food insecurity council or committee.

This session will highlight a case study of how Extension professionals created a local food committee to address food insecurity within the county. Details on how the county staff utilized different strategies for engagement and community partnerships will be shared, along with ways they employed unique resources Extension has to address this issue.

Impacts of the committee's activity and work can be seen in resident and volunteer participation in monthly "Pop-up Pantries," information solicited by local county officials and councils seeking to better understand and support the committee's work, and by the recent grant award received as a result of the partnerships created by the committee to create a community garden specifically for the purpose of addressing food insecurity in the county. Evaluation is ongoing and the committee is ever adapting as feedback and new opportunities present themselves through networking, funding, and collaborative partnerships.

Successes and ideas will be explored to encourage all Extension professionals to return and effectively contribute to their local food councils. Resources from Voices for Food will be shared for those interested in starting their own food insecurity councils.

KEEPING STRESS LEVELS IN CHECK ON THE FARM

Presenter: McClure, G., Ext.Educator, Ne Extension, Geneva, NE 68361

Farmers and ranchers have many stressors in their lives. Weather challenges and disasters like many Nebraskans have recently experienced have led to uncertainty in their crop and livestock operations. Machinery breakdowns, debt loads, volatile markets, sleep deprivation, changing regulations, and the stress of holding onto a multi-generational farm/ranch all play a part of the stress and mental health of a farmer or rancher. Farmers and ranchers know the importance of planning and talking about their financial health to bankers, financial planners, spouses, etc. but might not realize how important it is to spend time on their mental health.

"Keeping stress levels in check" will be presented by Nebraska Extension Educators who have been teaching this and related topics throughout the year, as Nebraska has been dealing with the recovery from the "Bomb Cyclone", in addition to the economic downturn. This workshop will provide strategies for dealing with the stress of farming or ranching in today's difficult economic environment. Participants will learn: How to recognize the signs and symptoms of stress; understand the role stress plays in our lives; and strategies and resources to manage stress.

INDUSTRIAL HEMP IN OHIO – FIBER AND CBD OPPORTUNITIES

Presenters: Beers, L., Extension Educator, Ohio State University, Cortland, OH 44410
Zoller, C, Extension Educator, Ohio State University, New Philadelphia, OH 44663
Bergefurd, B., Horticultural Specialist, Ohio State University, Piketon, OH 45661
Morris, J, Extension Educator, Ohio State University, Georgetown, OH 45121
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With the passage of the 2018 Farm Bill and Ohio Senate Bill 57 that legalized the cultivation of industrial hemp in the state of Ohio, interest in cultivating industrial hemp surged in part due to high prices of CBD, and a general interest in an alternative crop. Ohio Senate Bill 57 provided the opportunity for universities to obtain research licenses for hemp cultivation. In 2020, OSU Extension Educators conducted on-farm research trials on hemp for CBD, and hemp for fiber to gather practical knowledge and basic growing data on this new crop to advise potential growers. On-farm research for CBD focused primarily on cultural practices such as plant spacing, weed control, supplemental lighting, and irrigation requirements to increase production

and maximize CBD content. These trials were based in Southern Ohio where infrastructure for tobacco cultivation could be repurposed for hemp. With volatile CBD markets, startup costs and labor requirements for cultivating hemp for CBD were investigated to establish a baseline per acre cost. Although most interest in hemp production had initially surrounded CBD, there is an increasing interest in hemp for fiber production as it has lower labor requirements and is not subject to volatile CBD markets. With the development of a hemp decortication facility in Western Pennsylvania, OSU Extension collaborated with DON Services of New Castle, PA to gather basic agronomic information to assist the fiber industry in Northeast Ohio. Two dual purpose (fiber and grain) hemp varieties were planted, CRS-1 and Felina 32, in July 2020 at varying seeding rates. Insect and disease pressure, response to nitrogen, and stand establishment were monitored throughout the growing season. At harvest the varieties were monitored for appropriate retting and yields were collected after baling. During this presentation we will discuss preliminary data from one growing season, practical best management practices for both CBD and fiber hemp crops, and general observations of working with a new crop.

THE CURRENT STATE OF URBAN AGRICULTURE AND EXTENSION AND RESEARCH NEEDS IN THE NORTHEAST U.S.

Presenter: Little, N. G., Urban Agriculture Extension Educator, University Of Maryland Extension, Baltimore, MD 21215

Neith G. Little, Megan J. Thompson, John R. Taylor, Andrew D. Carson, Anu Rangarajan, Richard VanVranken, Mamatha Hanumappa, and Matthew L. Richardson

1)Background/Question/Methods
Urban agriculture continues to expand and can promote healthier ecosystems and human communities in urban areas. Despite the growth of urban agriculture, little is known about the profile of urban growers and their organizations. Therefore, we assessed urban growers, primarily in the Northeast Region of the United States to determine 1) the profile of growers and their organizations, 2) the current state of urban agriculture, and 3) how cooperative extension and research could help meet their needs. From this effort we also hoped to identify indicators that would allow us to forecast the direction of this burgeoning field. Our online survey collected information in the following broad categories: characteristics of individuals, which included items such as demographics, organizational role, area of study in college, and work experience; and characteristics of organizations, which included items such as size, number of sites, profit status, number of employees, income, expenses, organizational goals, barriers, property access and security, products, production systems, stakeholders, operational plans, use of natural resources, and current certifications. We also collected information about topic areas for desired trainings, and ways further research and outreach efforts could provide needed support for urban agriculture.

2) Results/Conclusions
The 468 urban growers who responded to our survey represented a range of urban farms, home gardens, community gardens, and other types of organizations. Nearly two-thirds of organizations were non-profits or had a hybrid for-profit/non-profit business structure. Increasing food access and contributing to environmental sustainability were goals most frequently reported by community gardens and urban farms, whereas self-provisioning and environmental sustainability were goals of home gardeners. While most production sites were small, urban farms often had multiple sites totaling one or more acres in size. Approximately half the urban farms had negative or relatively small net income, but nearly 10% reported net income exceeding $100,000/year. Balancing a living wage for farmers with selling affordable food was a top three challenge/barrier for urban farms. Most urban farms and community gardens grew vegetables, but also produced one or more other services, including educational programs, agritourism, landscaping, or catering services. Respondents identified topics on which extension and research, through new programming or better connections to urban growers, could support urban agriculture; the most frequently mentioned areas were production of specialty crops, management of urban soil, and composting. Our work is the most detailed attempt to date to understand and support urban agriculture.

THE GOOD MORNING FARMER PROGRAM

Presenter: Myers, R. D., Principal Agent, Agriculture, University Of Maryland Extension, Gambrills, MD 21054

The Good Morning Farmer Program

*Myers, R. D1, J. Jeffries 2, K. Griffith 3, and B. Paleg 4

1Extension Educator, Agriculture; 2Extension Educator, Family and Consumer Sciences; 3Nutrient Management Advisor, University of Maryland Extension, Anne Arundel County 97 Dairy Lane, Gambrills, Maryland 20154

The Good Morning Farmer program developed by University of Maryland Extension Educators in Anne Arundel County invited farmers and those who work in the agricultural sector to gather virtually each Wednesday from 8:00 – 9:00 a.m. from December 2, 2020 until March 31, 2021 to discuss topics of interest, learn from experts, and join

in fellowship. The Good Morning Farmer program was an innovative virtual Extension program designed to foster a positive farm operation outlook among Maryland farmers utilizing farm stress reduction education. The session topics were developed by a pre-program survey, and were designed to purposefully integrate mind and body wellness with agricultural issues. Good Morning Farmer is online at the Anne Arundel Extension website at: http://extension.umd.edu/anne-arundel-county

STRATEGIES FOR NAVIGATING DIFFICULT ISSUES; WATER4AG

Presenter: Santangelo, N.and Groskopf, J., Extension Educator, Penn State Extension, Coudersport, PA 16915

Contentious local issues can divide communities, often making it difficult for extension personnel and researchers to work in these arenas. Traditionally, extension educators and specialists have worked in a small defined area to solve biophysical issues perhaps not engaging with the community or having limited engagement. This can add to the divide. In other cases, community development educators have taken the lead in making real change in communities through strategic planning, but the groups they work with may not be inclusive. Nevertheless, in a multi-state project, Extension educators and specialists have taken a chance at initiating local, county-wide or community-wide inclusive groups looking to address water and agriculture issues. The project funded by USDA Agriculture and Food Research Initiative (AFRI), is a social experiment with local communities to determine which methods of initiating inclusive local leadership community groups surrounding a specific contentious issue are most helpful in initiating change or successful community planning and project initiation. Presenters will share examples from two locations in Pennsylvania and Nebraska. We will describe different means levels of engagement and help participants better understand their options in working with contentious issues including tips and tricks in working in this space.

MOTIVATIONAL INTERVIEWING AS A TOOL TO ADDRESS FARM STRESS AND TRANSITIONS

Presenter: Wantoch, K. L., Associate Professor, Agriculture Agent, Uw-Madison Division Of Extension, Menomonie, WI 54751

Educators at UW-Extension have developed a professional development program for colleagues from diverse disciplinary perspectives, in the use of Motivational Interviewing (MI). The program is a novel approach to emerging and ongoing challenges with a proven technique to engage clientele on particularly time-sensitive topics. Due to ongoing economic conditions in agriculture, many farms are facing significant financial challenges, resulting in questions regarding the viability of the businesses. Educators are working with farmers, farm families and rural clientele who have experienced chronic stress in recent years. Motivational Interviewing is one communication tool of many techniques that can be applied to our effort in supporting farms, and farm families dealing with stress and transition. The program increased the professional capacity of Extension educators by improving their communication and facilitation skills with the clientele they serve. As a result of this project, educators gained confidence in their ability to engage and respond to sensitive conversations with clientele and reported being in a better position to develop strong relationships and presence in communities they serve. This presentation will discuss the program development, implementation and impact on educator skills and ability to engage in conversations on critical and time-sensitive topics of farm succession, stress management and mental health for farmers, farm families, and rural communities.

DETERMINE WHERE PRODUCE FARMS FALL UNDER THE PRODUCE SAFETY RULE

Presenters: Rogers, E. T., Area Specialized Agent, Food Safety-Fresh Produce, North Carolina State University, Lenoir, NC 28645
Johnston, L., Assistant Professor and Food Safety Extension Specialist, North Carolina State University, Raleigh, NC 27695

When the Food Safety Modernization Act Produce Safety Rule (PSR) was published, one of the challenges that growers in NC and across the country faced was understanding how this regulation would affect their operations. The Food and Drug Administration (FDA) released a one-page publication in the form of a decision tree to help explain coverage, exemptions and exclusions. Due to the different terminology and unfamiliar language used in the PSR, this chart was not always helpful to growers. To help approximately 2,000 NC produce growers know where their farms fall, a six-page publication was developed by the author that explained the terminology and provided a step-by-step guide with questions and simplified financial calculations. FDA annually publishes adjusted inflation cut offs for produce and food sales and calculations are made on a three-year average. This publication provides all the figures required, so the growers just have to add their farm numbers. The template helps farmers pinpoint where their produce and farms fall in the regulation. A summary of the requirements based on the category and links to resources available is also

provided. Once completed, this document can serve as an actual record for farms eligible for the qualified exemption. The document seeks to answer frequently asked questions by growers in past years. This publication was made available at commodity group meetings, Produce Safety Alliance trainings, and produce safety educational events during 2020 and 2021 and it is estimated that it has been used by 1000 growers in NC alone.

LESSONS LEARNED FOR COMMUNICATING WITH AND SUPPORTING DIRECT FOOD & AG MARKETING BUSINESSES DURING COVID-19

Presenter: Barrett, E. E., Leeds, R., & Welch, C., Associate Professor, Ohio State University Extension, Canfield, OH 44406

During the pandemic, it was important for direct food and ag marketing farms to remain open and operational. Business continuity, continued consumption of fresh fruits/vegetables, and filling the need for a reprieve during the pandemic were the main drivers. Growers faced issues of incorporated more stringent guidelines for sanitation and customer interactions. Agritourism farms faced issues with writing an operational plan just to open their doors. OSU Extension led efforts to promote scienced-based educational materials, host webinars and write a guide to help farms open their doors safely and within health department parameters. This presentation will share how Extension professionals came together to share materials, host webinars, create a one-stop-shop website and write a guide quickly and efficiently open agritourism operations. The goal was to support the industry, and to help farm businesses survive the crisis. The team gathered quickly, and ensured representation from specialty areas of direct marketing, public policy, law, product safety, health and farm safety. The number of directives and ever-changing rules from state agencies and local health districts led to the development of a workbook style publication with a section that outlined a written plan for agritourism as one of their products. The urgency of this information to remain up to date was a priority. The website and the guide were shared through newsletters, by industry associations, on Ohio Ag Manager postings/newsletters, in response to email requests and through direct emails to over 1,000 direct food and ag marketing farms in Ohio. The team will review their planning efforts to create and share essential information. They will share their methods for compiling and writing a guide to help farms write operating plans during the pandemic.

Agronomy & Pest Management

WHAT WE HAVE LEARNED FROM FOUR YEARS OF CORN POPULATION TRIALS IN OHIO & TUSCARAWAS COUNTY

Presenters: Zoller, C., Associate Professor & Extension Educator, ANR, Ohio State University Extension Tuscarawas County, New Philadelphia, OH 44663
Hawkins, E., Assistant Professor & Field Specialist, Agronomic Systems, Ohio State University Extension, Wilmington , OH 45177

The eFields program at The Ohio State University is dedicated to advancing production agriculture using field-scale research. Since the start of eFields in 2017, cooperating farmers across Ohio and Tuscarawas County have conducted 32 corn population trials. The objective of these trials was to understand the impact of various corn seeding rates on profitability. Field studies were implemented in a randomized complete block design strip-trial replicated at least three times within each field. Statistical analysis was conducted for individual farm sites within counties and results were reported in the annual eFields reports along with statewide aggregated results. Over the four-year period, the corn seeding rates tested have ranged between 22,000 seeds per acre and 50,000 seeds per acre. A summary of these four years indicates yield varies significantly based on rainfall and temperature. Our analysis also shows that optimum seeding rate between 33,000 seeds per acre and 36,000 seeds per acre provides the greatest economic return. This presentation will describe the eFields program, explain study design and implementation, and review trial results, including economic analysis.

SUSTAINABLE FUNGICIDE AND NITROGEN MANAGEMENT TO MALTING BARLEY

Presenter: Clark, J., Agriculture Agent, Division Of Extension Uw-Madison, Chippewa Falls, WI 54729

Malted grains, principally barley (Hordeum vulgare L.), are essential raw materials for brewing. Demand is increasing for more sustainable crop production practices and locally grown brewing ingredients, including malting barley for a nationally expanding microbrewing industry. At the same time, climate change makes it imperative to identify new production zones and cropping systems for malting barley using sustainable production practices. Sustainable malting barley management added to an existing cropping system rotation such as corn, soybean, and alfalfa can provide an alternative crop in many of the cooler growing areas of the nation.

Purpose of the study was to determine sustainable

economic application rates of nitrogen and fungicides. University of Wisconsin-Madison Division of Extension faculty investigated production practices of nitrogen and fungicide applications to malting barley varieties and their effect on yield and quality in specific years. Trials tested specific varieties with nitrogen rates at 0, 30, 60, and 90 pounds per acre. The fungicide application trial investigated timing of application and fungicide product efficacy to malting barley for control of Fusarium Head Blight and the effect on yield and quality using mycotoxin Deoxynivalenol (DON) levels as a predictor for the presence of Fusarium and other potential fungus organisms in the varieties tested.

The study was conducted at two locations in Wisconsin in 2018, 2019, and 2020. Results indicated significant differences within the nitrogen applications. The 30-pound per acre rate provided yields statistically similar to higher rates. Economic analysis of nitrogen input costs was conducted to determine maximum financial return to nitrogen. The analysis indicated a minimum 30-pound per acre nitrogen application rate was needed for maximum financial return. Fungicide applications resulted in significant differences in yield to specific varieties during specific years and locations. Malt quality results indicated the need for fungicide applications to control Fusarium and reduce DON levels.

BEST STRATEGY TO MANAGE RHIZOCTONIA ROOT ROT IN SUGARBEET

Presenter: Khan, M. F. R., Extension Sugarbeet Specialist, North Dakota State University, Fargo, ND 58104

Growers in the United States (US) produce 55% of its sugar from sugarbeet (Beta vulgaris L.) crop. One of the limiting factors for sugarbeet production worldwide is Rhizoctonia root rot caused by Rhizoctonia solani Kühn. In North Dakota and Minnesota, R. solani anastomosis group AG-2-2 IIIB is the most prevalent and damaging. Growers wanted to know what fungicides applied in-furrow, foliarly and as seed treatments were safe, effective and compatible with current agronomic practices. Field trials were conducted in Hickson, ND and Glyndon, MN. Inoculation was done with R. solani AG 2-2 IIIB grown on barley and applied at 15 lbs/A. The inoculum was incorporated with a Konskilde field cultivator to about two inch depth just before planting. The experimental design was a randomized complete block with four replicates. Field plots comprised of six 25-feet long rows spaced 22 inches apart where the 4-inner rows were treated. Plots were planted with an approved glyphosate tolerant variety and weeds were controlled with glyphosate. Pyraclostrobin and azoxystrobin at different rates were applied alone or mixed with 3 GPA of 10-34-0 starter fertilizer as an in-furrow application. Stand counts were taken during the season, the middle two-rows of plots were evaluated, harvested, weighed and analyzed for quality. Data analysis was performed with ANOVA and the least significant difference test was used to compare treatments when the F-test for treatments was significant. Research showed that application of azoxystrobin applied in-furrow provided effective disease control but not when applied after infection or after symptoms were observed. It was demonstrated that azoxystrobin at 9.2 fl oz/A mixed with starter fertilizer and applied in-furrow at planting provided the highest recoverable sucrose and was safe to the plants. Research also showed that penthiopyrad seed treatment provided effective early season control but required a post application of azoxystrobin to provide acceptable season long control against R. solani. Growers have adopted the practice of using fungicide treated seeds on 100% of all acreage and post application of azoxystrobin fungicide along with improved tolerant varieties to successfully manage Rhizoctonia root rot.

