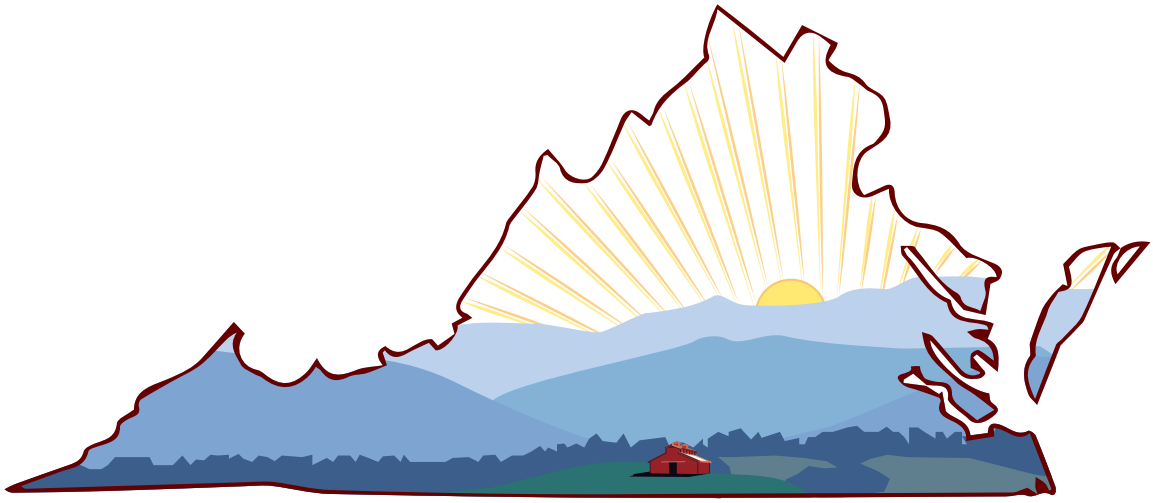
National Association of County Agricultural Agents



VIRGINIA | *Where It All Began*

NACAA 2020

Proceedings

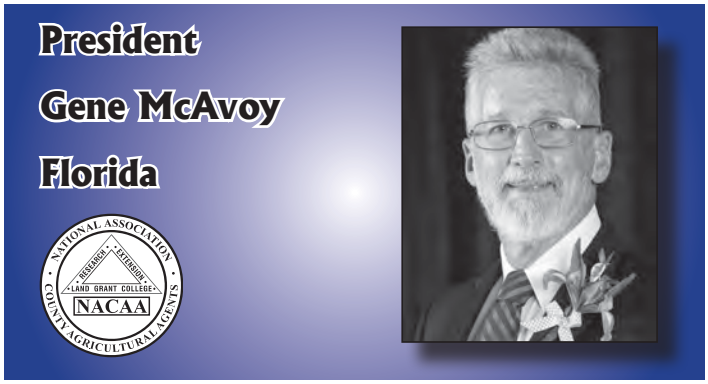
105th Annual Meeting and Professional Improvement Conference

September 28 - Oct. 1, 2020 **Virtual**

TABLE OF CONTENTS

PAGE

2019-2020 NACAA Report to the Membership



Looking back 105th AMPIC, I would like to take a few moments to reflect on the past year. It has been a privilege and an honor to serve as your NACAA President. I am sure that each NACAA president's term of office is unique and has its own challenges.

When I was elected I reflected on the term of the 1st president to hail from the state of Florida a man named John Henry Logan who was the NACAA president in 1949, 70 years ago. Under Mr. Logan the annual conference was moved from Chicago and thus began the tradition of rotating the annual meeting between regions. His term also marked the beginning of family attendance at NACAA meetings. I too hoped that in some way I would be able to do something unique and leave my mark on the association.

Although the year began normally, with monthly Board Meetings, Winter Board in Virginia Beach and the JCEP Extension Leadership Conference in San Antonio. Then things began to unravel.

Never in my wildest dreams could I have anticipated the events that would unfold this year. As is traditional, our winter board meeting took place at the site of the upcoming AMPIC, so in December the board visited Virginia Beach to make sure things were falling into place for annual meeting and we were impressed by the amazing job being done by the Virginia agents and we left with high hopes of a memorable event in Virginia Beach.

By late February, however, just after leaving San Antonio, buzz of a novel new corona virus began to circulate and by March talk of a global pandemic and Covid-19 dominated the news. A cascade of events overtook us in rapid succession – businesses, schools, universities closed and travel ground to a halt as Covid related closures gripped the nation. Here in Florida we were at the height of the spring vegetable season and nearly 70% of our market, the so-called food service industry, disappeared over night and growers were forced to abandon and destroy millions of pounds of vegetables. The volumes shipped out of south Florida during the spring season are staggering, some 60 million pounds a day. Helping growers document their losses and communicate these with officials and the press – took up most of my time for about 6 weeks. Also affected was our dairy industry which was forced to dump millions of pounds of milk, our beef producers, and our marine fisheries for whom markets imploded.

During this time, universities around the country announced closures and restrictions on travel and by May it became apparent that a traditional AMPIC in Virginia Beach in July would not be possible and so the Board moved to postpone the meeting to the end of September in hopes that the situation would improve.

By August it was apparent that this would not happen and the Board and Exec Director worked closely with Patty and Jill at Helms Briscoe to try to get out of contracts with hotels and the Virginia Beach Conference Center, we were successful but had this not happened we were looking at over $300,000 in potential penalties. Some of our sister organizations have not been so fortunate.

I am extremely disappointed and regret that we were unable to meet in person in Virginia Beach and experience all that Virginia Beach and its environs have to offer. I am disappointed and extremely sad and very sorry that 4 years of planning, hard work, teamwork and effort by the agents of the Commonwealth of Virginia were overturned by a novel new corona virus that has literally turned the world upside down and changed all our lives in a just few short months. As you may know planning for an annual meeting begins 4 years before the actual meeting date with the presentation and acceptance of a bid to host the meeting before the delegate session. The next four years entail: planning, organizing, fund raising, negotiating and more. As then NACAA Vice President in the officer rotation, I had the opportunity to work with the Virginia agents over the past four years making a number of trips to meet with Andy Overbay and Theresa Pittman Co-Chairs and all the other agents who worked on all the various committees needed to successfully host a meeting. During my visits I got to see a lot of what Virginia has to offer and made friendships that will last a lifetime only to have the entire event blindsided by an phenomena that the world has not seen in over a century since the last pandemic. I extend my sincerest thanks to Virginia and assure then their hard work and effort is very much appreciated, and I hope that someday in the future we will be able to visit the Commonwealth of Virginia for a future annual meeting.

But as they say the show must go on.

Once we decided to go virtual, we were faced with a decision of which way to go and having seen the potential of Microsoft Teams here in Florida – I contacted our UF IT guys to see if they would back stop us. They agreed and the Board met with them twice in August and on August 24 voted to go with Microsoft Teams – several members were somewhat familiar with it others hesitant but I think Connie Strunk said it well and possibly sealed the deal when she stated, "it's all about learning and professional development". Through all of this, this Board probably holds the NACAA record for the most Board meetings in a year with multiple meetings almost every month since April.

The last few weeks involved a flurry of activity and meetings with the IT guys and lots of hard work and here we are today. I must admit I did not sleep well some nights and will never forget talking with Scott Hawbaker and hearing him say in his usual calm and reserved manner, "I am a little nervous." I responded Scott "I am a lot nervous."

That being said through lots of hard work and dedication by a number of individuals we managed to pull it all together and I think you will agree that NACAA's First Virtual meeting has been a resounding success and marks a historical moment in the 105 years of NACAA AMPICs.

Throughout this meeting we heard multiple accounts of how agents have embraced technology to continue providing programing to clients. Just like our agents, NACAA has crossed the digital divide and there is may be no going back.

Not only has going virtual allowed the 105th Annual Meeting to occur but it allowed many agents that might not have normally attended an AMPIC to participate. This year's attendees came from all over the country and this meeting spanned nearly 12 time zones from Maine to Hawaii and the territory of Guam.

Looking at some of the metrics 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 that in a normal year attendance 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 in attendance – some had over 100 – again exceeding seating capacity of typically breakout rooms of an in-person meeting. The opening season had over 450 in attendance. I hope you enjoyed Michele Payn's presentation and she has graciously offered to do a free follow up webinar in the future.

Some of the other attractions of going with Teams include the ability to go back and watch presentations and view posters at a later date and the ability to meet in breakout rooms with friends and colleagues. If you did not get to see the poster session during the meeting, please check it out and experience the life-like reality that the virtual experience lends.

After this experience it will be interesting to see what the future brings and how we might be able to incorporate this type of technology into our meetings going forward. Some sort of hybrid meetings combining in-person and virtual technology?? Only time will tell.

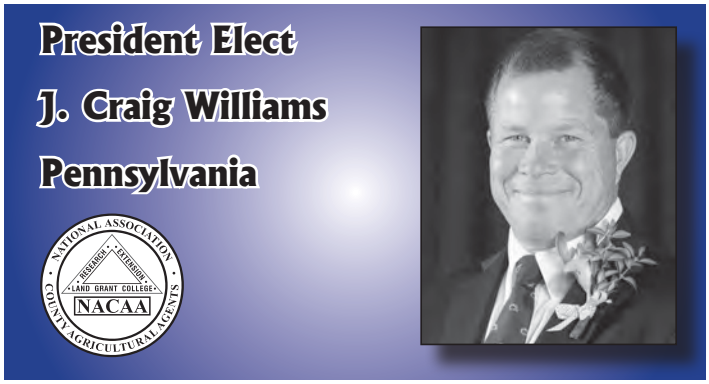
I would like to acknowledge and offer my sincerest heartfelt thanks for the tremendous support provided by the UF IT Team – Dwayne Hyatt, Joe Gasper, Kevin Hill, and Stacey Strickland – the self-proclaimed IT Nerds who were the brains behind this operation and who made everything look so easy as well as the small army of UF agents who stepped up and worked behind the scenes to make this go so smoothly. This meeting would never have happened without them.