ADVANCING CORN SILAGE HYBRID EVALUATION

Presenter: Lawrence, J., Dairy Forage Systems Specialist, Pro-Dairy, Lowville, NY 13367

There are a number of public sector corn hybrid evaluation trials for both grain and silage. Traditionally, these trials are executed through an invitation to corn seed companies to submit hybrids, for a fee, to be evaluated in replicated plots and evaluation criteria have focused on yield and some basic forage quality parameters for silage. In New York State the Corn Silage Hybrid Evaluation Program was reinstated in 2016 with a focus of building the program around advances in ruminant nutrition and forage quality. This includes the use of the dynamic ration balancing model "Cornell Net Carbohydrate and Protein Synthesis (CNCPS)" to evaluate each hybrid in the trial in an actual dairy cow ration with advanced fiber digestibility data and metrics. In addition to the novel approach to evaluating corn silage forage quality, the program sought to expand regional collaboration with other testing programs to expand the data collection across more growing conditions. Over the last five years this has led to an active work group with collaborators from Penn State University, the University of Vermont, the University of Maine, the Professional Dairy Managers of Pennsylvania, and the Western NY Crop Management Association working as the Northeast Corn Silage Hybrid Evaluation Consortium. This presentation will share the technical approaches and finding of the efforts to advance the focus on forage quality when evaluating corn silage. Additionally, the advancements made through the regional collaborative efforts and plans for the future will be shared.

ECONOMIC INJURY LEVEL OF THRIPS IN ALFALFA AND SMALL GRAINS

Presenter: Findlay, R., Extension Educator, University Of Idaho, Pocatello, ID 83202

Thrips are a new and emerging pest of Southern Idaho alfalfa and Small grains crops. Growers attending the University of Idaho Commodity Schools in Southern Idaho expressed a concern that thrips are causing economic damage to their crops. They have limited information on when control measures are economically viable. Area specialists and Extension Educators surveyed for thrips in 2018 and found large numbers of thrips. In 2019 the team researched the effect of thrips feeding on crop damage. The research continued in 2020, with a field trial that evaluated the effect of this damage on alfalfa yield. This research also calculated a preliminary economic injury level for this pest. Scouting methods will be presented for assessing the economic injury level of thrips. This information will assist growers in making pest control decisions. This information will also give extension educators knowledge and information that can be used to develop economic injury calculations for other emerging pests in their own region.

CANOLA'S IMPACT ON KEY SOIL HEALTH CHARACTERISTICS IN CEREAL GRAIN SYSTEMS

Presenter: Esser, A. D., Extension Agronomist, Washington State University, Ritzville, WA 99169

Cereal grain (wheat: Triticum aestivum L. and barley: Hordeum vulgare L.) production across eastern Washington continues to be the dominate cropping system, however canola (Brassica napus) acreage has been increasing across the region. This increase in production is mostly related to market price and improved weed control. However, farmer have also expressed a strong desire to improve soil health through diversity and canola is one of the crops gaining interest. A long-term rotation study was established in 2014 at the WSU Wilke Research and Extension Farm examining the agronomic and economic value of spring canola into rotation compared to spring wheat. After the completion of two cropping cycles, a project was initiated to examine chemical and physical soil health characteristic changes from incorporating canola into a cereal grain rotation. Data collected started in 2019 and will be completed in the spring of 2021. Chemical soil data includes soil pH and exchangeable Al at a depth of 0-3, 3-6 and 6-12 inches. Haney Soil Health Test samples were also collected to a depth of 6 inches, and complete soil nutrient samples were collected at a depth 0-12, 2-24 and 24-36 inches. Physical soil data focused on soil compaction and bulk density. Soil compaction data was collected in 1-inch increments to a depth of 18 inches with a Field Scout 900 Soil Compaction Meter. Bulk density sample are collected to a depth of 3 inches. This presentation will focus on significant changes in these key areas of soil health with the incorporation of spring canola into a cereal grain rotation.

SOIL-TEST K SPATIAL VARIABILITY AND K LOSS VIA WATER RUNOFF IN ARKANSAS

Presenters: Fryer, M., Instructor - Soil Science, U of A System Division of Ag. Coop. Ext. Service, Little Rock, AR 72204
L. Berry, Program Technician, U of A Crop Soil Env. Science Dept., Fayetteville, AR 72701
J. Burke, Program Technician, U of A Crop Soil Env. Science Dept., Fayetteville, AR 72701
P. Webb, Program Associate, U of A System Division of Ag. Coop. Ext. Service, Little Rock, AR 72204
L. Riley, Program Technician, U of A System Division of Ag. Coop. Ext. Service, Little Rock, AR 72204
A. Sharpley, Professor, U of A Crop Soil Env. Science Dept., Fayetteville, AR 72701
M. Daniels, Professor, U of A System Division of Ag. Coop. Ext. Service, Little Rock, AR 72204
N. Slaton, Professor, U of A Crop Soil Env. Science Dept., Fayetteville, AR 72701

The Arkansas Discovery Farm Program has primarily been documenting nitrogen and phosphorus loss via edge of field water runoff on real working farms since 2010 by utilizing state-of-the-art automated water sampling equipment. Potassium (K) loss documentation in water runoff was initiated in 2017 to better understand K loss potential in water runoff and lead to increased farm profitability and/or efficiency. Although little is known about K loss potential via water runoff, even less is known of the relationship of soil-test K (STK) spatial variability to K loss in water runoff. Soil and water sampling occurred on 4 Arkansas Discovery Farms encompassing 10 sites managed for either forage, row crop, or poultry production. Sites were grid soil sampled at the 0-4 (forage and poultry production sites) or 0-6 inch (row crop sites) depths showing the highest STK values at the lowest elevations or drainage points in the field for row crop sites while the highest levels for sites around poultry houses occurred in front of and behind poultry houses. Across sites, mean STK values for the 0-to 4- or 0-to 6-inch sampling depth ranged from 83 to 264 ppm K with a coefficient of variation ranging from 18-84%. Loss of K in water runoff ranged from 15 to 40 lb/acre/yr for row crop sites, 1 to 30 lb/acre/yr for forage sites, and 16 to 58 lb/acre/yr for poultry house sites. A better understanding of STK spatial variability and the potential relationship between K loss in water runoff will ultimately lead to greater farm profitability and sustainability in the use of K fertilizer management.

SEARCHING FOR ANSWERS IN BAHIAGRASS SEED FIELDS WITH TIMED HEXAZINONE APPLICATIONS

Presenters: Cooper, C., Agriculture And Natural Resource Agent, UF/IFAS Extension Citrus County, Lecanto, FL 34461
Sellers, B.A., Professor and Director, UF/IFAS Range Cattle Research and Education Center, Ona, FL 33865

Brunswickgrass (Paspalum nicorae Parodi), sometimes referred to as “brown-seeded paspalum”, is a problematic weed in summer perennial grass pastures in the southeast. In Florida we have seen increasing pressure to control this weed contaminate as it is becoming a major threat to livestock and bahiagrass seed industries. This rhizomatous grass is refused by cattle and seed could potentially restrict sales of contaminated bahiagrass seed lots. Currently, management options are limited; therefore, the objective of this research is to develop a management plan for Brunswickgrass in Bahiagrass seed production fields. Two experiments are currently underway with one being a continuation of a two-year titration study and the other focusing on application timing. Experiments were established within Citrus and Sumter in 2018 to address Brunswickgrass response to the application of hexazinone at 0.14, 0.28, 0.56, 0.84, and 1.12 kg ai ha-1 . In 2019, an application timing study was established assessing control differences between month and rate. Applications were made monthly starting in May until September at rates of 0.56, 0.84, and 1.12 kg ai ha-1. In the titration study, hexazinone appears to have significant activity with all rates of hexazinone resulting in at least 44% control 30 days after treatment (DAT). Hexazinone at rates of at least 0.84 kg ha-1 resulted in at least 97% control 30 DAT. By 365 DAT there was no difference among treatments and control ranged from 0 to 60%; seedling recruitment is the likely cause of the increase in Brunswickgrass. A second application onto the same plots resulted in at least 80% Brunswickgrass control across all hexazinone rates, and rates of 0.28 kg ha-1 resulted in at least 93% control 30 DAT. By 365 DAT of the second hexazinone application, control ranged from 40 to 96% across all hexazinone treatments; only 1.12 kg ha-1 resulted in >90% control. There was no rate by month interaction at 30 or 365 DAT in the timing study, however, both month and rate were significant. Hexazinone at 0.56, 0.84, and 1.12 resulted in 81, 85, and 95% control at 30 DAT. Application of hexazinone in May resulted in the lowest level of control (63%), but all other application timings resulted in control of at least 86%. At 365 DAT, 0.56 kg ha-1 resulted in 56% control, and at least 74% control was achieved with the higher rates. Similar to 30 DAT, the May application timing resulted in the lowest level of control by 365 DAT (34%), whereas all other timings resulted in similar levels of control of at least 71%. Overall, these results are promising in the fact that we are seeing some initial success using hexazinone for Brunswickgrass management. However, it is evident that multiple annual applications may be necessary to deplete the soil seed bank. Also, applications should not be made prior to June for optimal activity.

TESTING PRECISION AG EQUIPMENT IN NEBRASKA ON-FARM RESEARCH TRIALS

Presenter: Sivits, S. A., Extension Educator, University of Nebraska-Lincoln, Lexington, NE 68850

The Nebraska On-Farm Research Network program encourages partnerships between Extension faculty, industry representatives, and producers to conduct on-farm research trials to test products, farming practices, and share research-based information. The purpose of this program was to encourage producers to conduct on-farm research, share research findings in publications and meetings, and determine best management practices for their unique operation. During the 2020 growing season, two Precision Ag equipment studies were conducted in south central Nebraska. These trials were a joint effort between Nebraska Extension, AgLeader®, and a local producer to test downforce pressure systems at planting time utilizing various amounts of downforce pressure and planting speed. Trials tested AgLeader®›s SureForce™ system at three downforce pressure applications (100lbs to boxes, 100lbs active downforce, and 150lbs active downforce), and their SureForce™ SureDrive™ system with 100lbs active downforce pressure at different planting speeds (5, 7, and 10mph) in corn. In-season field updates and research findings were shared in 2020 via social media platforms (4 videos; 2,800 views), in 2021 during in-person/virtual winter meetings (5 presentations; n=85 participants), and in the Nebraska On-Farm Research Network 2020 Growing Season Results publication. Results from the downforce pressure study indicated no statistical differences in downforce pressure treatments applied for crop emergence, stand counts, yield, or marginal net return ($p>0.10$). Results from the travel speed study demonstrated plots planted at 10mph had poorer emergence and stand counts compared to plots planted at 5mph or 7mph ($p<0.10$). The 7mph plots also had significantly higher yield and marginal net return ($p<0.10$) compared to the other treatments applied. Results indicated that while there were no statistical differences in the downforce pressure study, the producer could economically implement the SureForce™ SureDrive™ system at 7mph. Both trials will be repeated during the 2021 growing season.

DETERMINING YIELD LOSS FROM DECTES STEM BORER IN SOYBEANS

Presenter: Leslie, A., Agriculture And Food Systems Educator, University Of Maryland, Bel Alton, MD 20611

Dectes stem borer (Dectes texanus) is an occasional pest of soybean in Maryland, mostly from fields on the Delmarva Peninsula. This insect was identified as a pest priority by local farmers in the region, and studies were designed to develop specific management recommendations. Larvae develop inside of soybean plants, and feed only on the pith of the main stem while plants are growing. Most yield loss happens when larvae chew through stems near the soil line just before harvest. The stems of these plants are are very easily broken, and the lodged plants prevent mechanical harvest. The primary goal of this work was to determine the yield loss incurred directly by feeding damage to the soybean plants in the absence of lodging. To test this, 250 soybean plants were sampled from five fields just prior to harvest each year between 2017 and 2019. Plants were measured for plant architecture, and pods were removed to measure yield components before stems were split to determine larval infestation. Statistical models were used to estimate yield components using plant architectural and sample location data for stems without dectes stem borer present. These models were then used to predict the yield components of plants infested with dectes stem borer. A small, but consistent reduction in yield over the three years of study. Results suggest that timely harvest of infested fields to minimize plant lodging may be the most effective way to minimize yield loss to this pest.

RESULTS OF EIGHT SITE-YEARS OF ON-FARM RESEARCH STUDIES INTERSEEDING COVER CROPS INTO CORN

Presenter: Rees, J., Extension Educator, Nebraska Extension, York, NE 68467

With the challenge of establishing cover crops after corn and soybean harvest, farmers have increased interest in interseeding cover crops into standing corn and soybean crops. Goals include erosion control, increasing diversity, growing nitrogen, weed control, and providing fall forage. In 2019-2020, cover crops were interseeded into V4-V5 corn at eight locations for on-farm research. In 2019, no yield differences were observed between the cover crop and untreated check (p=0.75). However, only 97 and 220 lb/ac biomass was obtained for one location while the cover crop died at the second location due to herbicide re-activation by rain and irrigation. In 2020, a partnership was formed amongst five agencies with six farmers choosing to conduct on-farm research interseeding cover crops. Due to the 2019 experience, no residual herbicide was used at the six locations. A July 9, 2020 windstorm resulted in greensnap, bent corn, and weed and cover crop growth. Cover crop biomass taken pre-harvest ranged from 277 lb/ac to 3818 lb/ac. While weed biomass was also substantial in some locations, there were no differences between weed biomass in the cover crop and check treatments at the individual locations. Four of the six locations had yield losses in 2020 where the cover crop was interseeded. Despite this, the farmers remain optimistic as this is the first of a three-year study at each of these locations. One farmer shared, “In spite of the yield loss, I’d rather be on the cutting edge figuring out if I can make this work or not.” In-person farmer meetings, use of a texting group and sharing google photos has also been key in sharing ideas and providing support and encouragement. This presentation will share more detail of the interseeding processes tried, cover crop mixtures, seeding rates, data collected, successes, failures, and changes that will be implemented for 2021.

EFFECTS OF CORN STALK BALING ON SOIL, YIELD, AND ANIMAL PERFORMANCE

Presenter: Schick, B., Extension Educator - Beef Systems, Nebraska Extension, Fullerton, NE 68638

Corn stalk, or residue, baling has become a more common practice as producers attempt to find more value in their acres. The bales are harvested for feed, bedding, and cellulosic ethanol production. Producer questions arose on the effects of baling on soil properties, subsequent yields, forage quality, and simply how to bale corn stalks properly. We created a team to assimilated research data from the University of Nebraska, USDA, and industry partners to show these effects and how equipment methods and settings can preserve soil and increase feed quality. We examined harvest method effects on bale and feed quality, yields, nutrient value of residue, and baling recommendations. Different portions of the plant parts have different digestibility and harvest method affects the bale quality. Growing calves fed bales that were raked and baled behind the combine gained 2.11 lbs/hd/day while baled behind a cornrower head with two rows chopped gained 2.34 lbs/hd/day. Thirty-six studies showed an average of 3% increase in corn grain yield with residue removal vs. no removal when moisture wasn’t limited. One ton of corn residue contains 17 lbs. of nitrogen, 4 lbs. of phosphate, 3lbs. of sulfur, and 34 lbs. of potash. It is suggested to leave at least 2.4 tons/ac of corn residue. To avoid over harvesting nutrients, in continuous corn, bale every other year and in a corn-soybean rotation, bale reside every four years. The settings for equipment used for baling corn residue was presented at Husker Harvest Days by industry partners and our team.

ALFALFA, APHIDS, AND INSECTICIDES: CONTROL, ATTRACTION, AND REPELLENCY?

Presenter: Rethwisch, M. D., Farm Advisor - Crop Production And Entomology, University Of California Cooperative Extension, Blythe, CA 92225

Aphids, especially blue alfalfa aphids, have become a major problem in western US alfalfa, with the past two years (2019 and 2020) each setting records for highest numbers collected/sweep in US history. Data gleaned from recent insecticide trials have provided insights into different aspects of control/management of the various aphids attacking alfalfa. Data indicate blue alfalfa aphids are attracted to alfalfa that has a yellowish tint, and pea aphid numbers increase following application of Steward insecticide. Data also noted variances between insecticides, as some provide much better repellency of winged aphids than control of non-winged aphids. Aphid control by and among insecticides also differs greatly from seedling alfalfa compared with much larger and faster growing alfalfa.

DISTRIBUTION AND MANAGEMENT OF WIREWORMS IN WESTERN WASHINGTON ORGANIC VEGETABLE PRODUCTION

Presenter: Brouwer, B., Extension Educator, Washington State University, Friday Harbor, WA 98250

Wireworms, the larva of click beetles, are generalist soil dwelling pests that feed on a wide range of agronomic and vegetable crops. By feeding on seeds, transplants, roots and tubers wireworms reduce crop stands, performance and reduce marketability. Severe infestations can result in crop loss of over 50%. Wireworms are long lived (3-5 years) and control options, particularly in organic production systems, are very limited creating a persistent problem for producers. The two predominate species of concern in western Washington, Agriotes lineatus and Agriotes obscurus, where likely introduced to the region from Europe in the 1900s and were first reported in Washington state in the 1997. To improve understanding of current distribution and management of wireworms we: 1.) surveyed distribution in Washington using pheromone traps; 2.) investigated management in organic lettuce production using trap cropping and a Spinosad bait insecticide. Our results confirm that the species, Agriotes lineatus, is now widespread in western Washington. Trap cropping was found to effectively reduced crop loss in some on-farm trials, while Spinosad was not found to be an effective control. Implications for integrated management and future research will be discussed.

Animal Science

REACHING BEEF CATTLE PRODUCERS IN A VIRTUAL WORLD

Presenters: Bainum, C. L., Livestock Extension Agent, University Of Florida, Ocala, FL 34470
Bosques, J., Agriculture Agent, University Of Florida, Wauchula, FL 33873
Justesen, B., Livestock Agent, University Of Florida, Kissimmee, FL 34744
Wilson, T., Agriculture Agent, University Of Florida, St. Augustine , FL 32092
Jennings, E., Agriculture Agent, University Of Florida, Bronson, FL 32621
Yarborough, J.K., Agriculture Agent, University Of Florida, Orlando, FL 32812
Brew, M., Livestock Agent, University Of Florida, Tavares, FL 32778
Bennett, L., Livestock Agent, University Of Florida, Dade City, FL 33525
Taylor, K., Agriculture Agent, University Of Florida, Deland, FL 32724
Rivera, F., Agriculture Agent, University Of Florida, Seffner, FL 33584
Walter, J., Agriculture Agent, University Of Florida, Cocoa, FL 32926

The Livestock Agents of Central Florida had to cancel all in-person beef cattle programs due to COVID-19. With an influx of smaller acreage farming taking place in Central Florida, many people have interest in raising beef cattle. There is a general lack of knowledge with clientele that are not from Florida managing forages and livestock or those that are new to the industry. Finding ways to engage with livestock producers and help them improve their management has been a challenge in Extension during COVID-19 when the only educational tools we can use are virtual. The agents decided to hold a three-week lecture series targeting beginner beef operations. Objectives included knowledge gain and improved understanding of beef cattle production in the Southeast. More specifically, how to determine operation objectives and implement management strategies for an economically sustainable operation. This lecture series was designed as a two-hour class held on the Zoom platform from 6-8 PM each Tuesday over a three-week period. Past survey responses from this clientele showed they preferred evening programs that were no longer than two hours. Two topic areas were covered each lecture. UF/IFAS County faculty from the Central Florida Livestock Agent's Group taught the entirety of this program with topics ranging from breeding season management, culling decisions, beef cattle nutrition, to herd health and beef quality assurance principles. Total attendance for this series was 76 people. Using pre- and post-testing, knowledge

gain increase was as follows with n= 23: Objectives of beef production in Florida (60%), Pasture management (20%), Breeding season management (30%), beef cattle nutrition topics (40%), Beef quality assurance and record keeping (47%). Although in-person teaching was halted during 2020, and reaching the livestock audience virtually can be challenging, this series worked to meet the schedules of beef producers and facilitate learning. Online programming allows for a wider reach, there were more than 12 counties represented during this program. The ability to record these lectures for participants to watch later was key for many of these producers. Surveys suggest online learning is not more preferred than in-person classes, but they can still be effective.

COMPARISON OF RAM, WETHER, AND SHORT-SCROTUM RAM LAMBS

Presenters: Schoenian, S., Sheep & Goat Specialist, University of Maryland, Keedysville, MD 21756
Jeff Semler, Principal Agent, University of Maryland, Boonsboro, MD 21713
Amanda Grev, Extension Specialist, Forage and Pasture Management, University of Maryland, Keedysville, MD 21756
Ashley Travis, 4-H Youth Educator, University of Maryland, Boonsboro, MD 21713
Chris Anderson, 4-H Youth Development Speciialist, University of Maryland, Colleage Park, MD 20740
Dahlia O'Brien, Associate Professor/Extension Specialist, Virginia State University, Petersburg, VA 23806
Maegan Perdue, Agriculture Associate Agent, University of Maryland, Snow Hill, MD 21863
Mary Beth Bennett, Extension Agent and Extension Associate Professor, West Virgina University, Martinsburg, WV 25401
Stephan Wildeus, Research Professor, Virginia State University, Petersburg, VA 23806

Intact ram lambs grow faster and produce leaner carcasses than wethers, making them a more profitable option for producers. However, unwanted pregnancies are a risk of commingling intact males and females. The short scrotum procedure was evaluated as an alternative to traditional castration. Growth, carcass, and reproductive traits of ram, wether, and short-scrotum ram lambs were compared in two consecutive yr. East Friesian x Lacaune lambs (2018, n=61; 2019, n=65) were randomly left intact (RAM), castrated (WETHER), or rendered short-scrotum (SC) by 10 d of age. After weaning, lambs were transferred to the Western Maryland Research & Education Center, where they were grazed as one group for 110 d, while being supplemented with a grain mixture at 2-3% of body weight. Lambs were weighed bi-weekly and evaluated for reproductive traits at the end of the study. Each lamb was subjected to a 5-min pen test (with 2 CIDR-treated estrous ewes) to determine mating behavior. Semen was collected via an AV from RAM (n=7) and SC (n=7). All lambs were harvested to collect carcass data. Reproductive tracts were recovered from RAM (n=5) and SC (n=5). In both years, RAM and SC had higher ADG and heavier final weights than WETHER. There were no statistical differences in carcass weights in 2018; RAM carcasses were heaviest in 2019. In both years, WETHER had greater BF and higher yield grade. Sex did not influence dressing percentage (DP) in 2018, but WETHER had higher DP in 2019. Body wall thickness and percent kidney and heart fat were not affected by sex in either year. Sex did not influence carcass muscling, as there was no difference in rib area when it was adjusted to a common carcass weight, and there was no effect of sex on leg conformation score. In both years, SC had significantly smaller testicles and epidural weight than RAM. RAM and SC exhibited similar mating behaviors (sniffs, kicks, and mounts), but RAM had more services. In both years, ejaculate volumes were not different. In 2018, SC ejaculates were essentially devoid of sperm, whereas one SC had detectable sperm in 2019. The superior growth of RAM and SC was evident, but despite the sterility observed in most of the SC, there is no guarantee that short-scrotum rams will not get ewes pregnant, as reproduction was was not ceased in all of the SC lambs. Interested people were able to follow the research by reading or subscribing to the blog (https://wmrecresearch.blogspot.com). Information and results were also shared via newsletters, presentations, field days, web sites, print media, and social media. As a result of the research and information presented, many producers adopted the short-scrotum procedure.

WINTER SUPPLEMENTATION SEMINAR

Presenter: Wiggins, L., Extension Agent Ii, Ms, Hendry County Extension Service, Labelle, FL 33975

South Florida is a unique environment to raise cattle. Ranchers are able to graze year-round providing forage for their cattle. Issues arise when forage quality and quantity declines and cows begin declining in body condition during lactation. The livestock extension agents in South Florida noticed a need for providing information that producers could use to properly and economically supplement their animals through the winter months. The virtual Winter Supplementation Seminar was developed to meet these needs with COVID-19 restrictions considered. The seminar covers cattle nutritional requirements, forage supplementation, winter supplementation opportunities and managing the cost of supplementation. The topics were

addressed through a series of questions that a producer panel answered during a 1 hour Zoom session, which is now posted on the planning committee's YouTube channel to allow for additional views:(https://www.youtube.com/watch?v=I_a8l_S_X_Y). The producer panel consisted of Alex Johns, the Seminole Tribe of Florida Cattle & Range Director; Matt Pearce, rancher and Florida Cattlemen's Association President; Alan Smith, owner of the Southern Accent Brangus Ranch, and the UF/IFAS Livestock Economist, Chris Prevatt. Thirty-nine (39) ranchers participated in the incredibly interactive Zoom session and 72 have viewed the posted YouTube video, which is promoted through individual livestock newsletters in 10 counties, the Seminole Tribe of Florida and the UF/IFAS Range Cattle Research & Education Center. A post reflective evaluation of participants indicates that there was an 80% increase in knowledge with 50% planning to adopt new management practices learned during the Seminar. Two practices the participants indicated they would change are: 1. Evaluating and recording body condition scores to aid in the decision of when to start and stop supplementing. 2. Mixing stock salt with trace mineral VS feeding them separately to encourage adequate mineral consumption through the Summer months.

TOOLS FOR DAIRY RISK MANAGEMENT

Presenters: Hartschuh, J. M., ANR Educator, The Ohio State University Extension, Bucyrus, OH 44820
Zoller, C., Associate Professor, ANR Educator, The Ohio State University, New Philadelphia , OH 44663
Shoemaker, D. E, Field Specialist, Dairy Production Economics, The Ohio State University, Canfield, OH 44406

The number of U.S. dairy farms is declining every year because of poor profitability. In 1980, the average milk price was $13.05/cwt but when adjusted for inflation to 1983 was $15.84/cwt. Fast forward 40 years to 2019 with an average milk price of $18.63/cwt but when adjusted for inflation falls short at only $7.29/cwt making it hard for dairy farms to continue. Over the last 10 years, US milk price has been as high as $25.70/cwt in September of 2014 and as low as $13.60/cwt in May of 2020. A better measure of potential farm profitability, the margin between US all milk price and feed cost, has been as low as $2.50/cwt and been as high as $15.00/cwt.during the same 10-year period. We developed the "Dairy Risk Management Tools for Producers" webinar to help dairy producers understand tools available to manage milk price and feed cost volatility. This was part of a Dairy Risk Management mini-series developed by Ohio State University Extension. Topics addressed in this webinar included: knowing your cost of production, benchmarking financial performance, and an overview of the Dairy Margin Coverage (DMC) program, the Dairy Revenue Protection (DRP) program, and Livestock Gross Margin (LGM) insurance in the context of managing price volatility. This presentation will explain the development of the program, the principles behind these tools, and how you can develop a similar program.

VIRTUAL CONNECTIONS: TACKLING DYSTOCIA WITH SHEEP AND GOAT PRODUCERS

Presenters: Smith, J., Extension Educator Anr/4-H, Ohio State University, Delaware, OH 43015
Barnes, T., Extension Educator ANR, Ohio State University, Marion, OH 43302
Gelley, C., Extension Educator ANR, Ohio State University, Caldwell, OH 43724
Campbell, B., Program Coordinator- OSU Sheep Team, Ohio State University, Wooster, OH 44691
Leggett, R., Program Assistant, Ohio State University, Delaware, OH 43015
Leeds, R., Extension Educator ANR, Ohio State University, Delaware, OH 43015

2020 was a challenging year for Ohio's livestock sector. With the pandemic quarantine, reaching that sector was difficult but a priority for many in Extension. One issue that needs to be addressed in a timely manner with our small ruminant producers was dystocia. Difficult births are one area that can impact the economic successfulness and genetic progress of small ruminate producers. To tackle this important issue OSU Extension, provided a webinar featuring a resource video and live presentation using lambing simulators. The timing of the session was planned to allow sheep and goat producers to attend this webinar a few weeks before the information would be needed for lambing/kidding decisions. The post webinar evaluation indicated that: 98% of participants felt more prepared to handle dystocia issues, 96% indicated an increase of their confidence in diagnosing and solving malpresentation scenarios. 98% felt confident that they are now more likely to have a successful lambing/kidding season. Participants commented that they found the video useful and a good resource, "The video presentation using the simulator was most useful. Since I am new to lambing, I will be viewing the video a couple of times more before my lambs are due. Within 3 days of the video being posted the YouTube link was shared by other Extension Educators and by an industry Facebook group. Since its posting the dystocia video has received 1,207 views with a total educational time of 95.9 hours. Audience retention is high, the video continues to have 52% viewership at the 1-minute mark and 32% at the 10-minute mark. While most of the views of the video came from the United states there was also a significant number of views (5.2%) from the

high sheep production country of Australia. https://www.youtube.com/watch?v=qsEZB4kOg34

PURDUE EXTENSION: REACHING A GLOBAL SMALL RUMINANT AUDIENCE

Presenters: Rodgers, E., Extension Educator, Purdue Extension, Auburn, IN 46706
Dzimianski, S, Extension Educator, Purdue Extension, Tell City, IN 47586
Kepler, M., Extension Educator, Purdue Extension, Rochester, IN 46975
Kelly, R., Extension Educator, Purdue Extension, Goshen, IN 46528
Carter, C., Extension Educator, Purdue Extension, Columbus, IN 47201
Ingle, R.M., Extension Educator, Purdue Extension, Kokomo, IN 46901

The small ruminant inventory in Indiana has increased, on average, by 120% since 2016 (National Ag Statistics Survey, 2016 and 2020). Many of these inventory numbers are from first-time sheep and goat owners that have many questions they want answered. In Fall 2019, the Purdue Small Ruminant team began "ruminating" on the idea of an online "lunch 'n learn" style program to deliver this needed information to our clients. With the onset of the coronavirus and quarantining, this idea quickly turned in to a successful international program. The first ten programs took place March 26 to May 28 on every Thursday. Once this first set of sessions took place, we adjusted the schedule to once a month through the end of the year (and have continued on in to 2021). Seventeen Small Ruminant Lunch 'N Learn webinars were delivered live to over 500 individuals from 22 different states and two Canadian provinces. 1,167 recorded viewings have taken place to date. Six Purdue Extension Educators, four Purdue University campus specialists, and one veterinarian delivered the programming in 2020.
Of the attendees:
73% owned/managed goats and 27% owned/managed sheep
33% had herds and flocks of 1-10 animals
20% had herds/flocks of 11-20 animals
10% had herds/flocks of 21-20 animals
7% had herds/flocks of 31-50 animals
12% had herds/flocks of 51-100 animals
As a result of the Purdue Small Ruminant Team Lunch 'N Learn presentations:
11% of participants planned or had implemented sanitary milking procedures
55% of participants planned or had implemented checking pastures for toxic plants
42% of participants planned or had implemented prenatal vaccinations of females and gathered birthing kits
75% of participants planned or had implemented forage tests on their hay
75% participants planned or had implemented matching nutritional needs with production stage of animals
50% of participants planned or had implemented selective deworming practices
10% of participants have reported a decrease in their costs associated with raising their small ruminants
35% of participants have increased their overall confidence in raising Small Ruminants
The Purdue Small Ruminant Lunch 'N Learn series is continuing in 2021.

UW MADISON DIVISION OF EXTENSION'S BEEF SPREADSHEET TOOLS FOR IMPROVING MANAGEMENT DECISIONS

Presenter: Halfman, B., Cauffman, A., Sterry, R., Agriculture Agent, University of Wisconsin Madison Division of Extension, Sparta, WI 54656

Bill Halfman, Amanda Cauffman, and Ryan Sterry University of Wisconsin Madison Division of Extension

The purpose of this educational effort was to improve beef producer's decision-making using spreadsheet based, cost calculators and budgeting tools developed by Extension Educators. These decision tools are designed to be user friendly, in addition to incorporating research-based information and best management practices. Eleven decision tools are currently available, free of cost, on the UW-Madison Division of Extension Livestock Topic Hub. These decision tools cover a range of topics, including calculating yardage costs, enterprise budget and closeout spreadsheets for feedlot and stocker enterprises, cow calf enterprise budget, replacement heifer budget, herd size growth calculator, and forage inventory.

The development of the various decision tools began with educational efforts responding to a drought in the early 90's. The first spreadsheet provided cow calf producers an easy to use tool to help them compare their forage inventory and needs. It was designed to assist with making decisions on how much forage to purchase or how many animals to sell. Over time several tools have been developed to provide assistance for answering common questions for cow calf, stocker, and feedlot enterprises. The goal has always been to provide user friendly tools that producers can "take home to use".

A 2018 survey of UW Extension's Wisconsin Beef Information Center website subscribers (N=258, n=24) found 70% of

respondents used the Cow-Calf Enterprise Budget, 20% the Stocker Enterprise Budget, and 8% the Feedlot Closeout Spreadsheet. Twelve respondents indicated making changes as a result of using the tools. Eleven respondents reported that they did not make changes but were more confident in decisions made after using the tools. A similar survey was sent to UW Extension county-based staff and Wisconsin Adult Agriculture Technical College Instructors (N=87, n=15) in 2018. The most used tools were the Cow-Calf Enterprise Budget (75%), the Feedlot Enterprise Budget (50%) and the Estimating Hay Use Calculator (50%). Seventy-nine percent of respondents indicated they had shared the tools with their customers or clients. Seventy-five percent of respondents indicated that their customers or clients made changes to their management from using the tools.

Several of the decision tools have been presented through statewide cow calf and cattle feeders meetings and the multi-state Driftless Region Beef Conference. For example, the Feedlot Closeout Spreadsheet was presented to 232 attendees at the 2018 Cattle Feeders series. Most recently, the Forage Inventory and Beef Replacement Heifer Cost Calculator were presented during the 2020-21 Beef Winter Special Edition webinar series. Several of these decision tools have been utilized and promoted to farmers by allied industry professionals around the United States.

REACHING WOMEN IN AGRICULTURE DURING A PANDEMIC THROUGH A NEW APPROACH TO AN ESTABLISHED PROGRAM

Presenters: Schleicher, A.D., Field Specialist in Livestock, University of Missouri Extension, Rock Port, MO 64482
Bluel, R., Field Specialist in Dairy, University of Missouri Extension, Mt. Vernon, MO 65712
Bromfield, C., Assistant Extension Professor of Swine Production Medicine, University of Missouri Extension, Columbia, MO 65211
Clifford-Rathert, C., Veterinary Medical Officer, USDA Veterinary Services Field Operations, Jefferson City, MO 65109
Conrow, H., Field Specialist in Livestock, University of Missouri Extension, Fayette, MO 65248
Ellis, A., Field Specialist in Livestock, University of Missouri Extension, Fulton, MO 65251
Funkenbusch, K., Instructor, Human Environmental Sciences, University of Missouri Extension, Columbia, MO 65201
Graham, K., Field Specialist in Livestock, University of Missouri Extension, Farmington, MO 63640
Kelly, D., Field Specialist in Horticulture, University of Missouri Extension, Hillsboro, MO 63050
Larimore, E., Senior Research Specialist, Animal Science, University of Missouri Extension, Columbia, MO 65211
Monnig, J., Field Specialist in Livestock, University of Missouri Extension, Princeton, MO 64673
Picking, E., Field Specialist in Livestock, University of Missouri Extension, West Plains, MO 65775
Schreck, B., County Engagement Specialist in Livestock and 4-H Youth Development, University of Missouri Extension, Monticello, MO 63457
Shannon, M., Professor, Animal Science, University of Missouri Extension, Columbia, MO 65211
Tate, V., Field Specialist in Agronomy, University of Missouri Extension, Linneus, MO 64653
Wibberg, T., Livestock Producer, Owner/Operator, Wibberg Farms, Taos, MO 65101

The COVID-19 pandemic in 2020 resulted in many extension programs transitioning to new formats in order to continue to reach people. Since 2014, the Pearls of Production: Women in Agriculture conference, an annual, two-day conference, has provided interactive educational opportunities for women in livestock production. In 2020, the program team pivoted to a virtual conference, called Pixels of Production: Women in Agriculture, thanks to grant funding received. The team, made up of extension agriculture specialists at the state and field level, as well as partners from industry and governmental agencies, worked together to create this four-evening conference. Each evening included two speakers on educational topics, and a keynote speaker with a motivational, inspirational, or leadership-related topic. Educational topics included ergonomic tools for health and safety, livestock identification, timber sales, silvopasture, ABCs of USDA programs, grants, and regenerative agriculture. Keynote presentations addressed diffusing differences in agriculture, vaccinology, beginning women in agriculture, and never giving up. There were 104 individuals registered. Social media posts about the conference reached 12,000 people, 8,000 of which were in Missouri. Followers of social media increased by 200 for a total of 750. Sessions were recorded and available for one month after the last session; recordings were viewed 167 times. An evaluation was emailed to participants after each session. Knowledge gained ranged from 49 to 125%. Comments from women in attendance indicated that the information provided was valuable and would be implemented on their farms, but also suggested that they felt more confident, and appreciated the positive and uplifting messages during a difficult time.