I would also like to acknowledge and express genuine thanks to my fellow Florida agents who have encouraged me and supported me every step of the way and had my back over the last few years as I have moved through the NACAA Officer rotation. I would also be remiss to acknowledge the tremendous support and encouragement of UF IFAS administration in supporting me and allowing me to take the time needed to discharge my NACAA duties over the past few years.

Many many thanks also to the NACAA Board, Councils Chairs, Committee Chairs and Vice Chairs and executive Director Scott Hawbaker for your friendship, support 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 105th AMPIC a success

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

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



It has been an amazing year and it is difficult to believe that my term as President-Elect of the National Association of County Agricultural Agents (NACAA) is ending. It was stretched out a bit by moving the AMPIC back a few months and then finishing as a virtual conference. This is one of the years were we as a NACAA board, really worked together with all our council chairs and committee members, to keep working on an ever-changing schedule. It is a great privilege work with and learn from the many talented men and women that make up the NACAA board of directors, the council chairs and committee leaders who work tirelessly year long. The president elect along with the Executive Director keeps working with all our national sponsors. We have a great list of sponsors who have partnered with us on

the 2020 events. The NACAA Web page always lists them at, https://www.nacaa.com/sponsors/. All NACAA members can give a shout out to our sponsors, who in this past year of change worked creatively to keep the good work of NACAA going.

Our NACAA sponsorship page has links to each of our sponsors where we can reach out for more interaction. I know several members have used Twitter and other social media resources to thank our sponsors for their support. Thank You to our annual sponsors: Syngenta, SARE, Farm Credit, Bayer Crop Science, Custom Explorations by Thor, American Income Life, Pipeline Ag Safety Alliance, National Pork Board, Corteva Agriscience, Ag Safe Food and Farms, Center for Veterinary Medicine and The Fertilizer Institute.

The NACAA President-Elect is responsible for a number of things, the most important of which is to facilitate and coordinate NACAA donors and sponsors and assist the Executive Director with retention of current sponsors while focusing on identifying, soliciting, and securing new donors. Sponsors are essential to NACAA and without the generous funding from our supporters many of our professional improvement programs and program recognition awards would not be possible. I encourage every member to thank our sponsors. Members can look at their online presence on our NACAA Sponsors page. This year the sponsors were still able to interact with our members during specific awards presentation functions and participate in these presentations.

Donor support for the NACAA AM/PIC is vital to NACAA's ability to provide members with a low-cost but world-class professional development meeting. This year we want to thank our members and sponsors for adapting to a virtual world. I saw great interaction on several award sessions where the members and the sponsor were communicating in the chat session. We are constantly seeking new donors as they are vital to support our programs. NACAA members have a critical role to play in recruiting new sponsors and retaining our long-time supporters. We all interact regularly with potential sponsors. I encourage members to recruit prospective donors and be aware of that NACAA has developed an incentive program to reward those who nurture fruitful partnerships between new sponsors and NACAA. Members can find these benefits in our member handbook. These benefits make the effort to help recruit new sponsors truly rewarding for members.

Another thing all members can do is to take a few minutes and thank all our sponsors old and new for their generosity and support of NACAA. Now that we have finished the AMPIC and are back home, take a few minutes to write a note to the donor who sponsored your award or supported something that will help you educate your clientele back home. It is amazing how we can communicate and cooperate with our sponsors on a social media presence.

I would like to extend a special thank you to Scott Hawbaker, NACAA Executive Director. Scott has done an amazing job this year with all our changes and has keep the board up to date on many sponsor communications. NACAA is very fortunate to have someone like Scott. He does an amazing job of maintaining existing partnerships, identifying opportunities for potential donors and has a unique ability to selling NACAA to prospective new donors. Scott is often the first person many sponsors talk to and in the case this year as the sponsor companies change personnel, Scott is introduced to the new contact person. Scott does a great job relaying the NACAA mission and opportunities to these contacts.

As President-elect, I had the chance to participate in the Joint Council of Extension Professionals (JCEP) Extension Leadership Conference in San Antonio. The JCEP represents the collective voice of over 10,000 professionals and connects Extension agents from all disciplines ranging from Community Development, Family and Consumer Science, 4-H and Natural Resources. The JCEP Board consists of the President, Past President and President Elect of all the JCEP member organizations. We were able to meet in February at JCEP-ELC and then by the time April rolled around we were going virtual. The JCEP-PILD committee for: the JCEP Public Issues Leadership Development (PILD) conference in Washington DC., was one of the first conference to go virtual. As NACAA president elect, I was one of the NACAA officers in cooperation with Past President Fechter and President McAvoy to help make these decisions. Little did we know how the rest of the year would go at that time!

Even with the virtual PILD meetings and JCEP board meetings, we still get to meet with Bill Hoffman. Bill is a great friend at NIFA and keeps us informed on the NIFA transition to Kansas City, Mo.

I would like to take this opportunity to say thank you my wife for the time that it takes to serve on the NACAA board. I also want to thank the members of the Pennsylvania Association of County Agricultural Agents for their support and confidence in me as without their encouragement and the support of the Penn State Extension leadership. I would not have had the chance to be a part of this amazing opportunity to serve on the NACAA Board.

Sometime there is only one way to learn and or become comfortable with a new skill. It is kind of like learning to waterski, at some time you must jump off the boat and get into the water! For many of us jumping off the face to face meeting and into the team meeting was the same feeling. Once you do it a couple times, you learn how and become much more comfortable with the skill we just learned.

I would like to thank all members of the NACAA Members for pushing thru this interesting year. We all learned new virtual skills, and this is the strength of the National Association of County Agricultural Agents. This is the collection of all our educational talents and abilities. I am truly humbled by the opportunity to follow in the footsteps of the many outstanding leaders of NACAA.

My door/email/cellphone is always open, and I look forward to seeing you all in the future.

My time serving as NACAA Vice President has been one of the highlights of my career but I especially like the fact that I call so many of you 'friends' rather than just colleagues. We are one big family.

The Vice-President has the distinction of serving as Chair of the Executive Program Committee (EPC) and works closely with the three Council Chairs to develop and bring policy changes before the Board. I had three Chairs who were very active and we worked well together to handle the association's business. The EPC takes recommendations and suggestions from each of the 17 committees. We discuss each one to determine how any action would help or hinder our overall goals. Once we make our decisions, those motions are presented to the National Board for action. The Vice-President also works with the AM-PIC host state to put together many parts of our Annual Meeting & Professional Improvement Conference. I was blessed to work with Teresa Pittman (VA), AM-PIC chair and she did an outstanding job planning for your visit to Virginia. I hate we missed the experiences they had ready for us. We were tasked to determine room availability, schedule room assignments, and allot each committee their slots for oral presentations. I looked at previous oral slots and 2020 submitted abstracts to decide how many presentations each committee would offer. One of my goals has been to increase the number of orals yet maintain high-quality. The oral presentations are top priority in my opinion. After all, we are an association devoted to professional development. Our members need opportunities to present at national meetings as well as receive information to bring new ideas home. I think our oral presentations provide for both needs. In 2020, we had 4,961 'attendees' view the 106 oral presentations. This was an average of 47 members watching each presentation. Thank you to the committees, presenters and attendees for making 2020 a huge success!

How many of you have attended the Search for Excellence (SFE) presentations? These presenters have won a national award for top quality programming and results. In the past, the National Winner was allowed 15 minutes and National Finalist were allowed 5 minutes to present these nationally-recognized programming efforts. This was not sufficient in my opinion. I asked the Board and received approval to expand on the presentations starting with the 2020 AM-PIC. Maybe you noticed the SFE presentations were 30 minutes each this year. I hope you liked the increased emphasis on the excellent programs our members are hosting in their home counties and you learned even more.

Another change this year was in the Poster displays. The Board approved my request (initiated from the Professional Excellence Committee) to start converting the posters to an electronic format. We intended to purchase 50" TV's and rotate through the National Finalist posters during the entire AM-PIC. This was to bring more attention to the highest quality posters. Of course, we went to a virtual conference but hopefully these changes will take place in 2021. Our goal is to convert the posters to a 100% electronic format within 2-3 years. This will save NACAA money by not renting expensive poster display boards and make it easier for members by not having to print and transport a poster. A member will only transport a jump drive containing their poster. I think this will be a big success story in a few years. We displayed 166 posters on the Teams platform in 2020.

The Communications Committee awards $17,500 to members as National Winners and Finalist. This is a huge amount of work being recognized. I encourage you to apply for awards if you haven't before. You can't win if you don't enter.

There is much more the committees, EPC and I worked on in 2020 but I think you can see how hard we worked to improve our AM-PIC. Your association was in the dedicated hands of Council Chairs: Brian Haller (AR), Keith Mickler (GA), and David Marrison (OH) who handled all tasks with grace and efficiency. I hope you tell them thank you when you can because they went above and beyond to make sure the 2020 Virtual Conference worked for everyone. I although thank the committee members, National Board, President Gene McAvoy and the University of Florida IT Team for pulling off a great conference under difficult circumstances.

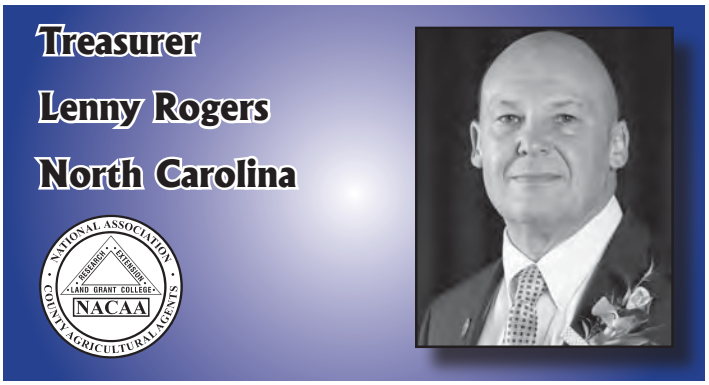
Thank you. Thank you for instilling your trust in me to serve as your National Secretary of NACAA. I am honored to be your National Secretary. When I took office a year ago, I would not have believed you if you told me to buckle up for the wild ride that I was about to embark on. This past year was a learning experience and wild ride all rolled into one. Who would have predicted that a novel coronavirus would take the country by storm, limit and restrict travel, and disrupt so many things? We all found ourselves adapting to new technologies and creative ways to do our Extension programming all the while trying to keep our homes and families going. The NACAA Board was no different. Plans were in place for our face-to-face meeting in

Virginia Beach not once but twice, but we still found ourselves amid the COVID-19 pandemic and realized a face-to-face meeting was not meant to be this year. We adapted, went out a limb and held NACAA's first virtual AM/PIC.

I have tried my best to keep accurate minutes of every meeting (we probably had a record number of meetings) and to get them approved and updated in a timely manner on the NACAA website. While serving as Secretary, 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. If you ever have questions about serving as Secretary or the association, please do not hesitate to ask. I am also willing to discussing any ideas or suggestions you may have to better our association.

Speaking of the NACAA website, the NACAA Board approved investing in a new website for our association. Our current website's coding was getting old and archaic which was beginning to pose some issues and concerns and not to mention needed a modern look. The Publications committee (which the Secretary chairs) was tasked to investigate and research different website companies and options, such as, having a custom website built versus using an off-the-shelf type company. There were pros and cons to both but after much research and discussion we made the decision to go with a custom-built website! This is a very exciting thing for our association. Yes, this is a costly investment, but we need to consider our website it really the infrastructure of our association. Our website holds the history of our association while it also supports our daily needs. We would not think twice about fixing and repairing a bridge or road if they became unusable. Our current website has been well-traveled and must be addressed before it crashes.

Thank you for your support, encouragement, and friendship—I truly appreciate it! I look forward to serving as your NACAA National Secretary for another year.



I wish to tell each of you that I have truly enjoyed serving as your national treasurer during these past three years. Handling the day-to-day account tasks of our association is a never ending task. But once in the swing of things, it just became natural. Handling the complete accounting processes of the AM/PICs in Chattanooga TN, Fort Wayne IN and now our recent 2020 Virtual AM/PIC have all been unique learning experiences. Yes, COVID has kept us apart, but not down. NACAA continues forward only to emerge stronger and more important to our membership than ever before.

With successful and profitable meeting both in Chattanooga and in Fort Wayne, I assure you that our National Association is in good financial order. We have a wide diversity of accounts that give us stability, in addition the National Board has been making wise spending decisions. We have been able to put ourselves in a very stable financial position. We have been able to absorb some of the excess AM/PIC expense burdens in order to keep registration costs down in less profitable years and with zero registration cost for this year's virtual conference.

Our income sources are steady with strong membership dues, AM/PIC registration and National Donors/Sponsor incomes. We have lost a few sponsors, but have picked up several others to help offset things.

If you have any questions about NACAA's financial status or questions on our financial operations, email me at lenny_rogers@ncsu.edu . I will be glad to be transparent about our finances. I will maintain our Associations books until the end of this 2020 year and then turn them over to our new treasurer. I will work closely with them to make sure it is a smooth transition.

I have truly enjoyed working with the current National Board this past year. This has definitely been a cohesive group that has worked extremely well to accomplish several things that benefit our association. One major accomplishment is our new website currently being developed. It will be much more user friendly than our old one once completed and released to the membership. Also, I am eagerly looking forward to reuniting with old friends at next year's 2021 AM/PIC in Philadelphia, PA. And as a Life Member this time!

I sincerely want to thank my own state association, NCACAA, for their support and encouragement through this process as a national officer. Also I wish to thank the North Carolina Cooperative Extension Administration and my County Administration for their support. It has been an experience of a lifetime at the national level that I will never forget. I have worked my hardest to be meet deadlines, to be precise, to be transparent, and to do things honestly. I hope I have served our membership to your satisfaction. Thank you again for this wonderful opportunity!

Past President
Richard H. Fechter
Kansas

Where has the last four years went. It seems like only yesterday that I was elected Vice President at the 2016 AM/PIC in Little Rock, Arkansas. So much has happened over these past four years of serving NACAA in the President's officer rotation. It has been an amazing experience to serve in this leadership role.

2020 has truly been a year to remember. The first ever virtual AM/PIC was held and was a success. Yes, it was different, but the amount of professional development opportunities for members was second to none. Although it is not what we wanted by not being able to be in person and recognize our award winners in our usual way, my hats off to the committees and Scott Hawbaker for putting together the videos of our AA, DSA, and Hall of Fame winners and the lists of our program award winners. None of this could have been possible with the outstanding efforts of the Florida IET folks! A big thank you to them.

Prior to the COVID-19 pandemic, serving as your Past President I had the opportunity to represent NACAA at the National Outstanding Young Farmers (OYF) Awards Congress in Westbrook, Connecticut. NACAA Members nominated a majority of the top ten finalists. In representing you, I judged, gave a speech, attended the sessions, enjoyed the tour, and participated in the awards program. This program is very impressive, and I strongly encourage you to nominate one of your Outstanding Young Farmers for future award consideration.

I also was able to represent NACAA, along with other officers and directors at the Extension Leadership Conference sponsored by JCEP. I am currently completing my term as Secretary of the JCEP board. That term will end in December.

A few other major duties of the Past President are to update the Annual Meeting and Professional Improvement Conference Handbook and serve as Chair of the Fiscal Committee. The handbook is updated yearly and provides details to assist potential host states as they make plans to bid to host and information on the functions of each committee as a state association works towards hosting an AM/PIC. The Fiscal Committee works closely with the NACAA Treasurer in handling the funds of NACAA and making sure all fiscal policies are followed. This year working on proposed budgets, has been a challenge. Thanks to the help of Helms Briscoe (Jill and Patty), NACAA was able to get out of all our contracts with the Virginia Convention Center and hotels with no cost or penalty. NACAA has a solid financial position.

It certainly has been my pleasure to serve NACAA these past four years. It has been an experience that was beyond what I expected, and I have treasured every moment of it. Through challenges and high points, it was a great privilege to serve with my fellow NACAA Board members and with our Executive Director, Scott Hawbaker. I have gained so much from the experience and I hope that I have had some small positive impact on the future of NACAA and its members. A very special thank you to my wife Julia and our children Wyatt and Peyton; for all their support and willingness to take care of things at home when I have been gone.

Policy Chair
Henry D. Dorough
Alabama

Twenty-Twenty; a year that could not end soon enough for some people in the world, and a year that no one who lived through it will ever forget. Every aspect of our lives has been impacted by coronavirus during this worldwide pandemic, whether directly infected by the virus or not.

For a number of years I have been hiking the Appalachian Trail along with three friends, all past national presidents of NACAA. To date, we have walked nearly half of the AT and hope that one day we will wear the badge of completion with pride. The Appalachian Trail presents many challenges for hikers to overcome. Some complete the challenge and, unfortunately, some do not.

For those who set out to hike the AT, there are many days spent planning and preparing for the journey. One item all AT hikers-to-be will certainly obtain and study in-depth is a map of the trail. Maps today are more than a line drawn on a piece of paper. Highly technical apps plot every tenth of a mile in detail with elevation changes, locations of shelters, water, and other resources as well as notes from hikers who have recently journeyed through.

NACAA as an organization has been around longer than the Appalachian Trail, and like the AT, has a map created during its conception. Similar to the AT, NACAA's map, the Association Policy Handbook has been changed through the years to ensure the organization remains true to its mission and purpose, providing guidance to allow everyone who participates in NACAA an equal opportunity to learn and grow as an Extension professional, develop leadership skills, and to 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 organizations guiding principles.

While hiking the Appalachian Trail, trekkers grow their skillsets by studying the stories of those traveling before them, through trial and error and by comparing notes with others they meet along the way. Traveling in a group, each person becomes recognized for their leadership in specific skillsets and the group becomes stronger as each person contributes to the development of the others.

That is the indispensable mission of NACAA; to provide a setting for Extension agents to share their skills and experiences to develop those of their colleagues, advancing the purpose of Cooperative Extension across the country.

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 broader perspective on an issue and make sure solutions remain in line with our guiding principles.

This year was one that certainly tested your Board of Directors and the Association Policy Committee as the planned journey was upended by coronavirus. Restrictions put in place by governments and universities across the country required the board to first postpone and then cancel the Annual Meeting and Professional Improvement Conference. Never in the 105-year history of NACAA has there not been an annual meeting. Our association bylaws mandate the annual meeting and regional caucuses be held each year but there was no map for anything other than an in-person meeting.