REACHING TRIBAL RANCHERS IN SAN CARLOS APACHE TRIBE.

Presenters: Arias, J., Assistant Agent, Frtep Tribal Extension Programs, University Of Arizona, Globe, AZ 85501
Betsy Greene, Equine Specialist, UA Extension, Tucson , AZ 85721
Ashley Wright, Livestock Specialist, UA Extension, Willcox, AZ 85643

The San Carlos Apache Livestock/Equine Resource Program was developed and implemented to address local needs for the Tribe and their ranching community. Effective communication is best achieved through developing relationships and listening to their stories, which is a strong part of their language and passing of knowledge. From these storytelling conversations, high-priority topics for the cattle/equine health/management workshops were identified through existing relationships and meetings. In response to this input from local leaders and tribal entities', a series of workshops, development of resources, and implementation of outreach programs were initiated to establish livestock, equine, and agricultural education specifically geared towards the Apache rancher needs. The activities and resources included: educational seminars, hands-on workshops, development of a San Carlos Apache Rancher Resource Guide and a biosecurity poster translated to Western Apache language, and creation of "starter first aid kits" for horses and livestock for ranching families. All of these things were created in collaboration and partnership with Apache Cattle Association and the Apache Language Preservation program. This resulted in a consultation with several Apache cattle association members and livestock owners to increase Livestock/Equine support and interest through language adaptation, bringing in local examples using available resources, and developing relationships to strengthen community trust. Several tools and resources were adapted to help gain traction and support from local leaders. The program presented opportunities to adapt current practices and evolved them to more efficient traditional methods using local resources and practices in the area. Following livestock resource workshops, 50% of tribal members indicated they have implemented Extension resources in their operations and 100% indicated that Extension resources were valuable to the community. The relationships established led to language adaptation tools developed, resources applicable for the program's foundation, and future projects to come. Since most important information is received through storytelling, the major impacts come from quotes from tribal members. The program's impact is demonstrated by the President of the San Carlos Cattle Association's words: "This is the right direction to get members involved and reconnected to their operations. It is a way to remind them that this is part of their culture."

REGIONAL YOUTH LIVESTOCK FIELD DAYS: A SUCCESSFUL EXTENSION MODEL EDUCATING YOUTH AND ADULTS FROM MULTIPLE COUNTIES AND STATES

Presenters: Schmidt, J. L., County Director And 4-H Youth Educator, Washington State University Extension, Colfax, WA 99111
Heitstuman, M.D., County Director and Extension Educator, Washington State University Extension, Asotin, WA 99402

Seventy-four percent of all 4-H youth in Asotin, Garfield, and Whitman Counties in Washington; and Nez Perce County in Idaho are enrolled in youth livestock projects. In order to address this high priority area of 4-H programming, faculty and staff in the 4-county region have formed a diverse team to deliver Youth Livestock Field Days that teach both youth and adult leaders how to successfully raise a market livestock projects from "Farm to Plate". There are only 5 Extension faculty in a 15-county area with 4-H livestock responsibilities. Therefore, a regional model was adopted as an effective method to deliver high quality educational programs across a broad geographical area; and to maximize program impacts. Youth Livestock Field Days are held each March in Lewiston, ID and Asotin, WA. A total of 6 Youth Field Days have been held in 2018, 2019 and 2020. Youth Beef and Swine Field Days were held in 2018; Youth Beef, Sheep and Goat Field Days were held in 2019; and due to COVID, only a Beef Field Day was able to be held in 2020. Youth are divided by age and experience into small groups to provide as much interaction and experiential learning as possible during 30 to 40-minute rotations. Presenters include Extension faculty/staff; veterinarians; successful livestock producers; faculty and students from Washington State University and the University of Idaho Department of Animal Sciences; the WSU College of Veterinary Medicine; and livestock industry advisors. Field Day Proceedings and on-line resources are also provided to each participant. Evaluations completed by both youth and parents at the end of each Field Day indicate that participants increased their knowledge and skills regarding livestock selection, nutrition, care, management, fitting & showing and quality assurance related to their market animal projects. A major impact of this program has been the ability of local Extension Offices to strengthen their partnerships with local veterinarians, feed stores, livestock producers, and others that support youth livestock projects through these field days.

Early Career Development

AN EXAMPLE OF OBTAINING GRANT TO LAUNCH A NEW EXTENSION PROGRAM

Presenter: Cui, X., Extension Area Specialist, University of Tennessee, Clarksville, TN 37040

Extension professionals actively search for external funds to put on new programs. There are many public and private grants available for educators to put on impactful programs. This session presents the success of an exploratory project granted by the Southern Extension Risk Management Education Center, 'First Aid/CPR Training: Improving Farm Safety for H2A Workers on Tobacco Farms'. Using this example, key principles of successful program planning, grant writing, and reporting are discussed.

PUBLISHING AN ARTICLE IN THE JOURNAL OF NACAA

Presenter: Llewellyn, D. A., Livestock Extension Specialist, Washington State University, Pullman, WA 99164

In Extension, scholarly activity comes in many forms and most Extension professionals are conducting research and/or programming that may well serve as a topic for an article. The Journal of NACAA is a way to preserve a durable record of your work. Publishing in the peer-reviewed Journal of NACAA is a valuable and gratifying way to build your CV and to establish yourself as a scholar in Extension. Even if you have never published a paper, the Journal of NACAA is a way for members to showcase their work. This facilitated discussion will be led by the Journal of NACAA's Editor, will cover ideas for articles, planning for successful publication, where to find assistance, what reviewers are looking for, and navigating the online submission process.

DARN I WISH I'D KNOWN THAT! IF I ONLY KNEW THEN WHAT I KNOW NOW!

Presenters: Bennett, P., State Master Gardener Volunteer Coordinator, Anr Educator, Ohio State Univeristy Extension, Springfield, OH 45505
Stone, A., ANR Educator, Ohio State University Extension, Toledo, OH 43604

Extension provides policies and procedures, coaches and mentors, and so many other resources to help us succeed in our jobs. However, how many of the tips and tricks of the "trade" aren't found in these resources? If you want to potentially increase your success in Extension, learn from the "OLD DOGS!" We might not learn new tricks (technology), but we certainly have the advantage of age (sometimes it's nice to be the old gals!) and the wisdom that comes with age.

Despite the numerous resources, there are times when early career development requires knowing more that what is found in a manual. Learn about resources that aren't always in writing and where to find these resources. Topics such as fundraising for your programs made easier, the value and importance in local community relationships, getting outside of your "box" travelling with colleagues, developing personal habits to make your job easier, and more will be discussed. We will share lessons learned through the years along with those from our colleagues (other old dogs) that aren't found in any Extension manual. This presentation gives you the opportunity to get your Extension career questions addressed.

Our 56 years of combined experience guarantees you will learn at least one thing that you can act on to help you succeed and that is applicable to any University Extension program. Don't go through your Extension career and get to retirement only to say, "Darn I wish I'd known that!"

CREATING A BRANDED CAMPAIGN TO SHARE YOUR (EDUCATIONAL) MESSAGE

Presenter: Saunders, O., Extension Field Specialist, Food & Agriculture, Unh Cooperative Extension, Conway, NH 03818

Our job as extension educators is to communicate science to a host of different stakeholders, from farmers to legislators, homeowners to government officials. Many of us come to this work as trained agricultural scientists, with little training or experience in communication. There is opportunity to develop our skills as science communicators and reconsider our traditional avenues for education and outreach that go beyond the classroom and the farm. This presentation will build off a book titled "Don't be such a scientist" which acknowledges that what the world needs is better science communicators, not more science. This presentation will dive into new and innovative ways to get your message out thru developing your own branded campaign, as developed at the University of New Hampshire Extension. Examples include the NH Cover Crops "We've Got it Covered" campaign, The Farmer Mental Health #FarmingTogether Campaign and (future) climate change on NH Farms campaign. With the use of hashtags, social media, and photo journalism we are able to reach a wider audience than we do at a workshop or with email communication. By using storytelling to share the story behind the data we are able to motivate individuals into action that would not occur when graphs and charts are our primary way of communicating science. Through the use of a strategic campaign, and by working with marketing and communications staff, we can

get our scientific and educational message out to a wider audience, and engage learners in digital ways that don't just include the farm but the community as a whole.

HOW TO KEEP YOUR DUCKS IN A ROW – A NEW HIRE'S GUIDE TO SURVIVING CHAOS

Presenters: Seefeldt, L., Dairy And Livestock Agent, University Of Wisconsin-MadisonDivision Of Extension, Altoona, WI 54720
Davis, K., Agriculture Educator, University Of Wisconsin-MadisonDivision Of Extension, La Crosse, WI 54601
Voss, A., Agriculture Educator, University Of Wisconsin-MadisonDivision Of Extension, Mauston, WI 53948

As a new Extension Educator, there are many things that you need to learn and it can seem overwhelming at times. In this program, you will learn where and when to seek out help, things you need to learn how to say, and how to help set yourself up for success in Extension. There are many questions that you will get asked that create more questions. In this session you will also learn some of the common questions you will get with when you first start, and how to tackle them. What techniques are handy in the life of an agriculture educator? What processes are useful for solving questions that you don't know the answer to? What tips and tricks will help make you a successful new educator? Learn about what a dead bug, a phone, and a quarter can do for your Extension career and keep those ducks in line.

Horticulture & Turfgrass

MYTH BUSTING FOR EXTENSION EDUCATORS: REVIEWING THE LITERATURE ON SOIL NUTRITION

Presenters: Chalker-Scott, L., Extension Specialist And Associate Professor, Washington State University, Puyallup, WA 98371
Downer, A.J., Farm Advisor, University of California, Ventura, CA 93003

Home gardening is increasingly popular, particularly during a global pandemic when many people are confined to home and are spending more time outside. Novice and experienced gardeners alike are likely to access agricultural production information that is not necessarily relevant to their home gardens or landscapes. Specifically, there are soil fertility guidelines intended for intensive, monocultural crop production that can harm plants, soil biota, and nearby aquatic systems when applied to a home garden situation. Last year we addressed this misapplied science with an article in the Journal of NACAA (https://www.nacaa.com/journal/index.php?jid=1134). In this presentation we will address common misperceptions about managing soil nutrition in nonagricultural situations.

THE URBAN FARM DEMONSTRATION GARDEN AT THE UTAH STATE UNIVERSITY BOTANICAL CENTER

Presenter: Hansen, S., Extension Assistant Professor, Utah State University Extension, Kaysville, UT 84037

The number of urban farms in Utah is rapidly increasing as large parcels of land historically used for farming are being used for development. From 2102 to 2017, according to the 2017 Agriculture Census, Utah lost 162,792 acres of farmland, but gained 382 farms. The Urban Farm Demonstration Garden (UFDG) was established at the Utah State University Botanical Center in 2018 with the purpose of creating a space to teach micro-scale urban farming techniques to both local urban farmers and Master Gardeners. Crops that are grown in the 1/8-acre space include tree fruit, berries, vegetables, herbs, and cut flowers. Specialized skills are implemented and taught to maximize production in small spaces; these skills include intensive planting strategies, vertical trellising, specialized irrigation design, season extension, and crop rotation. The UFDG has been used to teach these skills to 150 Master Gardeners and multiple micro- and small-scale urban growers through both hands-on classes and online formats including social media videos. The UFDG produced nearly 1,000 pounds of food valued at $2,397.00 in 2019 and 2,050 lbs. of food valued at $4,250.00 in 2020. The 0.015-acre cut flower section of the garden produced 2,800 marketable stems with a value of $2,740.00. Produce from the garden is harvested by Master Gardener volunteers bi-weekly throughout the growing season and is donated to various food insecure populations throughout Davis County. Cut flowers are harvested weekly and donated to local long-term care facilities to enrich patient lives.

CROSSING BORDERS: CONDUCTING VIRTUAL MULTI-STATE EXTENSION EDUCATIONAL PROGRAMS FOR THE GREEN INDUSTRY

Presenter: Daly, T., County Extension Agent, University Of Georgia, Lawrenceville, GA 30046

With the COVID –19 pandemic, green industry professionals face challenges in obtaining the necessary training to learn new methods and technologies and get the required credits to maintain their pesticide licenses and arborist certification. Typically Extension holds in-person programs for these audiences, but the pandemic's onset puts a stop on them. Timothy Daly, County Extension Agent for UGA Extension in Gwinnett County, GA, has partnered with agents and

specialists in North Carolina, South Carolina, and Florida to offer recertification programs to audiences in all four states providing the necessary credits for their license in each state. The agendas consisted of multiple speakers who gave presentations on diverse topics. The programs were conducted virtually via Zoom Conferencing. Two programs have been held since the Fall of 2021, with a total of 147 participants. In a post-class evaluation by Qualtrics, 95% of participants indicated that the program would help them use pesticide in a safer, more efficient manner, 70% said they would make changes in the way they handle pesticides and control landscape and turf pests, and 70% said they would save money based upon the knowledge gained at the programs. One participant commented, "We have been making changes to stay ahead of problems; many are the ones discussed in the presentations," and "Thank you for your support of the industry. Your programs are a great source of affordable credit hours."

WEST VIRGINIA'S GROW THIS! PROGRAM INCORPORATES HORTICULTURAL PRODUCTION AND NUTRITIONAL EDUCATION

Presenter: Richmond, J., Extension Agent, WVU Extension Agent, Princeton, WV 24740

Gardening is positively associated with improved diet quality and lower Body Mass Index which can play a role in improving health outcomes on both individual and population levels (Algert et al, 2016). More specifically, both adult and youth populations show improvements in vegetable consumption when they garden (Algert et al, 2014; Carney et al, 2011; McAleese, 2007; Parmer, 2009). Other benefits associated with gardening include increased food security among lower income populations and improved stress relief and other psychosocial measures of health (Galhena 2013, Algert et al 2016, Cases et al. 2016).

Beginning in 2018, West Virginia's SNAP Ed and WVU Extension's Grow This! Program has combined horticultural production and nutritional education. A state-wide social media and community outreach campaign to increase awareness, interest and participation in gardening, Grow This! has an overall goal of improving diet quality and food security among participants. 36, 734 people throughout West Virginia participated in 2020, receiving free seeds, grower guides for the vegetable plants, weekly educational and Facebook posts, or engaging in ask the expert sessions or in-person events. Some participants had never gardened before; others had gardened many years before and were eager to try again. 21,773 received an electronic newsletter over 31 weeks. 444 of these individuals responded to the post-participation survey. Respondents indicated that because of the campaign they ate, shared, and preserved the produce from their gardens. 46% of the respondents ate more vegetables than before, therefore increasing their diet quality; 29% reported increased food security and food self-reliance, and 17% of respondents reduced their grocery bills. One participant said, "during this crisis we have been having issues of there not being much food on the shelves in the store, so we want to grow some vegetables of our own to eat and possibly can for later." The Grow This Challenge has extended beyond the state of West Virginia. The program was replicated in three other states; Oregon's debut had more than 975 sign-ups within the first two days of advertisement. WVU Extension Service is continuing to develop partnerships and programming to combat food insecurity in the state. Grow This has expanded for 2021 with collaboration across Extension program units, identifying those interested in gardening, food preservation, and nutritional information. 31,000 contacts are now participating in the newsletter and five new Grower Guides are going out this year.

UTILIZING EXTENSION, A FLORIDA CITY WORKS TO REVOLUTIONIZE TREE PLANNING

Presenters: Moffis, B.L., Commercial Horticulture Agent III, UF/IFAS Extension, Lake County, Tavares, FL 32778
Daugherty, J.C., Residential Horticulture Agent II, UF/IFAS Extension, Lake County, Tavares, FL 32778
Hilbert, D., PhD Candidate, Urban Tree & Landscape Management UF Gulf Coast Research and Education Center, Wimauma, FL 33598
Koeser, A., Assistant Professor, Urban Tree & Landscape Management UF Gulf Coast Research and Education Center, Wimauma, FL 33598
McLean, D., Biological Scientist II, Urban Tree & Landscape Management UF Gulf Coast Research and Education Center, Wimauma, FL 33598

In 2020, the UF/IFAS Extension, Lake County Commercial Horticulture Agent (CHA) was invited by a local municipality to attend a city council listening session focusing on problems with local trees. Residents and council members were concerned that the trees selected for new and existing developments would grow to be too large for lot sizes. There was also concern that trees were being planted too close to infrastructure. Members of the listening session expressed concern over damage to septic systems and in-ground utilities from existing large, oversized canopy trees. To address these concerns, the CHA served as an expert panelist discussing the importance of tree canopy with regards to cooling of homes and importance to wildlife, among other benefits. It became apparent that there was a gap in easily digestible research-based information with regards to tree placement around paved infrastructure like sidewalks and streets. The

CHA reached out to UF/IFAS specialist in arboriculture Dr. Andrew Koeser and his graduate student Deborah Hilbert who recently completed research on this topic. Together the graduate student, specialist, CHA, and others developed an Electronic Data Information Source (EDIS) publication based on this research, entitled "How Much Space Does My Shade Tree Need? Planting Space Recommendations for Medium and Large Trees in Florida Cities" https://edis.ifas.ufl.edu/ep592. Armed with the newly developed publication, the CHA attended multiple city planning and zoning meetings serving as an advisor for tree selection and placement. The recently hired Residential Horticulture Agent (RHA) joined the CHA in reviewing plans for the city. The RHA is an ISA certified arborist with experience reviewing site plans for tree planning. Together the CHA and RHA have thus far reviewed two park plans, one landscape barrier plan and a townhome development plan. The advice focused on the best placement for trees for their long-term health with minimal damage to infrastructure. The CHA and RHA are currently providing feedback on this city's tree ordinance. The advice of the CHA and RHA empowered by the EDIS document provides an opportunity to positively impact parks, suburban canopies, area resident, and local wildlife for generations.