Without a clear map, the board set out to blaze a new alternative route that had never been traveled by NACAA before. The policy committee drafted and the voting delegates approved a bylaws amendment that allowed the association to pioneer a new virtual trail for 2020 and a new trail map was created to guide future NACAA boards.

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 this unprecedented year in NACAA history. Section VI of the Policy Handbook dealing with committees and special assignments went through a thorough review to ensure policies and procedures are in line with current practice. The Committee Handbook was also reviewed with a fine-toothed comb to confirm its content aligned with the Policy Handbook, and vice-versa.

Your current Policy Committee members are: Chuck Otte, Rick Gibson, Stan Moore, Paul Wigley, Paul Craig, Henry Dorough, Mike Hogan, Cynthia Gregg, Mark Nelson, Alan Galloway and Richard Fechter. As we welcome Gene McAvoy to the committee, we will also say farewell to Rick Gibson, who retired this year. 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.

Although 2020 will mostly be remembered by some as a year of disappointment, suffering and loss, numerous doors of opportunity were opened for Extension agents all over the country. Our collective adoption of alternate uses of technology to advance the Extension mission has also created a new path to connect all of our members to the resources of NACAA. As we travel this new path, the Association Policy Committee will be working with your Board of Directors to ensure new procedures are well-crafted and placed in the Policy Handbook to benefit NACAA members for many years to come.

Looking at the past NACAA year is kind of like comparing it to a growing season, full of excitement, challenges, and accomplishments. I departed from the Fort Wayne AM/PIC last September with the similar enthusiasm to serve as your North Central Region Director as a farmer does going into spring planting. The first half of the year hums along and then comes the challenges of the second half of the year. As extension professionals and NACAA members we rose to meet the challenges and find new ways to work and continue to deliver programs. It has been a rewarding year to serve as your regional director and view the accomplishments and yield of our members recently recognized at the 2020 Virtual AM/PIC.

I had the opportunity and privilege to visit with many North Central Region members. I was able to attend in person the membership meetings and professional development opportunities in Illinois, Missouri, North Dakota, and Nebraska. Once our work situation changed last spring, I participated in virtual meetings held in Iowa, Indiana, Michigan, South Dakota, and Wisconsin. Membership meetings typically held in spring in Kansas, Minnesota, and Ohio were rescheduled to fall of 2020. North Central Regional Vice-Director Teresa Steckler was able to attend the virtual spring meetings as well as provide outstanding professional development as the banquet speaker at the Illinois meeting.

The limited travel I was able to accomplish last fall impressed upon me the scope and influence of our work. Seeing com-

bines, planters, forests, vegetables (mainly pumpkins), and countless livestock and other agricultural operations across our region proved how much agriculture means to our country. Agriculture changes so much as the geography and soil type changes and across our region. Seeing flooded areas starting to recover was just another reminder of the constant challenges and decisions farmers need to make to keep food, clothing, and shelter available to us. I was most impressed however by the dedication and resiliency our NACAA members bring to the table. It did not matter if I visited with a state association in person or virtually, the result was always the same. Passionate agriculture extension professionals working together to deliver the best educational program possible or design research to answer a question posed by a farmer.

Each state visit was unique, interesting, and rewarding. The experiences at the visits were as diverse as the states themselves. I participated in professional development, visited a research station, lodged at a state park, tried my bowling skills, and even participated in a creative programming competition. Some excellent promotional and marketing ideas came out of the programming competition. I participated in a deep discussion on women in agriculture and mental health which was very influential. These experiences helped me be a better extension professional. During each visit, I discussed issues, ideas, and concerns the NACAA Board of Directors was addressing. I encouraged ideas and suggestions from the state memberships to continue to improve our national association and get involved at the regional and national level. One thing NACAA does well is offer multiple leadership opportunities for all members.

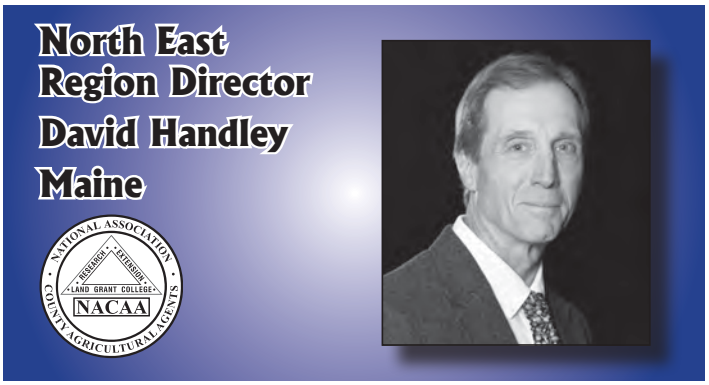
I attended the Joint Council of Extension Professionals Leadership Conference in February. The interaction of many state association leaders and familiar faces was a good to see. I am confident communication and networking within and among state associations will stay strong on the backs of good state association leadership.

Any association is only as strong as its individual members and we need NACAA members to continue to suggest changes and encourage NACAA to explore new ways. It is how we stay relevant and attract new members to get and stay involved. NACAA provides many avenues for you to get involved at the state, regional, and national level. The professional development and leadership opportunities are numerous. Please consider submitting an article to the Journal of NACAA or presenting at a national AM/PIC or serving on a committee at the regional or national level. We need you to get involved to continue to strengthen NACAA.

The 2020 Virtual AM was unique and awesome!! A big "Thank You" to the University of Florida IT gang for helping NACAA pull of a great AM/PIC. We learned new ways to do business and recognize the talent of our membership across the country. I hope you had a chance to participate in some part of the 2020 AM/PIC and see the benefits of being an NACAA member. If you are a new member or have never been to the NACAA AM/PIC, I hope you will join future conferences.

I need to thank my wife and love Karen for supporting me as I continue to serve in this role. I may not have traveled as much as past North Central Region directors and the role still demands time. Taking over a room in the house as an office has not been easy on anyone. 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.

In closing or as harvest nears on my first growing season, I look forward to another year in serving you as your North Central Region Director. If you have any questions, comments, or concerns about your NACAA, please let me know.



It has been a pleasure to represent the North East Region as a Director on the NACAA Board over the past year. Although the pandemic has significantly shifted how we approach our work and reset our priorities, both as Extension Agents and the NACAA Board, I have been very impressed with how well we have been able to adapt and even flourish in this challenging time. I was able to make a few state visits before travel restrictions made online meetings the new standard for doing business; and, while the digital workspace does enable us to come together virtually to carry out our programs, it runs a poor second to coming together in the same place, where casual conversations, and getting to know other people in your field can lead to exciting new programs and life-long relationships.

I have been very impressed with how well each of the states has carried out annual meetings and professional improvement during this time. At first, we all played the waiting game; postponing meetings and trainings a few weeks to a few months, hoping the pandemic would have runs its course. Then came the online platforms and "virtual" meetings, which have allowed us to carry on in spite of the health concerns and travel restrictions. Most of us have gone from scant understanding of online meeting platforms to becoming adept at running Zoom, Webex, Skype, Teams or other software to carry out our programs. And the adoption and effectiveness of these tools has made it clear that when the pandemic is over, how we meet and deliver our programs will be changed. I have more virtual state meetings to attend in the coming weeks, and look forward to talking with as many of my North East colleagues as possible, sharing news from the National Board, and getting your feedback on how this experience can lead to improving how we as an organization can better serve our membership, and the public we serve.

At the National level, giving up on the in-person conference at Virginia Beach was a very difficult decision. Yet, I think the Board, the Virginia staff and our facility planners did the best job possible in coming to the decision, but never giving up on holding the AM/PIC, even though it meant moving to something that had never been tried before; a virtual venue. Bringing that conference to life was an amazing effort by President Gene McAvoy and the Florida team, as well as Vice President Bill Burdine and councils and committees who worked under very tight deadlines to adjust and adapt the many aspects of an AM/PIC to the virtual format. I was very pleased to see the North East Region very well represented at this event, both in attendance and participation in the professional improvement sessions.

And what about the 2020 AM/PIC in Philadelphia? That is the question we in the North East are struggling with, as there are so many unknowns at this point. Many thanks to Conference Co-Chairs Pete Nitzsche and Ginny Rosenkrantz, and the rest of the planning committee, for keeping the fires burning and marching full ahead in spite of the many additional hurdles the pandemic has created for bringing this meeting to fruition. At this point we are determined to offer an in-person experience for the membership, but are also holding thoughts of a hybrid model, given that budgets will likely mean travel restrictions for many of our members. However, we hope that, if you can make it to Philly next July, you will take the opportunity to join us; the venue, the program and the tours will be exceptional!

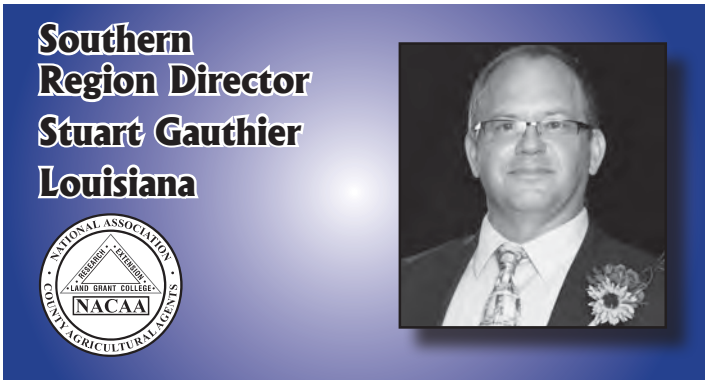
I would like to thank all of the North East members for their support during this past year, and their willingness to adapt during this challenging time, and ingenuity they've shown in carrying out our programs in spite of the pandemic. Also thanks to my fellow Directors, North East Vice Director Beth Claypoole, and President-Elect (now President) J. Craig Williams for their support and encouragement during my first year as Director.