INVESTIGATING RABBITEYE BLUEBERRY (VACCINIUM ASHEI) CULTIVARS FOR SUSTAINABLE PRODUCTION IN ALABAMA

Presenter: Coneva, E. D., Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL 36849

Blueberries are a high-value specialty fruit crop that is becoming progressively popular worldwide. Alabama's blueberry farm gate value has increased considerably in the last decade. Proper cultivar selection is one of the first and perhaps the most important decision a grower can make when planting blueberries. The University of Georgia Blueberry Breeding Program has accelerated the development of rabbiteye blueberry varieties in order to facilitate commercial and home garden demand for new varieties. As a result, two new, large-fruited rabbiteye blueberry cultivars named 'Titan' and 'Krewer' were recently released. 'Pink Lemonade', a new USDA variety has a potential appeal for landscape planting and for the novelty, or specialty fruit market. Experimental plots were established at the North Alabama Horticulture Research Center (NAHRC), Cullman, and Chilton Research and Extension Center (CREC) near Clanton in central Alabama to determine the best suited cultivars for sustainable production. Both experiments were arranged as RCBD with 4 or 5 replications. Cultivars studied at the NAHRC included 'Alapaha', 'Brightwell', 'Vernon', and 'Titan', and 'Alapaha', 'Climax', 'Krewer', 'Ochlockonee' 'Premier', 'Pink Lemonade', 'Powderblue', 'Tifblue', 'Titan', and 'Vernon', were tested at the CREC. Our results suggest 'Alapaha' berries matures early, about a week before 'Climax'. 'Alapaha' was also the most productive cultivar at the NAHRC. 'Titan' and 'Krewer' had the largest fruit size among cultivars tested in both locations. Rabbiteye blueberry cultivar evaluation will help growers select the best suited cultivars for sustainable production in their growing location, which can lead to improved profitability in blueberry production.

PRINCIPLES & APPLICATIONS OF PEST EXCLUSION SYSTEMS FOR SPECIALTY CROP PRODUCTION

Presenter: Majumdar, A., Extension Professor, Alabama Cooperative Extension System, Auburn, AL 36849

Sustainable integrated pest management (IPM) utilizes three basic approaches, namely, Level 1 systems-based practices, Level 2 pest exclusion practices, and Level 3 biorational insecticides. Level 1 and Level 2 are pest prevention tactics that have to be deployed ahead of the pest occurrence. Since 2012, the Alabama Vegetable IPM program (www.aces.edu/vegetableipm) has been researching and demonstrating various alternative IPM tactics with key producers at the forefront of technology development for quick adoption. This presentation will focus on providing an overview of Level 2 "Pest Exclusion Systems" defining it as a critical IPM tactic on a temporary or permanent basis that is suitable for small farmers, market gardens, and urban farms. To be successful, a pest exclusion system has to use the appropriate fabric and suitable design that allows separating of the crop from fabric. The temporary pest exclusion system is designed for early-season vegetable production where various pest exclusion materials can be used in a time-limited manner. The presentation will include examples of low-cost and high-cost pest exclusion material that have been tested successfully on multiple crops with over 50 % reduction of pests. Temporary pest exclusion can be done on fixed or movable frames depending on available resources. Temporary pest exclusion fabric can be removed to allow beneficial insects and pollinators to be effective. Side benefits include moderation of wind and rain with improved temperature regulation under cover. Permanent pest exclusion system is very effective for high tunnel vegetable producers where cost-effective barriers can installed with relatively low-cost for long-term benefits. In the permanent system, multiple crops can be grown without dismantling the pest exclusion fabric or structure. Since 2014, 14 on-farm studies of the "High Tunnel Pest Exclusion" or HTPE system have been completed in Alabama funded by many Sustainable Agriculture Research and Education (SARE), Alabama Department of Agriculture – Specialty Crops Block, and Extension IPM grants. Producers

have innovatively used the technology to grow a wide range of crops, reduce macro-pest populations by over 70% improving crop yield and quality, and shared experiences during group events to motivate other farmers to adopt the technology. More info at https://www.aces.edu/blog/topics/crop-production/temporary-and-permanent-pest-exclusion-systems-for-vegetable-production/.

ZOOMING THROUGH THE BROWN BAG LECTURE SERIES

Presenter: Sanders, S., Cea-Agri, University of Arkansas System Division of Agriculture, Searcy, AR 72143

The Brown Bag Lecture Series has been a standard occurrence twice per year (spring and fall) in White County for the last 12 years. This series features speakers presenting a variety of horticulture educational topics. The series was scheduled for three Wednesdays in April 2020 during the noon hour as an in person meeting. However, due to COVID the agent transitioned theses three meetings to ZOOM. After that, the interest exploded, and many requested more Brown Bag Lecture Series. The agent obliged. Twenty five sessions have been utilized since then with total combined live participants of 6239 people and 4196 downloads of the recording after the presentations. The promotional flyers were posted on social media weekly to introduce the next presentation. We have 1295 (unduplicated) people on our email list that have shown interest in and wanted to be included in each week's invitation. All videos are made available on our county website for people to watch later. Agent was able to invite fellow NACAA members from across the nation to present subject matter. This was received very well by the participants since they were accustomed to only hearing from local people at the in-person meetings.

The target audience is the general public and Master Gardeners with an interest in commercial and homeowner horticulture. Both social media platforms, Facebook and Twitter, have a total of 3679 followers as of February 2021.

Facebook groups include:
My county agent page:

https://www.facebook.com/UAEX.WhiteCountyAgriculture/

White County Master Gardener Page: https://www.facebook.com/WCMG1997/

Searcy Pollinator Friendly Page: https://www.facebook.com/SearcyPollinatorFriendly/

Searcy Tree Board: https://www.facebook.com/Searcy-Tree-Board-271545119535832/

Twitter: https://twitter.com/SherriSanders11

Collectively, these social media platforms reach an average of over 14,870 direct and indirect contacts monthly, with some months reaching over 20,000 contacts. Content is also available on the White County Extension Website https://www.uaex.edu/counties/white/. Analytics and personal testimony revealed that clientele from 26 states and 9 countries have benefited from knowledge gained through my social media educational efforts.

END-POINT DETECTION OF PIERCE'S DISEASE IN WINE GRAPES USING RAPID TEST KITS

Presenter: Macallister, C., County Extension Coordinator, University Of Georgia, Dawsonville, GA 30534

Pierce's disease (PD), caused by the bacterium Xylella fastidiosa, is a major challenge to sustainable wine grape production in Georgia. Pierce's disease is vectored by sharpshooter insects which can rapidly spread the bacteria throughout a vineyard. Cold winters help to moderate the effects of PD, however, mild winter temperatures in recent years have led to increased spread of PD in north Georgia. When PD is detected in a vine, the recommended method of treatment is immediate vine removal, which helps to prohibit the spread of inoculum to surrounding vines. Currently, established methods of disease identification are diagnosis of visual symptoms and expensive multi-day laboratory testing for confirmation. Recent advances in technology have allowed for rapid detection. Agdia's AmplifyRP XRT rapid detection kits were purchased for a pilot program and were housed in the Lumpkin and White County Extension offices. Grape producers and Extension agents were encouraged to send in suspected PD-positive samples for same-day diagnosis, free-of-charge. Rapid detection kits reduced producer wait time by 95% compared to traditional laboratory testing. Although not cost effective for purchase by individual producers, minimal grant funding or fee-based testing could be implemented by local Extension offices to provide this testing in the future. Rapid Pierce's disease testing could result in an annual savings of $675,900 for vineyards in participating Georgia counties through removal of infected vines and prohibiting further PD spread.

HORTICULTURE TOWN HALL MEETING

Presenters: Kelly, D., Field Specialist in Horticulture, University of Missouri Extension, Hillsboro, MO 63050
Aufdenberg, D., Field Specialist in Horticulture, University of Missouri Extension, Jackson, MO 63755
Fowler, T., Field Specialist in Horticulture, University of Missouri Extension, St. Joseph, MO 64507
Kammler, K., Field Specialist in Horticulture, University of Missouri Extension, Ste. Genevieve, MO 63670
McGowan, K., Field Specialist in Horticulture, University of Missouri Extension, Springfield, MO 65801
Mecham, K., Field Specialist in Horticulture, University of Missouri Extension, Carrollton, MO 64633
Reall, T., Field Specialist in Horticulture, University of Missouri Extension, Kansas City, MO 64106
Schutter, J., Field Specialist in Horticulture, University of Missouri Extension, Kirksville, MO 63501

The Horticulture Town Hall Meetings were created in response to the COVID-19 pandemic. People did not venture far from their homes. Grocery stores were not allowing normal admittance to purchase food. Phone calls and emails increased seeking information on how to grow their own food. MU Extension stepped into action creating statewide Zoom meetings to answer stakeholder submitted questions. Thirty one-hour Horticulture Town Hall Meetings were presented weekly from April 8 – October 14, with a monthly Town Hall in November and December 9. A team of 8 Field Specialist in Horticulture answered 356 questions from across the state. A total of 2,363 individuals attended for an average of ~ 84 attendees per event. Thirty YouTube videos, or snippets, were produced, one from each Town Hall throughout the year (https://www.youtube.com/MUIPM). As of December 12, 2020, these videos have been viewed 4,733 times, for an average of ~ 158 views per video. The most common questions included:

- Why are my tomato leaves curled?
- How do I control squash bug control?
- What is causing the holes in my roses?
- Why are my zucchini, cucumbers and squash rotting on the vine?
- I have so many vegetables that I can't eat them all. How to I preserve them?

Evaluations indicated that 95% of attendees said they strongly agree or agree that they learned a lot about gardening from the Horticulture Town Halls. Change in behavior statements included:

- Planting a trap crop for pest control.
- Adjusted my gardening with reinforcement from the experts or a new idea they suggested that I had not tried before.
- Paying closer attention to my chunk of mother earth, stewardship.
- I write a "To Do List" now.
- Cleaning out my garden in September.
- Planting more pollinator plants.

MARKETING AND ORCHARD RESOURCE EFFICIENCY FOR OHIO PAWPAW PRODUCTION (MORE OHIO PAWPAW)

Presenters: Bergefurd, B., Extension Educator, Ohio State University Extension, Piketon, OH 45661
Davies, M., Assistant Professor, The Ohio State University School of Environment and Natural Resources, Columbus, OH 43210
Francino, Sarah, Graduate Student, The Ohio State University School of Environment and Natural Resources, Columbus, OH 43210
Harker, Thomas, Horticulture Research Associate, The Ohio State University South Centers, Piketon, OH 45661

North American Pawpaw (Asmina triloba) are Ohio's state native tree fruit and are of growing economic importance currently occupying a niche market with a substantial enthusiast following. The economic potential of pawpaw has been acknowledged for more than 100 years but progress towards marketization has been slow. With pawpaw products now attracting premium prices, Ohio has an excellent opportunity to expand the pawpaw economy to provide jobs and income that will benefit existing and new farmers. The MORE Ohio Pawpaw project, was led by Brad Bergefurd with the Department of Extension and Dr. Matt Davies with the School of Environment and Natural Resources at Ohio State University. This project investigated methods to improve the efficiency of pawpaw field production and developed an extension outreach program which resulted in the creation and start-up of an Ohio pawpaw production, marketing, and plant nursery industry in Ohio. We evaluated new pawpaw varieties, production and management techniques, insect and disease control methods and marketing techniques to allow Ohio farmers to adopt and grow more Ohio pawpaw. Outcomes of this project were disseminated to growers through annual field days, extension workshops, tours, bulletins, fact sheets, research reports and on-line training modules. The purpose of our project was to improve the competitiveness of pawpaw crops by providing growers and landowners with the knowledge they needed to: successfully establish and manage pawpaw orchards, produce high-quality pawpaw fruit in reliable and commercially viable quantities, and to effectively market their production. MORE Ohio Pawpaw provided the necessary preliminary research-based information and extension training for Ohio landowners and growers interested in diversifying their current production to meet consumer demand. During this presentation we will

discuss preliminary data from two growing seasons, practical best management practices, and general observations of developing the pawpaw industry in Ohio.

PARTNERING WITH THE DEPARTMENT OF AGRICULTURE TO ENCOURAGE PARTICIPATION IN VEGETABLE GARDENING

Presenter: Bennett, P., State Master Gardener Volunteer Coordinator, Anr Educator, Ohio State Univeristy Extension, Springfield, OH 45505

The 2020 pandemic led to an increase nationwide in families participating in vegetable gardening. The Ohio Department of Agriculture and Ohio State University Extension joined together in the Victory Gardens – Let's Grow Ohio campaign to capitalize on this trend. As part of this campaign, seeds were donated by local companies, packaged by volunteers, and distributed to 7 Ohio counties in 2020. A total of 2,000 packets of seeds were given to residents in these counties; an additional four counties were added due to requests to participate. The program was so popular that in 2021 the number of counties was increased to 25 with more than 8,300 packets consisting of three smaller individual packets of seeds being distributed.

The seeds were distributed to different regions of the state and given to counties with Extension Master Gardener volunteer programs. Because these programs were already established in a county, it provided an easy distribution base. A website was created to encourage those who received the package to engage and learn more about vegetable gardening. The website also served to bring all the OSUE backyard gardening resources together in one location. A blog feature allows anyone in Extension to participate and share their knowledge. A social media hashtag was created, #OhioVictoryGardens, and anyone participating in this effort was asked to post photos using this hashtag.

As a result of this program, OSU Extension has strengthened the partnership with ODA and has opened new doors for additional program efforts in the counties. Additional partnerships were created in the counties including youth programs, gardening influencers, Farm Bureau, and others. The goals are to grow the program so that every county in Ohio has seeds to distribute and to increase and sustain the interest in vegetable gardening.

ENGAGING VERSUS MANAGING EXTENSION MASTER GARDENER VOLUNTEERS: THERE IS A DIFFERENCE

Presenter: Bennett, P., State Master Gardener Volunteer Coordinator, Anr Educator, Ohio State Univeristy Extension, Springfield, OH 45505

Does this sound familiar? We recognize the need for assistance to achieve our mission; we assess our county financial and human resources, find them deficient and turn to volunteers to fulfill this role of achieving our mission; we assume that free volunteer labor requires little financial or strategic investment; we engage volunteers who may or may not be qualified; a staff person may or may not oversee the volunteer project or effort, and expectations, accountability and communication remain unclear; and finally, when the effort achieves little in terms of success or fails miserably, volunteers are identified as the problem and are approached with skepticism, if at all, the next time a need or project is identified.

Are County Extension professionals managing their Extension Master Gardeners or are they engaging them in achieving the mission? Is there a difference? Absolutely. Management is scheduling, tracking, recruiting, recognition and more. A question posed to EMG Coordinators during a training session revealed that some County Coordinators feel management is commands, multitasking, overworking, support, and using them to help with menial tasks. Volunteer engagement includes some of the above tasks and adds additional efforts to keep them engaged, happy, wanting to stick around and to give more. Engagement requires an understanding of how and what motivates your EMGs, quality orientation, training and evaluation, flexibility, a sense of community, communication, and of course appreciation.

How does one who is has a full plate in the agriculture and natural resources program effectively engage EMGs? Learn how to be strategic in your engagement efforts and make your engagement intentional. Having a focused engagement strategy helps save time and keeps EMGs motivated and giving back to Extension. Pay attention to EMG growth by providing challenges and varying activities along with the appropriate recognition. Develop a trust among staff and EMGs; trust in the future, trust that they are a part of something big, and that they know your future plans.

YOUTH EDUCATION DURING COVID-19

Presenter: Aufdenberg, D., Field Specialist In Horticulture, Cape Girardeau County, Jackson, MO 63755

In 2020, COVID-19 limited family travel and activities outside of the home. Families turned to gardening and outdoor activities to keep youth active and engaged with the added benefit of growing their own vegetables. After requests from clients and Extension colleagues, I developed one-page guides on various gardening ideas, craft projects, and gardening techniques for youth. These guides provided a way to maintain contact with the public and send out gardening information when we were under stay-at-home orders. It was an opportunity to reach audiences, including underserved audiences, in a way I had not reached them in the past. The guides were sent to families in weekly packets in several counties, published in monthly garden newsletters, emailed to individuals, and posted on social media across the state. The guides were also posted on the Missouri 4-H website where resources are housed and available to 4-H families. Topics for guides include: making seed tapes, starting seeds in pots, cut-flower garden, how to take plant cuttings, butterfly gardening, regrowing vegetable from scraps, three sisters garden, drying flowers, growing sunflowers, fall gardening, crafts with dried flowers, soup can luminaries, raising monarch caterpillars, and raising swallowtail caterpillars. Guides were sent to over 4,000 families through regular U.S. mail, published in monthly garden newsletters reaching 1,385 readers, viewed over 3,000 times on social media and were shared many times over with friends, family and co-workers. 182 families shared that they completed the activities. Families reported an increase in time spent as a family, increase in outdoor activity, increase in youth physical activity, increase in pollinators on their property, an increase in growing vegetables, and an increase in vegetable consumption in the family.

MASTER POLLINATOR STEWARD HYBRID COURSE

Presenter: Schutter, J.L., Horticulture Specialist, University of Missouri Extension, Kirksville, MO 63501

Pollinators play a crucial role in the production of fruits, vegetables, honey and field crops. They also support healthy ecosystems that clean the air, stabilize soils, and support wildlife. Declining populations of bees, birds, butterflies, bats and insects led University of Missouri Extension to develop a course curriculum to help the public learn about pollinators and how to increase their presence. Course objectives include: use research-based information to meet the growing public interest in honey bees and native pollinators; provide a better understanding of the importance of pollinators to society; identify opportunities for individuals and communities to create or improve pollinator habitats in an area; and provide a broader education on plants and pollinators for new and experienced beekeepers. Due to COVID-19, the course was offered as a hybrid in the fall of 2020 in Kirksville, Missouri. Zoom technology was used for six weeks of lecture classes, where participants could interact with classmates and the presenter. The class met in-person once a week for a two-hour lab class held outdoors, where activities supplemented what was learned in the lecture class. Activities included net sweeping for insects, flower and insect identification, building solitary bee houses, a tour of a restored prairie, and native tree walk. Participants had a reading assignment and 15-20 questions to answer each week. At the end of the course they took a 50-question final. An evaluation was given to all. The course rating was 3.9/4 on a 1-4 Likert scale. Outcomes of the course include, 100% of participants planned to create a pollinator friendly garden or plant a portion of their farm into natives to increase pollinators; they are more aware of pesticides and the affects and dangers they can cause; and they have a better understanding of the citizen science projects available, as well as many more resources. Course quotes: "These were exceptionally good classes for the first time out of the box." "Field trips were great! I learned so much." "I have gained knowledge that I will use on my property. I will check into some citizen science projects." "Invaluable information, so interesting".