We are in the midst of changing times. Times of frustration, times of uncertainty, but certainly times of opportunity. We have just completed the first ever virtual NACAA AMPIC. We didn't hold this meeting virtually because it was the trendy thing to do or because we were looking for ways to save money. In fact we already had an awesome group of members from Virginia ready to host us in Virginia Beach. Of course, you know the reason we were not able to hold that meeting in a face to face setting in a great location…Covid 19. However, I believe the 2020 Virtual AMPIC was a huge success because of the NACAA members, themselves.

When this Pandemic first began, it seemed as though NACAA members were the first to respond with seamless programming for their clients and their Universities. Creative online events replaced face to face meetings with farmers, ranchers, and 4-H members. This was not just reactive programming, addressing production issues, but proactive programming to help Extension's clients deal with the Pandemic, itself. In the same way, NACAA members showed their dedication and superb abilities by not putting on a "get by" AMPIC but a very high quality AMPIC

As my term as Southern Region Director ends, my lasting impression of NACAA people will be just how smart and resourceful they are. Another lasting impression is how NACAA people share a common drive that keeps their focus. That drive is simply the desire to help others. Being an NACAA member has allowed me to get to know other members from around the country. While everyone has their unique issues and challenges, we are all alike in at least one way: We do our job because we love helping others. I truly believe that being a member of NACAA has helped me become a better Extension Professional and a better person because of the other NACAA members that I have gotten to know and learn from. Thank you.

I would like to thank the Southern Region for allowing me to serve as Director, on the National Board. I would also like to thanks members of the Alabama Association for nominating me. I hope I have served you well, but I feel like I gained more from the experience than I could ever get back. I will be a Life Member when I see you all, again. Thank you for all you do for NACAA, your communities, and all the people you serve.



Early in my career I never aspired to be Southern Region Director. However, when Louisiana's time on the rotation came up a few years ago to nominate a candidate, I felt that it was a good time to personally and professionally to take on this challenge. I valued the confidence that my Louisiana cohorts had in my abilities to represent our organization on a regional and national level.

At the time of my nomination my memory harkened back to a discussion thirteen years earlier at a Louisiana County Agent's Association State meeting when three candidates from Louisiana were vying to be Louisiana's representative. All three contenders were in the final decade of their career and each made a short speech and plea as to why they would be best person to represent our region. At that moment I don't think I fully understood or grasped the importance of the vote that I was casting or why these members were so adamant about serving our organization. Each candidate had a sincere desire to give something back to

the professional organization that they felt had done so much for their professional development.

After serving for two years as a Vice Director and now as the Southern Region Director I now have a much greater appreciation and admiration for NACAA as a professional organization. In the course of attending national and state meetings I am starting to grasp the opportunities that our association offers our membership for professional and personal development. My travels to state meetings in Georgia, South Carolina, and Texas have given me an even greater appreciation for our NACAA organization. The similarities and differences of how state meetings are conducted in the southern states is very interesting. My natural instinct is to constantly make comparisons to our state meeting in Louisiana. In many ways meeting agendas and tours at state events are very comparable to each other with each state using the same basic AM/PIC template. Watching the fellowship and comradery at state meetings between co-workers is also very reminiscent of the County Agent Association events I have been a part of during my tenure with extension service.

I was very much looking forward to attending southern region association meetings this year but a pandemic came along and disrupted the world's travel plans. My first warning that Covid-19 was going to change the way we operate came while at the JCEP conference in San Antonio. Rumblings of a positive case in the area alarmed several of my co-workers. They decided to cancel their flight home and instead rented a vehicle for the return trip from San Antonio. At the time their actions seemed extreme. Looking back at that moment it was the beginning of the end of normalcy in my work life. Shortly thereafter working from home, limiting visits, masks, hand sanitizer, and locking doors at work became the new norm. After an initial series of canceled and postponed events, a computer screen began to replace the face to face fellowship with our clientele and co-workers. This has honestly been a very difficult transition for me. On a state level we are constantly being told by our administrators to stay relevant to maintain support for our programs yet we have been restricted in our ability to work with our clientele through familiar methods.

After being postponed and being converted to a virtual event this fall the NACAA AM/PIC meeting became a testament to the ability of extension agents in the face of adversity to hold a professional association meeting . I very much look forward to the day when we can return to having events where we are not concerned with social distancing, but at the same time I am greatly comforted by the fact that our organization's leadership and membership had the ability to respond to this formidable challenge in such a positive manner.

Greetings from the Western region! At the conclusion of my term as a director on the national board, I am thankful and humbled for the opportunity to serve the association. We are blessed to have a national board that is laser-focused on meeting the needs of our membership today and into the future. I am likewise impressed by our council and committee chairs and appreciate the time they give to fulfill their responsibilities. The way the board, councils, and committee chairs planned, adapted, and changed directions several times in order to hold a national meeting in the current environment was impressive!

It has been my privilege to visit state association meetings in the Western region over the last two years where I have made many new friends and acquaintances. I always walked away enriched from each experience.

COVID 19 pre-empted our normal Western Region meeting om 2020 but we look forward to traveling to Colorado for that meeting in 2021. The Colorado agents are looking forward to the opportunity to host us. If you are looking for an excuse to go west, we always welcome agents from across the country and would love to have you join us!

I would like to thank my colleagues in Idaho and the Western Region for this opportunity to serve. I am also thankful for the support of our administration at the University of Idaho for their support. It would not be possible to serve as a director without it!

I look forward to the new opportunity that I have to serve our association the next three years as the council chair of the Extension Development Council. Thank you all for your excellent work and friendship.

Extension Development Council Chair Brian Haller Arkansas

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

The Council's efforts for the 2020 Virtual AM/PIC included informational seminars on September 29th and 30th. The presentations are part of four concurrent sessions featuring 16 hours of training. There were some great and diverse topics that were presented. Collectively, 33 presentations featured 62 presenters/co-authors. In total, there were 2,005 conference participants attending the presentations. Agricultural Issues has planned 2 super seminars "Keeping Stress Levels in Check on the Farm" and "Adapting Agriculture to a Changing Climate" that will be presented virtually at a later date prior to the end of the year.

Over the year, educational programming extended beyond AM/PIC through a webinar. The Teaching and Educational Technologies Committee conducted a very timely webinar on March 20, 2020 at the beginning of the COVID 19 pandemic. The topic of the webinar was "Planning & Conducting Extension Programs Using Video Conferencing During the COVID-19 Pandemic". There was 167 members that attended. NACAA is only as good as its committees, so I encourage NACAA members to increase your participation in the Extension Development Council's activities and offer guidance and ideas on how we can better serve your needs. Please share any ideas with your State Committee Chair or Regional Committee Vice-Chair.

I appreciate our committee chairs, regional vice-chairs and state chairs as well as Vice President Burdine for their individual and collective leadership and guidance during the past year. I would also like to give a shout out to the President Gene McAvoy and the University of Florida agents for providing and coordinating TEAMS for our presentations.

Ag Issues & Public Relations Chair Paul Pugliese Georgia

There's no shortage of agricultural issues and public relations challenges that face every agricultural extension agent in the nation. This year's oral presentations at the NACAA AM/PIC covered some of the hot topics that cross over state boundaries and touch a diverse audience.

Some of the broad themes that were addressed in this year's presentations included social challenges such as farmer stress, rural health and wellness, farm safety, working with underserved groups, and worker protection. Agricultural awareness is an arena that is getting a lot of attention with programs focused on communicating with consumers and policy makers, food labels and misinformation, local food access, agritourism, and farm to table efforts. Other perennial topics include food safety, water quality, and environmental issues that affect our producers.

Emerging topics that will be on the forefront of everyone's mind in 2021 will be COVID-19 and its effects on farmer stress, mental health, food security, international markets, food distribution and supply chains. If you didn't submit an abstract this year, please consider submitting one for next year and sharing your exceptional work with colleagues around the nation.

It has been both a pleasure and a privilege stepping up to the role of National Chair this year and getting to work with our committee members serving from across the nation. We hope to see y'all soon in Philadelphia!

Early Career Development Chair Greg Strait Pennsylvania

The Early Career Development Committee worked diligently to have a program for the many educators across the nation in their early careers. Thanks to the service of the committee members that have served this past year: Greg Strait, Pennsylvania State University Sarah Mills-Lloyd, University of Wisconsin Danny

Lauderdale, North Carolina State University Stephen Brown, University of Alaska. Our focus is to develop professional improvement opportunities that will assist educators with development in the association at the local and national level. The programs helped any educator succeed in their position regardless of years of service. The committee has put together educational sessions at the 2020 AM/PIC virtual style. Nine abstracts were accepted for presentation on Tuesday, September 29th, and Wednesday September 30th.

There was a wide array of topics covered. The presentations are recorded so please try to view. The committee feels that the topics covered will give you information on how to become a seasoned educator/agent for EXTENSION. Any educators interested in Early Career Development are encouraged to apply to be on the committee and give input for future functions of NACAA Early Career Development.

It has been a great honor for me to serve as Early Career Development Committee Chair. We look forward to visiting with you in Philly 2021. SEE YOU THERE!!!!!

Greetings from the Leadership and Administrative Skills Committee! Many thanks are extended to our committee for their service and efforts during this most unusual year: Ed Martin, University of Arizona Cooperative Extension; Nicole Santangelo, Penn State Extension; and Nathan Winter, University of Minnesota Extension.

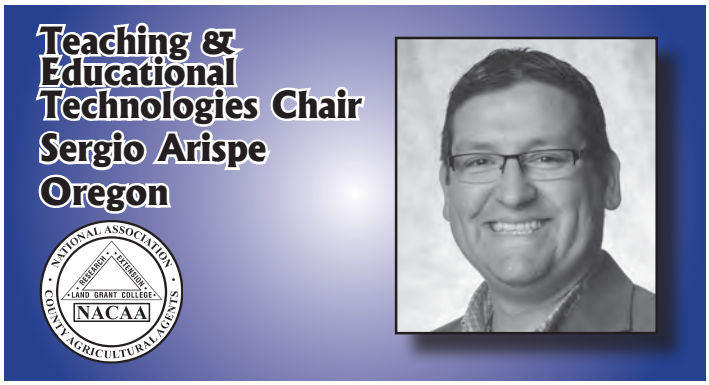
The work of this committee is valuable for the membership of NACAA, as continuing the growth of our individual personal development of both leadership and administrative skills is critical in sustaining our organizations across the nation. Administrative skills are the skills necessary for success in administration. These include communicating, computing, organizing, planning, scheduling, and/or staffing. In these uncertain times, these skills are even more imperative on the national and local level.

Enhancing our leadership skills give each of us the opportunity to grow as professionals while simultaneously growing our fellow colleagues, staff, peers, and friends within our national and state organizations, as well as our local state, regional, and county offices. Striving to better ourselves, in turn, grows our overall NACAA.

Our committee was slated to present a super seminar at this year's AM/PIC, but felt it necessary to postpone as this seminar is better delivered in a face-to-face setting. Our committee also reviewed the abstracts submitted this year to provide presentations supporting the development of our NACAA membership. We thoroughly enjoyed the following presentations at the virtual NACAA AM/PIC:

- *Values Based Customer Service for Extension*-Eric Barrett, Ohio State University Extension
- *Will You Dare to Lead?*-Connie Strunk, South Dakota State University Extension
- *Area Leaders - Hybrid Administrative and Program Positions In Extension*-Lee Beers, Ohio State University Extension

The Leadership and Administrative Skills Committee met during virtual NACAA AM/PIC concluding the presentations. An exciting year is in store! As always, any insight on moving this important committee forward within our organization is much appreciated! Thank you for the opportunity to serve as the Leadership and Administrative Skills Chair. I have thoroughly enjoyed, and look forward to serving under Ed Martin's leadership in 2021…



The purpose of the Teaching & Educational Technologies (TET) Committee is to focus on the development of 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 teaching skills. 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.

Earlier this year, we hosted a TET Committee Webinar at the onset of the COVID pandemic—*Planning & Conducting Extension Programs Using Video Conferencing During the COVID-19 Pandemic*—that reached 175 participants. We also conducted a needs assessment highlighting four priorities for future professional development, including evaluating extension programming remotely, micro learning on social media, audio-visual equipment and considerations, and video production.

Additionally, our committee hosted 12 virtual presentations at the virtual NACAA AM-PIC this year. We reached 1,042 participants over two days in an extremely successful virtual confer-

ence—thanks to our Board and amazing University of Florida Extension Service personnel.

It is an incredible privilege to serve as your TET Committee National Chair. The TET Committee endeavors were made possible thanks to leadership from committed Regional Vice Chairs including, Jennifer Rees (Nebraska; North Central), Matthew Lollar (University of Florida; Southern) and Colt Knight (University of Maine; Northeast). Jennifer and Matthew successfully completed their terms, which opened positions for two new Regional Vice Chairs—Kelly McGowan (University of Missouri; North Central) and David Yates (University of Tennessee; Southern). Our new team looks forward to serving you for another successful year!

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 to our membership. 2020 saw the 4-H & Youth Committee join the Professional Improvement Council, bringing the number of committees in this council to seven.

The seven committees of Professional Improvement Council:

- 4-H and Youth chaired by Melissa Henry from Tennessee
- Agricultural Economics & Community Development chaired by Amanda Smith from Georgia
- Agronomy & Pest Management chaired by Steve Van Vleet from Washington
- Animal Science chaired by Ashley Wright from Arizona
- Horticulture & Turfgrass chaired by Patrick Byers from Missouri
- Natural Resources/Aquaculture chaired by Ray Bodrey from Florida
- Sustainable Agriculture chaired by Stacey from North Carolina

Educational activities for the council this year was limited to oral presentations because our AM/PIC was hosted virtually due to the COVID-19 pandemic. We were able to hold oral presentations that were very successful and well-received by many. This virtual format allowed the membership to present and attend professional improvement sessions from afar yet still allowed presenters to increase their promotion in rank while allowing our audience members to hear "real-world" information that they can modify to use in their own programming.

Oral Presentations by the numbers:

2020 Professional Improvement Council Virtual Presentations

Committee	Submitted	Accepted	Presented	Total Attend	Avg Attend	Highest	Lowest
4-H	11	6	6	155	26	37	16
Ag Econ	15	10	8	400	50	63	36
Agronomy	16	15	15	558	37	62	10
Animal Scimnce	18	12	12	644	54	79	23
Horticulture & Turfgrass	26	21	21	945	45	105	13
Natural Resources	5	5	4	108	27	31	23
Sustainable Ag	7	4	4	145	36	47	25
	98	73	70	2955	39		

	2019	Highest	Lowest	2018
Ag Econ	12	34	8	10
Agronomy	20	47	17	27
Animal Scimnce	22	46	13	14
Horticulture & Turfgrass	22	67	6	14
Natural Resources	11	21	5	11
Sustainable Ag	12	32	6	9
	99			85

Collectively, we had 2955 participants attend the oral presentations just in the Professional Improvement Council alone.

As an association, we were very fortunate to have the ability to hold our AM/PIC virtually using Microsoft Teams. I hope many of you were able to attend the AM/PIC virtually, if not don't worry the whole AM/PIC has been recorded and saved for your future viewing.

The Council Chair role would be an impossible task if not for the excellent group of men and women who serve as chairs and vice-chairs. They have worked very hard and put in many hours fulfilling the duties expected of chairs and vice-chairs. Thanks to each member for your time, hard work, and dedication to NACAA.

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 the other Council Chairs and to Vice-President Burdine for the great working relationship we had in fulfilling our duties during such trying times.

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 2020 AM/PIC 11 presentations were submitted with 6 selected for the 4-H and Youth Presentation Workshop representing all four of the NACAA regions. Although the presentations

transitioned to a virtual platform, the presentations were well-attended with excellent ideas shared 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 2021 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 and Southern Region Vice-Chair

Richard Brzozowski (Maine), North Central Region Vice-Chair

Amanda Douridas (Ohio), North Central Region, Vice-Chair

Ashlee Westerhold (Idaho), Western Region, Vice-Chair

The Agricultural Economics and Community Development Committee had the pleasure of offering professional improvement opportunities for NACAA members during the 2020 Virtual AM/PIC. We had a full day of selected presentations on Wednesday, September 30, 2020.

Each presenting member was given 20 minutes to showcase their Extension program during their presentation and spend 5-10 minutes answering questions. Attendance at the virtual presentations was higher than we have seen in the past several years. In addition, the Microsoft Teams platform enabled for the presentations to be recorded for later viewing. The attendees also had immediate access to the slide presentations within Microsoft Teams.

The presentations covered a variety of topics. Attendees were able to see what was going on in the area of agricultural economics and community development in other states as well as get ideas for improving their programs at home.

The following presentations were shared by our members:

1) "What are the Barriers Preventing Customers from Visiting Farmers' Markets More?" Bobbie Severson, Cornell University (36 attendees)

2) "Facebook 101 for Direct Farm Marketers Workshops." Megan Leffew, The University of Tennessee (44 attendees)

3) "Annie's Project: Farming in New Jersey's Cities and the Urban Fringe." Madeline DiNardo, Rutgers, The State University of New Jersey (37 attendees)

4) "Lessons from the New American Urban Farmer Program: Strategies for Reaching & Engaging Refugees & Immigrants in Extension Programming." John Porter, University of Nebraska-Lincoln (57 atttendees)

5) "Expanding Farm Management Programming through the State Farm Management & Ag-law In-service." David Marrison, The Ohio State University (63 attendees)

6) "Economic Impact of UT Garden & Extension Master Gardener Plant Sales." Celeste Scott, The University of Tennessee (55 attendees)

7) "Industrial Hemp Workshop." Patricia Barrett, University of Missouri (60 attendees)

8) "Using On-Farm Research to Document Energy Costs on an Ohio Dairy." Chris Zoller, The Ohio State University (48 attendees)

The committee hopes you enjoyed the presentations and found some useful ideas to use in your own Extension efforts. Remember you can still view the presentations or download the slides in Microsoft Teams.

Although we had to cancel our planned tour and super seminar at Virginia Beach, we were grateful to be able to meet virtually as a committee and still provide professional development opportunities to our members.

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 supporting NACAA and sponsoring the efforts of this committee.

Agronomy & Pest Management Chair

Steve Van Vleet
Washington

Committee Members:

Chair and Western Region Vice-Chair: Stephen Van Vleet, Washington State University Extension

Northeast Region Vice-Chair: Jim Lewis, University of Maryland Extension

North Central Region Vice-Chair: Ted Wiseman, Ohio State University Extension

Southern Region Vice-Chair: Robert Goodson, University of Arkansas Cooperative Extension

As everyone feels, what a weird world we now live in. We made it through and adapted along the way. I wish we could have all gotten together, however strange times just brings out the best in some.