ADAPTING PLANT IDENTIFICATION CLASSES TO A VIRTUAL FORMAT DURING THE COVID19 PANDEMIC

Presenters: Swackhamer, E., Horticulture Educator, Penn State Extension, Colllegeville, PA 19426
Nancy Knauss, State Master Gardener Coordinator, Penn State Extension, Pittsburgh, PA 15219
Erin Kinley, Area Master Gardener Coordinator, Penn State Extension Mongtomery, Collegeville, PA 19426
David Sanford, Associate Professor of Horticulture, Penn State Berks, Reading, PA 19610
Rebecca Panzer, Undergraduate Student Intern, Penn State Extension Montgomery, Collegeville, PA 19426
William Pasko, Master Gardener, Penn State Bucks, East Greenville, PA 18041

Green Industry Professionals need to be able to identify, plant and care for a range of plants. They also need update credits to maintain their pesticide applicator's certification and their International Society of Arboriculture certified arborist credentials. Penn State Master Gardeners love learning about plants and they distribute their knowledge across the Commonwealth through their volunteer work. Many Penn State Master Gardeners are working to achieve

an advanced training certificate in a plant identification series from the Penn State program. Previously these needs were addressed through in-person classes that included lecture in a classroom followed by a chance to examine live plant material in an arboretum or campus setting. During the Covid-19 pandemic, in-person gatherings were not possible, so this team pivoted to offer plant identification classes virtually. Dr. Sanford taught the class and the rest of the team facilitated marketing, managed credits assignments, managed the virtual meeting space, answered questions, and evaluated the class. The virtual format allowed more people to participate and because no travel was needed, and we had participation from a much wider geographic area than before. Participants were encouraged to examine live plant material independently and complete a virtual leaf collection project which was reviewed by the instructor. Directions were provided to help participants take images of plants and build them into a report that was submitted electronically to a shared space. To accommodate people with less technology skills, we included an option to hand-draw pictures of the plants and mail them to the instructor. A pilot class was offered in the summer of 2020 and two larger classes were offered in the winter of 2021. 150 registered for the winter classes on conifer identification and 89 completed the virtual leaf collection project. Pre and post quizzes showed an average increase of 23% in participant's ability to identify conifers. Eight professionals received pesticide update credits and certified arborist credits. At least 50 Master Gardeners will receive credit towards their advanced training certificate.

GARDEN JAVA VIRTUAL COMMUNITY EDUCATION SESSIONS

Presenter: Neikirk, H., Extension Educator, Osu Extension, Massillon, OH 44646

The COVID-19 pandemic of 2020 brought many challenges to community educational programming led by Extension professionals and volunteers. Despite these challenges, members of the community and gardening public found themselves digging into online learning options and spending more time at home in the backyard and garden. The Stark County Master Gardener Volunteer Program recognized this need and quickly adapted a bi-monthly in-person program into weekly informal educational conservations focused on home horticulture and backyard gardening topics led by Master Gardener Volunteers. The Garden Java program began in April of 2020, just three weeks after the onset of the pandemic with the help from two Master Gardener Volunteer project chairs. Topics for each session were identified by the project co-chairs, Extension Educator and participants. Using ZOOM technology, the Extension Educator served as host for each session and at least one Master Gardener Volunteer served as the topic conversation leader. Master Gardener Volunteers were provided with ZOOM presenter training and were responsible for the development of presentation materials relevant to lead the conversation topic. Participants were required to register for each session in order to receive connection details. Registration was offered as part of the ZOOM platform. Participants had the option to register for one or more sessions as part of the registration process. Each session was offered at no charge and recorded for later viewing. Program sessions were promoted via the Stark County Master Gardener Volunteer Program website, a weekly post on social media and a monthly news blast to the gardening interest email contact list. Sixteen Master Gardener Volunteers and one Extension Educator presented 33 different topic conversations from April through November that reached 827 participants. Two additional holiday themed programs in December reached an additional 121 participants, for a total outreach of 948. Participants were asked to complete a poll evaluation at the end of each session. Evaluation poll results revealed that 100% of participants found the information presented both interesting and helpful to them.

Natural Resources & Aquaculture

DISCOVERING SCIENCE IN NATURE: THE GEOCACHING FOR YOUTH WORKSHOP

Presenter: Self, B., Associate Extension Professor, Mississippi State University Extension, Grenada, MS 38901

Geocaching is an outdoor treasure hunting game that uses GPS to guide participants to various stops where a variety of educational information is provided. This material can be of any nature, however; we attempt to provide foundational natural resources related information in our Geocaching for Youth Workshops. Topics range from silvicultural considerations for regenerating various tree species to invasive species management to the inherent use and impact of various plant species on wildlife. Participants are exposed to brief educational opportunities related to whatever topic that particular cache focus may be. This workshop is designed to target youth between the ages of 9 and 12. They are introduced to selected natural resources issues and topics through utilization of GPS navigation, use of their powers of observation, and problem solving to locate hidden caches. Thirty workshops, reaching over 700 participants, were hosted in Mississippi during 2019 and 2021. As a whole, participants indicated satisfaction with program contents and implementation, desire to attend additional future programming, and were able to recall information presented during the course of the workshop.

NAVIGATING A CRISIS: PARK SYSTEM RESPONSE TO COVID-19 IN DEARBORN COUNTY, INDIANA

Presenter: Hawley, J., Extension Educator - Agriculture & Natural Resources, Purdue Extension, Aurora, IN 47001

Public entities faced unprecedented hurdles at the onset of the COVID-19 pandemic. Facility closures, limits on gathering, and implementation of health and safety protocols represent some of the unfamiliar tasks required of entities, such as county park systems, beginning in March of 2020. The Dearborn County Park Board did not have a defined plan in place in the event of a public health emergency. As a result, a system consisting of five different sites totaling over 500 acres confronted significant logistical concerns during the pandemic. Dozens of restrooms, playgrounds and other facilities generally open for public gatherings were either closed or placed under restricted use. Natural areas, such as hiking trails and fishing ponds, were less restricted throughout the pandemic, as guidance from local, state and national health officials indicated that outdoor activity done individually or in small family groups was generally safe. Interest in outdoor facilities increased greatly in response to this guidance, with Dearborn County Parks' website traffic rising as much as 108 percent in April of 2020. Permitting outdoor activities and creating best management practices to prevent outbreaks of COVID-19 at park facilities was a priority of the park board, local health officials, and county leadership. The development of processes to review public health guidance and address access to individual park facilities was not a task completed behind closed doors. Public access to board meetings is a legal requirement. The park board collected feedback from county officials and community members at virtual and outdoor meetings. Routine maintenance, landscaping, farming practices, and contract development continued throughout the pandemic, requiring the park board to host additional special meetings to address these new concerns. The board consists of six members, including the Agricultural and Natural Resource Extension Educator representing Purdue University Extension. Board members are appointed by county leaders, with the Extension Educator serving by means of a state statute. All members work on a volunteer-basis alongside park stewards selected and approved by the board.

NEBRASKA VIRTUAL GREEN INFRASTRUCTURE TOUR - ADJUSTING TO DISTANCE LEARNING

Presenter: Pekarek, K., Extension Educator-WaterQuality, University Of Nebraska-LincolnExtension, Lincoln, NE 68583

Green infrastructure bus tours are one high impact program the University of Nebraska Green Infrastructure Team has used to assist Nebraska communities in meeting their federally mandated stormwater management education goals for over a decade. As a result of face-to-face COVID restrictions, the 2020/2021 green infrastructure tours were conducted virtually. The objective of the virtual tour was to support Nebraska communities in meeting their stormwater management education needs and meet the needs of green infrastructure professionals with a socially distanced approach. To do so, six green infrastructure projects at locations across Nebraska were selected for the virtual tour. Each member of the University of Nebraska Green Infrastructure Team hosted one project, arranged for speakers involved in the project development, and interviewed the speakers. Additionally, I developed a video concept and interview questions for each site, acted as the videographer and editor of the videos. The multi-disciplinary team promoted the video among various professional groups and audiences. The tour was hosted live twice. During the tour, each video was introduced by a member of the team, shared live with participants, and then the tour guides hosted a 10-minute question and answer session. Upon completion of the tour, the video has been shared on the water.unl.edu website and will be used in three University of Nebraska courses. Post-tour evaluations were taken by participants. More than one hundred and twenty landscape architects, engineers, landscape designers, local and state officials, and Master Gardeners participated in the live tour in November 2020 and March 2021. Participants were eligible for 3 CEUs upon completion of the tour. Of those participants filling out post-tour evaluations, 83% agree/strongly agree that they increased their knowledge of how to design and install stormwater BMPs. 97% of participants will recommend and/or design and install green infrastructure practices as part of my job. The videos are available for distribution on the University of Nebraska's Water Website: water.unl.edu/NEVirtualGreenInfrastructureTour.

INCREASED WILDFIRE DANGER IN SOUTHERN CALIFORNIA DUE TO HIGH RATES OF ABANDONED AVOCADO AND CITRUS ORCHARDS

Presenter: Rios, S. I., Area Subtropical Horticulture Advisor, University Of California Coop.Ext., Moreno Valley, CA 92557

Avocado and citrus growers in southern California have many challenges weighted against them such as invasive pests, warmer, drier weather, and the increase of urban development which has increased the cost of producing crops driving up the cost of land and water prices. Within the last 6 years, irrigation prices have increased 100% in the last 6 years, reaching up to $2,000 per acre feet in 2020. Due to the high price of water, some avocado small farm growers have no choice but to abandon healthy, high yielding, producing avocado orchards because they cannot simply afford the water, especially since bearing avocados require large amounts of water. As for citrus, state regulations which include strict fruit and nursery tree quarantine areas and mandatory area management treatments for an invasive pest, the Asian citrus psyllid (ACP), which is the vector to a severe citrus disease, currently devastating the citrus industry worldwide, Huanglongbing (HLB). When groves are abandoned, the trees go through a slow decline and during this process the trees become more vulnerable to vegetation build up/weeds and themselves can become a source of fuel. Abandoned citrus orchard can also become a reservoir for ACP and abandoned avocado orchards can be a reservoir for the invasive polyphagous shot hole borer. Currently there is no tree crop abatement program for growers and these sites can increase the risk of a fire hazard. Southern California is additionally subject to seasonal Santa Ana winds, a foehn wind type which characteristically critically dries native vegetation, develops high wind speeds and low relative humidity, and roes historic wildfires in the region. Many of these abandoned or severely neglected groves properties are in close proximity to homes and unincorporated cities that have little to no defensible space and little fuel modification. These orchards are also surrounded by Coastal Live Oak woodlands, intermixed with grass, chaparral and sage scrub which tend to burn fairly quickly during wildfires. Record-low rainfall, extreme heat and a statewide drought has caused a significant increase in wildfires and what use to be only a season but has now been declared a year-a-round phenomenon now, increasing the chance of losing property and lives. There is a need for Californians to participate in fire-prevention tactics, including growers is more important than ever. Wildfire prevention such as defensible space, keeping properties cleared of dried vegetation and dead and dying trees, and public education is the best long-term solution. However, immediate short-term goals need to be implicated now to help growers stay in business and stop the relinquishment of healthy orchards.

A TEAM APPROACH TO NATURAL RESOURCE EXTENSION IN THE MIDST OF THE COVID-19 PANDEMIC

Presenters: Bodrey, R., CED, Extension Agent II, UF/IFAS Extension Gulf County, Wewahitchka, FL 32465
Albertin, A., Water Resource RSA, Extension Agent II, UF/IFAS Extension Northwest District, Quincy , FL 32351
Bearden, J., Extension Agent II, UF/IFAS Extension Okaloosa County, Crestview, FL 32536
Dunning, S., Extension Agent III, UF/IFAS Extension Okaloosa County, Crestview, FL 32536
Jackson, L.S., CED, RSA, Extension Agent IV, UF/IFAS Extension Bay County, Panama City, FL 32401
Lovestrand, E., CED, RSA, Extension Agent III, UF/IFAS Extension Franklin County, Apalachicola, FL 32320
Mauldin, M., Extension Agent II, UF/IFAS Extension Washington County, Chipley, FL 32428
O'Connor, R., Extension Agent III, UF/IFAS Extension Escambia County, Cantonment, FL 32533
Stevenson, C., Extension Agent III, UF/IFAS Extension Escambia County, Cantonment, FL 32533
Tiu, L., Extension Agent II, UF/IFAS Extension Walton & Okaloosa County, DeFuniak Springs, FL 32433
Verlinde, C., Extension Agent II, UF/IFAS Extension Santa Rosa County, Milton, FL 32570
Williams, P., CED, Extension Agent II, UF/IFAS Extension Wakulla County, Crawfordville, FL 32327

The Panhandle Outdoors Live (POL) program was designed to offer field experiences in natural areas of the northwest region of Florida. The target for this program were residents who wished to learn more about the environment and stewardship. Many people who have lived most of their lives in the region, have never visited many of its most spectacular natural features. The program was marketed through various media outlets and participants signed up from afar, making this a multi-state audience.

Programing was centered on rivers, springs, and the coast. Initially, a team of extension agents conducted educational programing monthly in different Panhandle counties. Agents developed specific lesson plans and logistics for a program in their home area, but the workshop were marketed as part of the larger POL program. Later, a Water School program was developed as a statewide effort, which meshed nicely with water connections in all Panhandle Outdoors Live programming.

This educational outreach platform has been very popular. Unfortunately, due to the COVID-19 pandemic, in-person events were placed on hold. Given the limitations of this situation, the Panhandle Outdoors Live team of agents moved their efforts to an online format, known as Panhandle Outdoors Live Online. Beginning in August 2020, extension agents presented a bi-monthly, 30-minuite seminar series

on natural resource topics, using a live, interactive video conference platform. The program had over 350 in-person participants from 2013-19 and more than 400 participants during the 2020 nine- part webinar series.

Teaching & Educational Technologies

USING SOCIAL MEDIA FOR EFFECTIVE EXTENSION EDUCATION

Presenter: Good, A., Agricultural Extension Agent, Montana State University Extension, Conrad, MT 59425

It has been estimated that 243 million Americans will be using some form of social media by the year 2025. By using social media to provide education, Extension can reach audiences that we may not be reaching with traditional Extension programming. Montana State University Extension Pondera County is active on Facebook, YouTube, Instagram, and TikTok. While Facebook and YouTube have been commonly used by Extension agencies all over the country for a few years, Instagram and TikTok have been left relatively untapped. Globally, 1.2 million people were on Instagram and 689 million were on TikTok in October 2020. By using these platforms for Extension education, we have been able to reach new audiences with the non-biased, research-based information which has made Extension a trusted source. Our Instagram account has 180 followers and has a reach of over 4,500 accounts. We have 205 TikTok followers and reach an average of over 500 people per video, with some posts getting more than 2500 views. Through the use of social media management tools, hashtags, content planning, themed posts, and other social media marketing concepts, our social media presence has grown without the use of paid ads. Some examples of social media content we have found success with are: MontGuide Mondays, a series where we share educational material produced by MSU Extension, Food Fact Fridays, a series of short videos sharing facts about Montana grown food, and Did You Know Fridays, a series where we post services that we have available. Using social media has succeeded in reaching non-traditional audiences with Extension information and growing interest in the services Extension offers.

GARDENING IN THE PANHANDLE: LIVE!: A LESSON IN HARNESSING TEAMWORK AND TECHNOLOGY TO BETTER REACH CLIENTELE

Presenters: Leonard, D., County Extension Director, UF/IFAS Calhoun County Extension, Blountstown, FL 32424
McConnell, J., Horticulture Agent, UF/IFAS Bay County Extension, Panama City, FL 32401
Anderson, E., Horticulture Agent, UF/IFAS Walton County Extension, DeFuniak Springs, FL 32433
Bodrey, R., Horticulture Agent, UF/IFAS Gulf County Extension, Wewahitchka, FL 32465
Bolles, B., Horticulture Agent, UF/IFAS Escambia County Extension, Cantonment, FL 32533
Dunning, S., Horticulture Agent, UF/IFAS Okaloosa County Extension, Crestview , FL 32539
Greer, S., Horticulture Agent, UF/IFAS Santa Rosa County Extension, Milton, FL 32570
Lollar, M., Horticulture Agent, UF/IFAS Santa Rosa County Extension, Milton, FL 32570
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Tancig, M., Horticulture Agent, UF/IFAS Leon County Extension, Tallahassee, FL 32301
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Freeman, J., Associate Professor, UF/IFAS, Quincy, FL 32351
Hylton, T., Horticulture Agent, FAMU, Tallahassee, FL 32301
Jackson, S., County Extension Director, UF/IFAS Bay County Extension, Panama City, FL 32401
Jameson, M., Sustainable Agriculture and Community Food Systems Agent, UF/IFAS Leon County Extension, Tallahassee, FL 32301
Kalaman, H., Doctor of Plant Medicine Candidate, UF/IFAS, Gainesville, FL 32611
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Marble, C., Assistant Professor, UF/IFAS, Apopka , FL 32703
Martini, X., Assistant Professor, UF/IFAS, Quincy, FL 32351
Stevenson, C., Coastal Sustainability Agent, UF/IFAS Escambia County Extension, Cantonment, FL 32533

As the COVID-19 pandemic unfolded in 2020, UF/IFAS Extension Agents were unable to perform traditional in-person educational programs and needed an innovative way to reach residential horticulture clientele. Inspired by Agents in south Florida offering “Ask an Agent Anything” online seminars, but wanting to focus more on specific, timely topics, the Northwest District Horticulture Program Implementation Team (PIT) collaborated to create a similar program series called Gardening in the Panhandle LIVE! Each session covered a seasonally relevant topic with knowledgeable panelists based on their individual specialties. The series was broadcast using both Zoom Webinar videoconferencing technology and Facebook Live

to capture the largest possible audience. To comply with ADA guidelines for hearing disabled clientele, episode recordings were edited with closed captioning for YouTube. Delivering each episode requires a team of 7-9 agents in the following roles: 3-4 panelists, an episode "host", a Zoom technician, and several "behind the scenes" moderators. While the episode's host and panelists are answering questions, the moderators are adding resource links to chats, answering pop-up questions, and filtering and forwarding potential on-air questions to the emcee. The innovative collaboration created 13 episodes engaged a total of 871 live viewers in 2020 on various social media platforms. Follow up survey participation was completed at a rate of 22% (191/871). 97% (186/191) of respondents reported knowledge gain in at least one Florida-Friendly Landscaping Principle. 88% (168/191) of respondents reported a plan to adopt at least one Florida-Friendly Landscaping Principle as a result of participation in the program.