I want to thank everyone how well they pulled off the virtual conference this year. A special thanks to our NACAA leadership, Scott Hawbaker and the University of Florida folks. We had fifteen excellent presentations and attendees ranging from 26 to 80 for the presentations. Most at the higher end of 50-80.

We are already working on and excited about the upcoming AM/PIC in Philadelphia. I will be in contact with FMC corporation for a tour. The committee has not decided whether we will do a preconference tour or just have a special Agronomy and Pest Management tour during the tour day. Probably the latter.

This is the beginning of my second year and I already have someone interested in taking over the Western Vice-chair position next year (Montana). I am very appreciative of the vice-chairs for stepping up and helping moderate sessions for our virtual conference. I look forward to seeing everyone "face to face" in Pennsylvania!

Animal Science Chair

Ashley Wright
Arizona

Committee Members:

Chair: Ashley Wright, AZ

Northeast Region Vice-Chair: Andrew Sandeen, PA

North Central Region Vice-Chair: Karl Hoppe, ND

Southern Region Vice-Chair: Steve Morgan, GA

Western Region Vice-Chair: Mark Heitstuman, WA

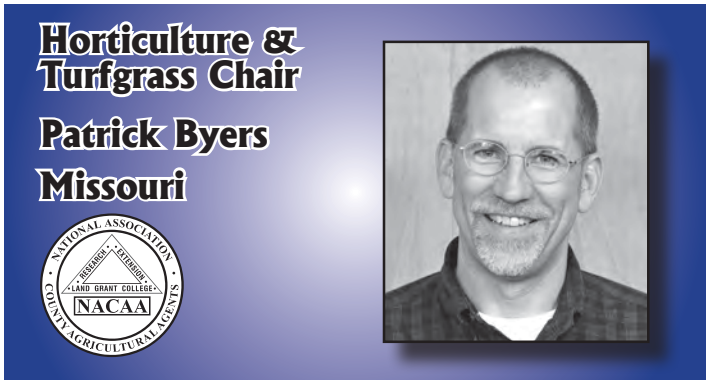
Who would have expected 2020 to bring such changes to our lives, our programming, and our conference? This time last year, we were coming off of the Indiana conference, where the Animal Science committee held a fantastic tour of Indiana Agriculture. We were already well into planning for the 2020 tour in Virginia, with stops and sponsors identified across the state. Then in March, COVID-19 brought everything crashing down. My thoughts go out to the Virginia agents who worked so hard over the past four years to host us in their state, and in particular, John Benner and his committee, who went above and beyond to help us plan what would have been a great animal science pre-conference tour of Virginia.

Instead of telling you about the tour that almost was, I'd like to tell you about the good things that happened this year. There was still a conference, and it has the distinction of being the first ever virtual conference. The Virginia agents, the NACAA boards and officers, Scott Hawbaker, and the University of Florida Ag Agents and IT staff worked incredibly hard to make the first virtual AM/PIC a success. If it had to be a virtual conference, it was the best virtual conference it could have been. There was plenty of space for engagement and a relatively smooth experience for presentations and meetings. Thank you to all involved!

During this conference, The Animal Science committee hosted virtual professional improvement seminars featuring twelve presentations from successful extension programs around the country. Topics were broad, ranging from dairy production in Isreal to sheep and goat judging schools in Washington. All of the presentations and information presented was of high value, and virtual attendance was even better than at an in-person conference (with nobody stuck standing in the back!). I would like to take this opportunity to encourage everyone to apply to present their successful animal science programs at future AM/

PICs so we can continue to learn from each other and grow our programs.

Finally, this is end of my second and final year as the national chair for the animal science committee. I will be handing the committee over to Mark Heitstuman, who has served the past two years as the Western Region Vice-Chair. I know Mark will do an outstanding job, and I would like to thank him and the rest of the Vice-Chairs for their hard work this year, it was definitely a year that will be remembered! I look forward to continuing to serve the membership of NACAA in other capacities, and to seeing everyone "for real" in Pennsylvania at the 2021 AM/PIC!



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

Julie Kikkert (New York), Northeastern Region Committee Vice-Chair

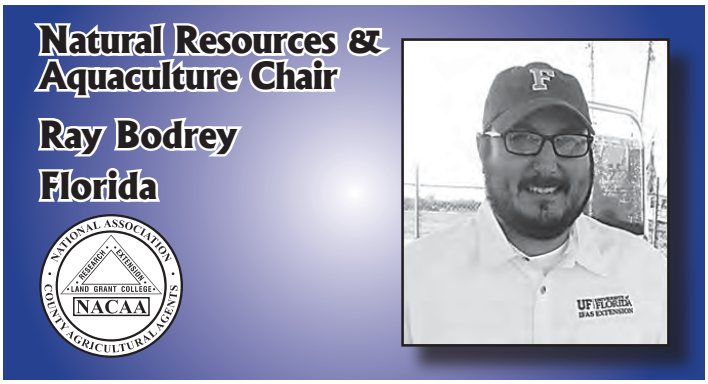
The Horticulture and Turfgrass professional improvement committee is pleased to present this report to membership, as we reflect back on 2019-2020 and the virtual 2020 NACAA AM/PIC. Of course, all plans took a backseat as the COVID-19 situation developed in early 2020, culminating in the virtual AM/PIC.

Much of the committee activity in 2019 and early 2020 was focused on planning for the anticipated 2020 AM/PIC in Virginia Beach, VA. We were excited to form a collaboration with the Sustainable Agriculture PIC to plan and help fund the 2020 preconference tour. We worked closely with Virginia Cooperative Extension agents Kevin Camm and Melanie Barrow to plan the preconference tour, which included an exciting horticulture and sustainable agriculture itinerary. Among the planned stops were Monticello, New Earth Farm, Hampton Roads AREC Theme Gardens, Lewis Ginter Botanical Garden, and Barboursville Vineyards. The tour was unfortunately cancelled when the in-person AM/PIC was cancelled, but these sites would definitely be worth a visit if anyone finds themselves in Virginia. Many thanks to Kevin and Melanie for the collaboration.

The Horticulture and Turfgrass PIC committee also worked to develop the horticulture and turfgrass oral presentation program at the 2020 AM/PIC. The process began in 2019 as we solicited abstracts through the state horticulture committee chairs, and we were pleased with the number and quality of the 2020 submitted abstracts. The committee evaluated the abstracts, organized the sessions, maintained close contact with speakers as the virtual conference developed, and moderated the virtual sessions. Our thanks to the NACAA leadership team that successfully coordinated the oral sessions at the virtual conference, which included 21 presentations on a wide range of horticultural topics. The oral presentations were organized into 4 sessions that roughly corresponded to the interest areas of Master Gardening, horticultural research, commercial horticulture/turf, and innovative programming. Thanks are certainly due to the NACAA members who shared such innovative and impactful programming.

The Horticulture and Turfgrass PIC committee held its annual meeting on September 21, 2020 with incoming and outgoing regional vice chairs in attendance, along with several members of the NACAA membership. We are looking forward to the 2021 NACAA AM/PIC in Philadelphia. At this time we are planning an in-person conference, but will also have a contingency plan to address any lingering COVID-19 issues. The committee discussed a preconference tour, and we plan to work closely with host state contacts to organize the tour. A wealth of potential tour sites in the area! The committee also discussed hosting a possible super seminar at the 2021 AM/PIC. The committee plans to explore collaborations with other PIC committees in planning joint programs at the AM/PIC. Finally, the committee discussed sponsoring professional development opportunities for NACAA members during the upcoming year.

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, Southern Region, Florida

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

Anna Busch, Northeast Region Vice-Chair, Pennsylvania

Jody Gale, Western Region Vice-Chair, Utah

Although coronavirus has changed our lives in unprecedented ways, it was great to see us come together for this year's "virtual" AM/PIC. An unbelievable pre-tour with coastal and upland adventures was planned for this year's meeting, but of course, unfortunately it had to be canceled. The Committee would like to express appreciation to our Virginia colleague's Neil Clark and Adam Downing for their tireless planning efforts in the endeavor.

The virtual AM/PIC highlighted a diverse and exciting line up of oral presentations for the Natural Resource/Aquaculture section focused on forestry, wildlife management, field day planning and protecting water resources. The presentation topics and authors were "Benefits & Barriers of Woodland Owner Legacy Planning as Perceived by Underserved Woodland Owners" by Adam Downing of Virginia; "Assisting Land Managers in Reversing the Declining Quail Populations on Working Ranches in Florida" by Taylor Davis; "Shifting Gears - A Cool Season Forage Virtual Field Day Experience in Gulf County, Florida" by Ray Bodrey; and "Enhancing Watershed Management Through Extension Partnership" by Katie Pekarek of Nebraska. A total of 108 attendees were on hand for this professional development session. If you missed the session, you're in luck. The presentations were recorded in Microsoft Teams.

Going forward, the committee will be hard at work formulating a long-term plan for professional development, including pre-tour options for the next AM/PIC, along with planning for the reinstatement of the Search for Excellence Award. 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.

Committee Members:

Stacey Jones (North Carolina), Committee Chair and Southern Regional Vice Chair

Liz Bosak (Pennsylvania), North Eastern Regional Vice Chair

John Porter (Nebraska), North Central Region Vice-Chair

Heidi Rader (Alaska), Western Regional Vice Chair

Professional Development Session-

This year during the 2020 Virtual AM/PIC, the Sustainable Agriculture Committee hosted the following presentations in our professional development session. If you missed them, please go back and watch the recordings on Microsoft Teams.