UNIVERSITY OF MARYLAND EXTENSION WINTER CROP PRODUCTION MEETINGS GO VIRTUAL

Presenters: Rhodes, J., Agent, Agriculture & Natural Resources, University Of Maryland Extension, Centreville, MD 21617
Shannon Dill, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Easton, MD 21601
Andy Kness, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Street, MD 21154
Erika Crowl, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Cockeysville, MD 21030
Kelly Nichols, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Derwood, MD 20855
Sarah Hirsh, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Princess Anne, MD 21853
David Myers, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Gambrills, MD 21054
Amanda Grev, Specialist, Pasture Management, University Of Maryland Extension, Keedysville, MD 21756
Emily Zobel, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Cambridge, MD 21613
Neith Little, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Baltimore, MD 21215
Ben Beale, Agent, Agriculture & Natural Resources, University Of Maryland Extension, Leonardtown, MD 20650
Nicole Fiorellino, Specialist, Agronomy, University Of Maryland Extension, College Park, MD 20742
Darren Jarboe, Program Leader, Agriculture & Food Systems, University Of Maryland Extension, College Park, MD 20742

Traditionally during the winter months throughout Maryland, University of Maryland Extension (UME) county educators would host in person educational meetings for their farmers/producers/landowners. These meetings included traditional agronomy, fruits, vegetables, forages and urban agriculture. The meetings delivered important research based information along with credits needed for pesticide, nutrient management and certified crop advisors. In the midst of the Covid-19 pandemic a committee of UME educators, specialists and the program leader was formed to work out how the winter crop production meetings would be delivered to their clientele. The clientele that attended the meetings had varying levels of experience using virtual platforms for training. Thirteen virtual meetings were held in the State of Maryland. Each meeting was hosted by a UME educator in a region of the state. The Agriculture and Food Systems webpage was published for attendees to view the agendas and register for the online meetings via Zoom. Over 1000 attended the virtual meetings from Maryland and the surrounding states. A survey was developed by UME educators to gather data on virtual meeting experiences and farm profitability. There were 552 participants that responded. Over 88% of respondents indicated that they were satisfied or very satisfied with the virtual winter meeting format, and rated their interest in continuing virtual programming as an 8.3 on a 10-point scale (1= little interest, 10=very interested). One comment from the survey, "Virtual meeting was very well done!! It kept my attention and had interesting topics." This information will help UME educators and other institutions plan for future virtual programs. End of the session surveys also asked participants about expected yield increase and per acre profitability as a result of Extension programming. These questions were included in the all virtual sessions, with skepticism the same results would exist between the two delivery methods. In comparing the yield increase from all in person to all virtual there was only an average difference of 0.89% reported and for profit per acre a 1.13% average difference in results reported. These results show that participants have continued to gain valuable information from the program via either delivery method.

EMPOWERING HISPANICS IN URBAN AREAS TO IMPROVE THEIR FOOD SECURITY

Presenter: Cabrera-Garcia, J., Field Specialist In Horticulture, University Of Missouri Extension, Poplar Bluff, MO 63901

Hispanics represent 4.1% of the total population in Missouri. The COVID-19 pandemic raised fears of food insecurity among Hispanics. We developed a webinar series for Missouri Hispanics to gauge their awareness of

MU Extension and to extend information on sustainable vegetable production in urban areas as a way to address food insecurity during the pandemic. The webinar focused on sustainable vegetable gardening in urban areas. Out of 269 registrants, 84 participants completed an initial survey. From the respondents, 59% were international, 24% were from Missouri, and 17% were from other states. 83% of the participants were not aware of what services Extension provides. Around 64% said they had no experience growing vegetables and only 4% were certified master gardeners. Opportunity exists to target the Master Gardener training towards Hispanic residents in Missouri. 56% of participants said they do not grow vegetables at home despite 71% having available space to grow vegetables. The most common production systems are container (33%) and in ground (21%) gardening. The reported median area for gardening was of 43 square feet. Only 40% say they use food residues to make compost. Initial impacts: Agencies in other countries expressed they will use our resources to develop programs in their countries. One of the participants said they will use the knowledge gained in the program to reach 8,000 families of African heritage in Esmeraldas, Ecuador. Educators in Peru said they will use the course information to develop curriculum to train farmers in Peru. Participants indicated that the knowledge gained gave them confidence to begin growing their own vegetables at home. Within Missouri, the results from the initial survey suggest that, with proper guidance, Extension can help and empower Hispanics to improve their food security through vegetable gardening. We will conduct a follow-up survey to evaluate if the participants began growing their own produce.

WEED WEDNESDAY ON FLORIDA CATTLEMEN'S ASSOCIATION SNAPCHAT

Presenter: Wiggins, L., Extension Agent Ii, Ms, Hendry County Extension Service, Labelle, FL 33975

The 2020 Florida Cattlemen's Association (FCA) President prioritized social media as an opportunity to reach out to its members and the general public. In addition to utilizing Facebook and Instagram, he also used Snapchat to deliver a weekly market report and other current issue updates. This app is being utilized by the younger members who are oftentimes not engaged with the association or other information sources. Snapchat has some limitations with the amount of people you can reach in a group (32). The FCA President established 7 groups with different ranchers and myself, in each. After the initial COVID-19 shutdown, I began Weed Wednesday in the Snapchat group. Each Wednesday I walked through a cow pasture and selected a weed that was problematic at that time. The 10-60 second clip was a video of the weed where I commented on general plant facts (seeding, toxic, flower colors, leaf shape, etc), text of the most effective herbicide to use for control, a link to a UF/IFAS publication with more information about the weed that viewers could access by swiping up, and areas you can find it growing. The statistics of interactions with the video were immediate and I was able to know how many people watched it, how many screenshot it, and how many people had questions about the weed. Other livestock extension agents learned about this opportunity and began their own efforts. This enabled us to reach new clientele that we had never interacted with previously and it proved to be very impactful.

LIVESTOCK EXTENSION PROGRAM DELIVERY MODES FOLLOWING COVID PANDEMIC

Presenter: Stice, B., Extension Agent - Livestock III, UF/IFAS Extension Polk County, Bartow, FL 33831

Due to COVID, Extension faculty turned to virtual programming to reach clientele during quarantine. This shift in delivery allowed Extension programs to continue without interruption. Annually, the UF/IFAS South Florida Beef Forage Program offers an intensive 3-day course on beef cattle reproductive management. In 2020 due to COVID restrictions, committee members opted to offer an online video series of the seminars. With what appeared to be a greater acceptance of virtual programs, the committee proceeded to plan a hybrid version of the course to attract a larger audience. Shifting this program to an Extension Online Learning platform plus a one day on site program would replace three days of intensive in-person interaction that required participants to travel great distances, lodge and leave their normal daily responsibilities. This could reduce cost to the participant, organizers, and time away from daily responsibilities. Objectives: To determine if a hybrid version of future Reproductive Management Schools would be preferable or acceptable to South Florida beef cattle producers. Methods: Past participants (98) of the Beef Cattle Reproductive Management School were sent an e-mail survey, and local ranch managers and workers (6) were polled in-person to determine their acceptance of a hybrid program. Fourteen past participants responded to the emailed survey. The survey consisted of two questions and an option to provide a short answer response with suggestions for improved future program delivery. Results: Of the 20 survey and interview respondents, 100% indicated that they would not prefer a hybrid delivery mode. 95% preferred a fully in-person program delivery and 5% indicated that they were not sure. All the short answer responses indicated an in-person delivery preference. Six of the short answer respondents strongly disapproved of a hybrid format. Conclusions: While technologies offer alternative delivery modes for programming, it is important that we continue to consider the needs of our clientele in

planning Extension programs. This survey exercise indicated that, for this particular program, there is a strong preference toward in-person program delivery. Further evaluation of delivery alternatives for other programs is needed.

CONNECTING VIRTUALLY: ENHANCING LEARNING WITH STOP MOTION ANIMATION AND OTHER VISUAL SIMULATIONS

Presenters: Leeds, R., Leader Area 13, ANR Educator, The Ohio State University Extension, Delaware, OH 43015
Smith, J.E., ANR/4-H Educator, Ohio State University Extensiom, Delaware, oh 43015
Leggett, R, Extension Associate, Ohio State University Extensiom, Delaware, OH 43015
Bowman, A., Associate Professor Veterinary Medicine, Ohio State University, Columbus, OH 43210

2020 was a challenging year for Ohio's Educators. With the pandemic quarantine reaching our clientele was difficult but remained a priority for all in Extension. This session will explore how Extension professionals used stop motion animation and other visual simulations, to connect with clientele and add some pizzazz and enhance virtual presentations. Stop motion animation allows creators to visualize complex concepts that are too difficult to communicate through language alone. Educators can use these techniques to add to their virtual programing, but they can also be used to add a mixture of mediums to in-person presentations. In collaboration with the Ohio State University College of Veterinary Medicine, OSU Extension produced a series of engaging videos to enhance virtual learning for third year veterinary students enrolled in Veterinary Preventative Medicine III: Public Veterinary Practice. Each virtual lecture contained videos demonstrating one main take-home point. The goals for these videos were to: 1) engage the students in such a way student better retain information and 2) strengthen the relationship between the educator, the students, and the University. In this virtual environment, 80% of students have noted that that nontraditional videos help them learn best compared to traditional PowerPoint video lectures. Students have commented that these nontraditional videos, "are more engaging than traditional PowerPoint video lectures. Other Student comments included: "They really hold my attention and make learning virtually FUN!", "I was laughing hysterically, and I'll always remember what the USDA and FDA regulate." From class evaluations we found that students are not only learning better but are feeling appreciated. 100% of students agree whole heartly that "Viewing this video teaching tool makes me believe that the educator is interested in providing a quality education to their students." Building such relationships between the university and the students is crucial for the future and development of the Department. Building relationships with our Extension clientele is also crucial for our Department. The videos reached such a board audience, the material is being recut for future use with more expansive Extension audiences, including Ag/NR livestock industry sessions, 4-H livestock Quality Assurance, and Family Consumer Science programing.

COMMERCIAL HORTICULTURE VIDEO NEWSLETTER- AN INNOVATIVE EDUCATIONAL DELIVERY TOOL

Presenters: Keay, J., Field Specialist In Horticulture, University Of Missouri Extension, St.Peters, MO 63376
Arancibia, R.A., Field Specialist in Horticulture, University of Missouri Extension, Butler, MO 64730
Byers, P.L., Field Specialist in Horticulture, University of Missouri Extension, Marshfield, MO 65706
Cabera-Garcia, J., Field Specialist in Horticulture, University of Missouri Extension, Poplar Bluff, MO 63901
Kammler, K.J., Field Specialist in Horticulture, University of Missouri Extension, St. Genevieve, MO 63670
Kelly, D.A., Field Specialist in Horticulture, University of Missouri Extension, Hillsboro, MO 63050

The MU Extension Commercial Horticulture Video Newsletter was started in the summer of 2020, as an offshoot of an unsuccessful effort to host weekly live "town halls", targeting commercial horticulture producers. The town halls featured multiple Extension presenters introducing timely topics for growers, related to growing crops and growing farm businesses. The Commercial Horticulture Town Halls were discontinued due to poor attendance. Recognizing that horticultural producers have challenges in attending scheduled meetings during the growing season, and that the video content we were creating in the town halls was valuable to producers, a unique educational delivery tool was developed. The video newsletter format was developed to deliver brief educational videos directly to subscribers' inboxes. The 3-5 minute videos are designed to give an introduction and/or overview of a topic or concept with additional resources referenced, to offer producers' an opportunity to further explore a given topic. The bi-weekly newsletter effort was undertaken by a core team of 6 MU Extension Horticulture Field Specialists. The newsletter features 5-7 videos, including a Fruit Report, Vegetable Report, a Growers' Special weather report MU's State Climatologist, as well as several weekly topic videos with rotating topic focus. The videos cover topics related to pest and fertility management, season extension, soils and cover crops, farm business management, produce safety, marketing, as well as grants and state and federal programs available to growers. The core newsletter team is responsible for creating the majority of video clips, however, over 15 additional faculty from various disciplines have contributed

to creating video clips for the newsletter. In total 106 video clips have been created for the newsletter from July of 2020, through March 15th, 2021. The newsletter videos are uploaded to the MU IPM YouTube Channel, where they have received in total over 6000 views. The newsletter has grown to over 630 subscribers in 9 months. The Dotdigital platform, used for newsletter creation and delivery, allows tracking of "unique opens", "click-to-open ratio" as well as particular videos or links clicked on by subscribers, allowing us to be reactive and responsive to subscriber interests.

CROP SCOUTING PROGRAMMING FOR UNDERSERVED AUDIENCES IN AGRICULTURE

Presenter: Sivits, S. A., Extension Educator, University of Nebraska-Lincoln, Lexington, NE 68850

Women and youth are underserved audiences in production agriculture. Therefore, more educational programming pertaining to production agriculture is needed for these audiences. It can be difficult to have hands-on programming related to plant science and crop scouting as we do not always have access to live plant specimens or agricultural fields throughout the year. The purpose of this program was to create hands-on educational experiences to engage women and youth in crop scouting, pest identification, and integrated pest management (IPM) strategies. Four "corn" and four "soybean fields" were constructed out of wood, PVC pipe, electrical wire, fabric, paint, fake flowers, and various household items to mimic live corn and soybean plants. Scouting binders were developed for each field with pictures and descriptions of pest damage to complete the activity. Each binder contained a scouting worksheet where participants could record their findings for class discussion. Multiple choice pre-/post-tests or IF-AT scratch cards were incorporated into each training to determine immediate change in knowledge by participating in this activity. From 2017-2020, educational programming was taught across Nebraska reaching women and high school youth during 58 training sessions (n=992 participants). Women demonstrated a 41% increase in knowledge about crop scouting, pest identification, and IPM strategies by attending these workshops and using the crop scouting activity from 2019-2020. Survey results (15% response rate) demonstrated that 100% of respondents said hands-on educational programming and having female Educators was extremely important to their learning style. In addition, 67% of respondents said programs with all-female audiences was extremely important to their learning style. Youth demonstrated a 28% increase in knowledge about crop scouting, pest identification, and IPM strategies by attending these programs and using the crop scouting activity from 2017-2019. The pandemic made programming difficult during the 2020 growing season, but more hands-on educational experiences are being developed for future programming efforts.

MAINTAINING EXPECTATIONS: CONVERTING OUR IN-PERSON NEW FARMER SCHOOL TO VIRTUAL

Presenter: Mcadam, K., Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Laconia, NH 03246

McAdam, K. Delisle, J. Ebba, J. Rowley, N.

As was the case for many, converting all educational programming to virtual space was the necessity for our New Farmer School program in 2020. Our team had successfully implemented the course in 2019, as noted from one of our participants: "The New Farmer School is very valuable in several ways. The instructors and course material are relevant and interesting. It is great to meet other new farmers and learn what they are doing. It is also terrific to be able to visit farms in the area to see great examples that we can learn from. The instructors are always willing to help with assignments and with any questions I have about my farm. I highly recommend the course." To maintain this expectation, our team knew we had to create an interactive and engaging virtual space over the span of 13 weeks for our 2020 course. In this presentation, our team will share how we shifted our 13-week New Farmer School to an online course with a variety of interactive and engaging tools. We used multiple effective adult education strategies, including the flipped classroom, assigning reading materials in our online platform as well as pre-recorded videos, digital farm tours with growers, and the creation of interactive learning tools and worksheets. We hosted weekly Zoom meetings to provide networking opportunities between students and established farmers and facilitated dialogue that was helpful for a wide array of our beginner farmer participants. This platform allowed us to share content while providing our participants with the space they desired to share amongst themselves. Participants were also able to connect with guest speakers from supporting agricultural agencies in the state. In shifting from on-farm classes to virtual farm tours, we will share how we developed and used this strategy to engage established farmers with our participants in order for them to learn "in the field". Some participants were challenged by technology, inconsistent Internet connectivity, and the personal connection that an in-person program provides. These challenges have led us to rethink how we can make this format more accessible to all participants, regardless of their technology resources. We will share what we learned and our approach to 2021 and invite the audience to offer their experiences.

SOUTHERN OHIO FARM SHOW: EXTENSION EDUCATION THROUGH TELEVISION AND DIGITAL MEDIA

Presenters: Beam, B., Extension Educator, Anr/cd, , Hillsboro, OH 45133
Morris, J., Extension Educator, ANR/CD, The Ohio State University, Georgetown, OH 45121
Neal, G., Extension Educator, ANR, The Ohio State University, Owensville, OH 45160

Prior to the COVID-19 pandemic, most Extension programming was conducted via face-to-face instruction. Due to the pandemic, Educators in Brown, Clermont, and Highland Counties, created the Southern Ohio Farm Show (SOFS), an educational program like the US Farm Report but focusing on local and regional topics. Including local topics relevant to the region, helped connect the community during social distancing, particularly in rural areas. Being able to see others via the SOFS has been a popular component of the program for many senior citizens. Each week a new episode featuring educational programing, healthy living, to youth projects have been produced. The members contributed to the final product through filming, editing, sharing, and collaborating to promote episodes of the SOFS to achieve the highest impact among clientele in their region. The show began weekly broadcast April 29, 2020, via Zoom, Facebook, YouTube, blogs, and multiple local access channels throughout Ohio. Average viewership exceeds 1,868 weekly, reaching 40 states and 17 countries with 46 episodes to date, total views have reached 85,958. Approximately 90 percent of viewership comes from Ohio, followed by Florida, Kentucky, Indiana, Mississippi, and Texas. Episodes featuring community participation tend to have higher viewer engagement, with more shares, reactions, and comments. An example of this kind of programming includes interviewing a local FFA Chapter on their soybean test plot or interviewing youth participants at the local county fair. Additionally, analytics show that when episodes feature more technical or mechanical information male viewership increases. Women are the most frequent viewers at 62.45%, ages 25-34 is the top age range. Male viewership has ages tied at 25-34 and 55-64. The SOFS has shown that online, television-style programs are a successful way to share content typically presented at Extension programs. The success of this program is due to the number of platforms the program is promoted through. Collectively this strategy has a broad reach, and viewers can watch the show when it is convenient for them. Social media analytics and viewer feedback indicate that programming in the SOFS style is sustainable and needed for Extension education now and into the future.

VIRTUAL REALITY FIELD DEMONSTRATIONS FOR INCREASED ONLINE ENGAGEMENT

Presenters: Beam, B., Extension Educator, Anr/cd, The Ohio State University, Hillsboro, OH 45133
Hawkins, E., Field Specialist, The Ohio State University, Wilmington, OH 45177

The cancelation of field days and farm shows in 2020 due to the global COVID-19 pandemic created a need to transform traditional educational programs into virtual formats. In the USA, all outdoor farm shows were either cancelled or provided virtually. Virtual programming, in general, had not previously seen wide adoption, so this required agriculture professionals to quickly learn the best ways to create educational and engaging online content. Webinars, while effective for sharing information in lecture form, are limited in their ability to replace interactive and hands-on programs like field demonstrations of agricultural equipment and precision ag technologies. Virtual reality (VR), an immersive digital experience that transports the viewer through 360-degree videos, provides an engaging digital opportunity to replicate field demonstrations for viewers by providing different perspectives including views of equipment operating in field and synced data to better understand equipment performance.

The Ohio State University Digital Agriculture Team piloted a virtual field demonstration approach during virtual Farm Science Review (FSR) held during September 2020. The goal was to develop educational content that could give participants an immersive field demonstration experience that imparts information about precision agriculture technologies that a potential consumer would find useful for decision making. The virtual field demonstrations focused on tillage, harvest, aerial application, and scouting activities. Twenty-five videos featuring various views and data were created and shared via the FSR virtual platform and the Digital Ag website, YouTube, Facebook, and Twitter. Across all platforms, the virtual reality videos exhibited a 43% increase in viewership and engagement compared to traditional (2D) video types.

CREATING EDUCATIONAL VIDEOS ON A BUDGET TO REACH THOUSANDS

Presenters: Beddes, T., Horticulture Agent, Utah State University, Orem, UT 84097
Hansen, S., Horticulture Faculty, Utah State University, Kaysville, UT 84037
Caron, T., Horticulture Faculty, Utah State University, Lehi, Ut 84043

Methods Cooperative Extension uses to reach clientele has necessarily shifted over the last decade with movement away

from traditional means of communication including mail, printed newsletters, and in-person classes in favor of digital educational efforts in such areas as virtual classes, social media, live-streaming, and recorded videos. Technology used for digital delivery is relatively new and constantly changing, allowing us to reach clientele more rapidly than ever before in a shorter period of time. However, it can be difficult to know how to create relevant audio and video of acceptable quality, especially on a limited budget. We have found, though, that with as little as a few hundred dollars in equipment and editing software that we can reach thousands of people via social media and other digital platforms. Our videos average between 2,000 and 10,000 views within a week of being posted to platforms such as Facebook and Instagram. Our podcasts have reached over 10,000 people in less than a year. In this presentation we will describe our equipment, workflow and marketing that makes this possible.

"N" FIELD OBSERVATIONS: TWITTER AND VIDEOS

Presenter: Timmerman, A., Extension Educator, University Of Nebraska-Lincoln, O'neill, NE 68763

With the onset of the pandemic and limitations regarding farm visits, in-person trainings, and field days, it became apparent that Nebraska Crops and Water team needed a new approach to assist Nebraskan's involved in agriculture. "N" Field Observations has three main goals: to provide timely agronomic information to Nebraska farmers and agronomists, to strengthen the engagement of extension educators and specialists across Nebraska, and to provide real time cropping updates to empower stakeholders to make management decisions. The program is formatted to run at least one video every Tuesday and Thursday, with special editions that run when necessary. In July, we added a forage focused segment that runs each Saturday. The video clips are a maximum length of two minutes and twenty seconds to quickly supply information to viewers and meet Twitter guidelines. Each video has either one or two presenters per video, with a mix of in-field and in the office footage and UNL and Nebraska Extension branding. Presenters describe, show, diagnose, and provide management options addressing timely topics across the state. "N" Field Observations also focuses on building the viewers' skills and several of the videos detail scouting methods, IPM practices, mental health resources, and farm safety. Depending on crop conditions and emerging issues around the state, multiple videos may go out each day to help serve our geographically-diverse audience. Video clips are distributed first via Twitter, using both the account of the developer as well as the statewide CropWatch Twitter account. All videos are shared using the #Nfield hashtag. In total, "N" Field Observations shared 121 videos and were viewed 52,964 times, with 716 retweets, 1,093 likes, and 25 public comments. We learned many lessons necessary to make a high quality and valuable video for our clientele through primarily the use of smartphones. We started in March with little to no equipment besides our personal smartphones. With those growing pains, we learned that it can be difficult to consistently record sound that is loud and clear without it sounding like a reporter in middle of a hurricane. As a result, several team members have purchased several microphones to use with their smartphones including wireless and wired systems to find the best fit. Favorite microphones are now shared within the team and especially to new team members. As the skills and tools are mastered, a valuable educational piece is created and shared through social media. We are able to respond immediately to current problems producers are experiencing and providing them with resources they need.

Sustainable Agriculture

BIOMASS AND NUTRIENT PRODUCTION OF COVER CROP MIXES FOLLOWING WHEAT AND CEREAL RYE FOLLOWING CORN OR SOYBEANS IN EASTERN NEBRASKA

Presenters: Lesoing, G. W., Extension Educator, University Of Nebraska-LincolnExtension, Auburn, NE 68305
Glewen, K., Extension Educator, University of Nebraska-Lincoln Extension, Ithaca, NE 68033
Jasa, P., Extension Engineer, University of Nebraska-Lincoln Extension, Lincoln, NE 68583
Pryor, R., Extension Educator, University of Nebraska-Lincoln Extension, Wilber, NE 68465

Many farmers are planting cover crops for several reasons; including soil health, erosion control, weed suppression and grazing or forage. With farmers diversifying their crop rotations with wheat, diversified mixes of cover crops are being used following wheat. A project was initiated in eastern Nebraska to evaluate diversified cover crop mixes developed for specific purposes, including: nitrogen fixer, compaction fighter, early grazed mix, late grazed mix and high carbon. These cover crops were planted following wheat harvest the past two years, 2019 and 2020 at two research station sites and at an on-farm site. Farmers are interested in potential biomass and nutrient production of cover crops for grazing, as a harvested forage and carbon for soil health. Biomass samples and nutrient composition were collected and determined following the first hard freeze in October of each year and averaged across the three sites. Dry matter biomass production ranged from 2.02 tons/ac to 3.62 tons/ac. for 2019 and 1.94 tons/ac to 3.95 tons/ac for 2020. Carbon dry matter production ranged from 1817

lbs./ac to a high of 3348 lbs./ac., with nitrogen dry matter production ranging from 45 lbs./ac to 82 lbs./ac in 2019. Carbon dry matter production ranged from 1735 lbs./ac to 3482 lbs./ac with nitrogen dry matter production ranging from 79 lbs./ac to 118 lbs./ac in 2020. These cover crop mixes varied in their productivity and nutrient composition considerably between years and locations due to variations in rainfall and species diversity. Cereal rye biomass and nutrient production and composition were also measured from nine and eight farmers' fields respectively in the springs of 2019 and 2020. Dry matter biomass production ranged from .37 to 2.34 tons/ac averaging 1.22 tons/ac in 2019 and .545 to 2.60 tons/ac averaging 1.45 tons/ac. in 2020. Carbon and nitrogen nutrient production averaged 1046 lbs./ac and 67 lbs./ac respectively for 2019. For 2020 carbon and nitrogen nutrient production was 1212 lbs./ac and 63 lbs./ac respectively. Feed value was measured in 2020 averaging 14.7% CP and 61.57% TDN.

SUSTAINABILITY OF A HOMELESS SHELTER FARM: THE SIGNIFICANCE OF WOMEN IN MAJOR LEADERSHIP ROLES

Presenters: Mills-Wasniak, S., Extension Educator, Ohio State University Extension, Dayton, OH 45417
Turner, T., Graduate Student, University of Dayton, Dayton, OH 45409
Reeb, R., Professor of Psychology, University of Dayton, Dayton, OH 45409
Gibbins, K., Graduate Student, University of Dayton, Dayton, OH 45409
Khalifeh, L., Graduate Student, University of Dayton, Dayton, OH 45409
Barry, A., Graduate Student, University of Dayton, Dayton, OH 45409
Albright, A., Graduate Student, University of Dayton, Dayton, OH 45409

Fremstad and Paul (2019) found that farms operated by women earn 39 percent less farm income than those operated by men. This gender gap in agriculture is one of many reasons for why only 30 percent of farmers in the U.S. are women, though research suggests that women appear to be making headway in the field of sustainable agriculture, as evidenced in the Project to be described in this presentation. A decade-long project that represents a collaboration between a professor of psychology at the University of Dayton and St. Vincent de Paul (Dayton, Ohio) has enhanced the self-sufficiency and coping strategies of homeless shelter residents. Within the context of this ongoing project, a collaboration with The Ohio State University Extension was established in order to develop and sustain a Therapeutic Shelter Farm on the grounds of a homeless shelter (located in a food desert) in order to improve the nutrition and mental health of shelter residents. Whereas conventional farming is majority male-dominated in part due to historic patriarchal laws, norms, and transfers, a number of women have played significant leadership roles at this Therapeutic Farm at the St. Vincent de Paul Gettysburg Gateway Shelter for Men. Overall, this shelter farm has been sustained for over three years (including during the COVID-19 pandemic), with approximately 5,000 pounds of produce harvested and delivered to shelter kitchens to enhance the nutrition of shelter residents. With women holding leadership roles, male residents volunteered to work on the farm (and obtained psychological benefits for doing so), and together, they worked to overcome workplace and relational obstacles, promoting significant professional and personal development for all involved. With regard to sustaining this Therapeutic Shelter Farm in the future, our plans for methodology – relating to both the agricultural aspects of the actual farm as well as the study of psychological benefits for residents who volunteer on the farm – will be presented.

EFFECTS AND ECONOMICS OF A LONG-TERM CROPPING SYSTEM, COVER CROP AND GRAZING STUDY

Presenter: Rees, J., Extension Educator, Nebraska Extension, York, NE 68467

In non-irrigated systems, adding cover crops into the rotation can decrease crop yields if precipitation is limited; however, the use of cover crops for forage may offset costs while retaining soil benefits. This long-term on-farm research study was designed with a system's perspective incorporating crops, cattle and cover crops in a non-irrigated setting while including the economics of the entire system. Because yearly weather impacts crop growth and yield, two locations were established with the crop rotation in off-set years. A cool-season cover crop was planted after wheat harvest at the Nuckolls County location while a warm-season one was planted after wheat harvest at Webster County. The crop rotation is Wheat (with cover crop planted into stubble after harvest), Corn, Soybean. Cattle graze the cover crop in the winter and also graze the corn residue. This study evaluated three treatments: grazed cover crop (or corn residue, depending on the year of crop rotation), non-grazed cover crop and non-grazed wheat stubble. Beginning and three-year follow-up soil property, nutrient and health data were taken. There were no differences in soil property and nutrients while there was more total microbial biomass and fungal biomass in the grazed cover crop treatment by year three. Additional data include yield and soil moisture of each crop, cover crop biomass, grazing days and economics. At the Nuckolls County location (4 years of data), the ungrazed wheat stubble is the most economical treatment ($658.98/ac marginal net return). Potential reasons include: cost of hauling water for grazing,

numerically higher yields in the ungrazed wheat stubble, variable biomass in cool-season cover, and yield losses to the crops in the grazed cover crop treatment in dry years. In contrast, over 4 tons of warm season cover crop biomass allowing for 91 grazing days, not hauling water and no successive crop yield differences all led to the grazed cover crop being the most economical treatment ($554.79/ac marginal net return) at the Webster County location (2 years of data). This presentation will share additional data and the economic considerations necessary when farmers evaluate their practices using a system's approach.

Administrative Skills Development

A DIFFERENT PERSPECTIVE - INCORPORATING FARM VISITS INTO INTERVIEWS

Presenter: Beers, L., Extension Educator, Ohio State University, Cortland, OH 44410

Strong hiring practices are one of the greatest ways an organization can ensure their success. Extension Educator position vacancies must be filled to meet the goals of the Extension system, while also meeting the needs of the local community. Hiring practices should ensure that candidates have a full understanding of the job responsibilities and have an opportunity for community members to provide input. At Ohio State University Extension, the most commonly used interview process to hire ANR Extension Educators is for candidates to first complete a state screening process, with top candidates moving forward to participate in county level interviews. Both the state screening and county level interviews are composed of a 15-minute presentation on a pre-determined topic, followed by a round robin question panel of six to ten interview committee members, closing with 5-10 minutes for questions from the candidate. Following the county level interview, the committee selects the top candidate to whom the position will be offered. This process is efficient because the committee can screen multiple candidates in a half day. However, selecting a candidate in this formal interview format may not reflect their ability to connect with the agricultural community. In 2018 county level interviews began to incorporate a farm visit to provide a different perspective on and for candidates outside of a traditional interview setting. The farm visit component of the interview involves working with a local farmer to host the candidates and a small group of community members and OSU Extension staff for a mock farm visit. During the visit, candidates are asked a series of questions specific to that farm, but also typical of the style of questions commonly encountered on farm visits. The candidate's professionalism, communication skills, and general approach to working with clientele can be observed during the farm visit. Following the farm visit, notes and recommendations are submitted to the formal interview committee. The standard county level interview is retained, and the committee for that interview still selects the top candidate. This presentation will discuss the lessons learned, and best practices for incorporating farm visits into ANR Extension Educator interviews.

LEADING THROUGH ADVERSITY: A REFLECTION OF A YEAR OF EXTENSION LEADERSHIP IN A GLOBAL PANDEMIC

Presenter: Simmons, N., County Extension Director And Commercial Livestock Agent Ii, , Cantonment, FL 32533

Extension has persevered through many obstacles in its 100 plus year existence. State and county programs have suffered through budget shortfalls, staffing issues and volunteer quarrels, but nothing could prepare agent and educators for what 2020 had in store. In March of 2020, Extension made a dynamic shift in its operation, education methods and program development. The global pandemic forced many offices to close, employees to shift their offices to their homes and overall community health become a heightened priority. While Extension agents and educators began the daunting task of shifting their programs to a digital platform, leaders within Extension took on the role of advisor, mediator and the organizational stability during the early months of the pandemic. This presentation reviews the leadership challenges and opportunities of individuals in multiple levels of Extension. The author has surveyed Extension leadership personnel from various institutions to evaluate the decisions that went into the decisions that were made in an effort to continue the missions of Extension. We will take an in depth look at how the changes in the past year have allowed leaders to better serve their peers through various methods under extremely diverse situations. During the seminar attendees will engage in discussion on the various ways Extension agents and educators found dynamic ways to lead and serve their colleagues. Follow up discussions with attendees will allow for continued dialogue for Extension leaders.

MAXIMIZING YOUR LEADERSHIP TOOLBOX

Presenter: Strunk, C. L., Plant Pathology Field Specialist,
Sdsu Extension, Hartford, SD 57033

Extension employees (agents, specialists, directors, and staff) often find themselves serving in leadership roles within their office, community, and state. Most successful leaders today find effective ways to use different styles in leading and guiding an individual (or a group), based on the competency (skill) and commitment (will) of an individual/ group for the current task. An effective leader utilizes many different leadership competencies (tools) to get the job done. The leadership competencies discussed in this presentation include: Drive Vision, Mission and Values; Know Thyself; Communicate Effectively; Include and Optimize Diverse Talent; Learn to Listen, Listen to Learn; Plan with a Bias for Action; Develop Individuals and Teams; Know the Territory; Apply Interpersonal Savvy; Manage Conversations; Coach and Mentor; Embrace and Lead Change; Create a Culture: "Train Them, Trust Them, Let Them Lead!"; and Inspire the Heart. We cannot lead others until we work on leading ourselves. Each of these leadership competencies are skills and behaviors that can be learned, practiced, and observed. This presentation will use imagery to relate each of the 14 leadership competencies to physical items inside a toolbox. A great leader knows the importance of maximizing each tool in their toolbox and that leadership takes practice and is not afraid to add new tools to their toolbox if it will make the job easier and more efficient.

2021 AM/PIC SPEAKER PROFILES

Keynote "Optimizing your Extension efforts on social media!"

Dr. Sara Place

Sara is the Chief Sustainability Officer at Elanco where she provides technical expertise on sustainability issues to customers and supports Elanco's Healthy Purpose. Prior to Elanco, she was the senior director for sustainable beef production research at the National Cattlemen's Beef Association and an assistant professor in sustainable beef cattle systems at Oklahoma State University. She received her PhD in Animal Biology from the University of California, Davis, a BS in Animal Science from Cornell University, and an AAS in Agriculture Business from Morrisville State College.

Dr. Sara Place has a Twitter handle at @drsplace

Dr. Kevin M. Folta

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Kevin M. Folta is a Professor in the Horticultural Sciences Department at the University of Florida. His research is in the discovery of novel disruptive chemistries from random DNA information, the genomics of flavor and aroma, and how specific light wavelengths control plant traits. He teaches strategic communication around issues of technology in agriculture and medicine. He hosts the weekly Talking Biotech Podcast since 2015. In 2016 he was recognized with the prestigious CAST Borlaug Award in Agricultural Communications. Ph.D. 1998 University of Illinois at Chicago.

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Twitter: @kevinfolta
Facebook: Facebook.com/kevinmfolta
Podcast: Talking Biotech Podcast www.talkingbiotechpodcast.com

Capstone

Jennie Schmidt, MS, RD

Jennie Schmidt is part of Schmidt Farms Inc in Sudlersville, Maryland. Together with her brother in law, manage a 3rd generation family farm growing grains, vegetables, and wine grapes on the Eastern Shore of Maryland.

When she's not on a tractor, Jennie is a state and national agriculture leader having served as the first female board member and first female president of the Maryland Grain Producers Utilization Board, and currently serves as the Maryland delegate to the U.S. Grains Council and on the nominating committee of the National Corn Growers Association. She is a national and international speaker telling the story of food and farming.

She is passionate about connecting people with food and farming, emphasizing the importance of global food access and the importance of sustainability in our food supply.
Jennie whose first career was as a Registered Dietitian, holds a BS in Human Nutrition and International Agriculture from UMASS and an MS degree from the University of Delaware in Human Nutrition with a focus on Food and Agricultural Biotechnology. Dietitian turned Farmer, Notill farmer of corn/ soybeans/green beans/ processing tomatoes/wine grapes and the Past President of the Maryland Grain Producers Utilization board.

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- Schmidt Farms of Eastern Shore Maryland
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Linkedin: jennie-schmidt-ms-rd-8876b18/

Tomatoes - https://www.furmanos.com/schmidt-family-farms

Recent award winner of EWA Trail Blazer Award.

https://www.agweb.com/news/business/conservation/maryland-grower-honored-ewa-trailblazer-award

ANNUAL MEETING AND PROFESSIONAL IMPROVEMENT FUTURE CONFERENCE DATES

2022

West Palm Beach, Florida.....July 17-22

2023

Des Moines, Iowa.....August 12-17

2024

Dallas, Texas.....July 14-18

2025

Montana.....TBA