Educating the Public on Sustainable Agriculture and Local Foods in White County- Sherri Sanders

Optimizing Yield, Milling Quality, and Disease Management in Spelt- Elizabeth Bosak

Pollinators Promote Agricultural Awareness- Jessica Sullivan

Leading an Effective BeeKeeper Education Program in Your County- Keith Fielder

SARE Fellows-

One change to our committee this year is NACAA no longer administers the SARE Fellowship. The SARE Professional Development Committee took it over so they can advertise the program to more people. These include extension professionals from 1862, 1890, and 1994 institutions. The new application deadline is May 1st. Please see the following website for more information.

https://www.sare.org/what-we-do/professional-development/fellows-program/

Reading the Farm Super Seminar and Tour-

We hope next summer to offer our Reading the Farm Super Seminar and Tour again. This is an excellent program for all agents to participate in. It teaches you how to view farm visits in

a holistic way that covers production, sustainability, economics, and social aspects like farmer stress, family dynamics, farm succession, and other topics. We all have our specialty, and it's nice to see a farm though other agents eyes. It's a fun way to learn from your fellow NACAA members.

https://northeast.sare.org/wp-content/uploads/RTF-guide-final-and-appendix-6_4_15-1.pdf

Good luck to everyone over the coming months. I hope you all stay healthy and safe!

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 Mike Haberland from New Jersey
- Public Relations & Ag Awareness Committee chaired by Kathryn Hopkins from Maine (NE)
- Recognition & Awards Committee chaired by Joni Ross Harper from Missouri (NC)
- Scholarship Committee chaired by Donna Hamlin Beliech from Mississippi (S)
- Search for Excellence Committee chaired by Amy-Lynn Albertson from North Carolina (S)

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 2020. These included:

- 783 Communications Award entries
- 166 Poster entries (113 Extension Education and 53 Applied Research)
- 132 Search for Excellence (SFE) applications in the 8 SFE categories
- 16 applications for the Ag Awareness & Appreciation Award.

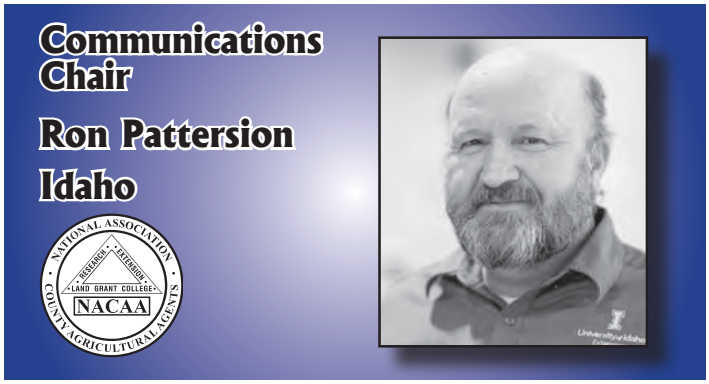
Due to our gracious sponsors, our committees were able to present nearly $22,000 to members for their outstanding achievements.

In addition to the creative and academic work competitions, 131 NACAA members were recognized by their peers for the career achievements. Sixty-two members from across the nation received the Distinguished Service Award and 66 received the Achievement Award. NACAA was also honored to present William A. Hogan, Jr. from Louisiana, Steven E. Munk from South Dakota, and George W. Hamilton from New Hampshire with the 2020 NACAA Hall of Fame Award.

The NACAA Scholarship Committee was also pleased that NACAA members and friends donated a total of $16,817 to the NACAA Educational Foundation Scholarship. This year, six scholarship applications totaling $7,230 were awarded to NACAA members (5 individuals & 1 group) to help finance their scholarly work.

The year of 2020 will forever be etched in our memories. The coronavirus pandemic has forced us to change many of our daily habits and routines, both at work and at home. Albert Einstein once stated "in the midst of every crisis, lies great opportunity."

This pandemic provided our organization a great opportunity to plan and conduct its first-ever virtual meeting. I appreciate the hard work that each of the National Chairs, Vice-Chairs, and committees did to adjust (and then readjust) to every challenge which was presented to them during the past year. We persevered and I believe we found some great ways to improve our committees, award programs, professional improvement and organization as we move forward. Thank you to each of you for your time, hard work, and dedication to NACAA.



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. There were a large number of entries in the fourteen communication award categories, and the caliber of award entries was outstanding. There were a few minor, but significant, changes to the categories for 2020. As we adapt to technological advances there will likely be more changes each year.

As a whole, the competition for the national winner and national finalists in each category was extremely close. After the deadline extension, due to the shut-down issues, there were 778 total entries submitted by NACAA members from across the nation. The Southern Region led the way with 477 entries submitted, followed by the North Central Region with 194 entries, the Northeast Region with 72, and the Western Region with 35. Congratulations to the Florida Association for the most entries as a state with 99 total applications. Florida was followed in the top five by Tennessee with 63, Ohio and Texas tied with 50 each, and North Carolina with 46. The following is a summary of the entries made in each category.

Audio recording had 47 entries

Published Photo had 68 entries

Computer Generated Presentation with Script had 64 entries

Program Promotional Package had 93 entries

Personal Column had 77 entries

Feature Story had 69 entries

Individual Newsletter had 55 entries

Team Newsletter had 23 entries

Video Recordings had 86 entries

Fact Sheet had 58 entries

Publication had 63 entries

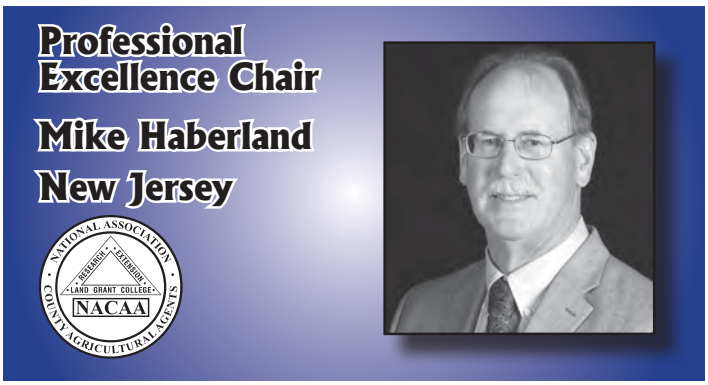
Web Site/Online Content had 43 entries

Learning Module/Notebook had 17 entries

Bound Book had 15 entries

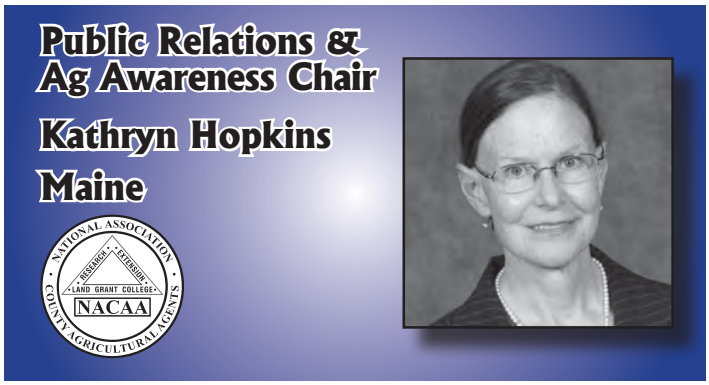
Because of the conference being virtual, and we did not have a time-slot to replace the traditional luncheon, the regional award winners, and national award finalists and winners were announced in a PowerPoint presentation that can be found on the conference landing page (https://www.nacaa.com/ampic/2020/2020VirtualAMPIC.php). The NACAA Communications 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 2020 were: North Central Region Chair – Heather Gessner (South Dakota), Northeast Region Chair - Marjorie Peronto (Maine), Southern Region Chair – Brittany Council-Morton (Virginia) and Western Region Chair – Iris Mayes (Idaho). I welcome Laura McDermott (New York) as the new Northeast Region Vice-Chair. 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 Contest, please contact Ron Patterson at rpatterson@uidaho.edu or call 208-529-1390.



The Professional Excellence Committee is responsible for organizing and conducting the poster session before and during the AM/PIC. It took a lot of dedication and work to make this happen and 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, Steven Yergeau (NJ); Southern Region, Nick Simmons (FL); and Western Region, Bonnie Hopkins (NM). In addition, with the AM/PIC moving to a virtual online format for 2020, Scott Hawbaker, John Dorner and the Florida IT folks were called upon for their experience in the new format. Presenting a poster is a great way for members to showcase their work in Extension Education or Applied Research, generate discussion during and after the conference, and have their abstract will be published in the Conference Proceedings. This year we had an excellent number of accepted posters for judging and/or display in the Virtual AM/PIC, with a total of 166 (53 Research and 113 Extension Education). Florida IT set up an awesome 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, for the first time, National Finalist were judged virtually. The committee used independent pre-AM/PIC regional judging of state winners to select the 24 National Finalist posters (three from each region for both categories). Two teams of four judges, comprised of a NACAA peer members communicating virtually, judged the posters during August to determine the National 1st, 2nd, and 3rd place award winners. Judging criteria is found on

the NACAA website and can be reviewed to prepare for next year's posters.



The Public Relations and Agricultural Awareness Committee is responsible for conducting the Agriculture Awareness and Appreciation Awards (A4) program. The Ag Awareness and Appreciation program is a great way for NACAA members to highlight educational programs that demonstrate the public relations component of Extension work. It is also an opportunity to showcase how Extension agents and educators enrich and inform the public's understanding of agriculture in their communities. This year the Ag Awareness and Appreciation award program had 16 examples of outstanding public relations work. There is a tremendous amount of great Extension work that many educators and agents are doing and this outreach makes an excellent entry in the Ag Awareness and Appreciation award program. Think about writing up your work for 2021!

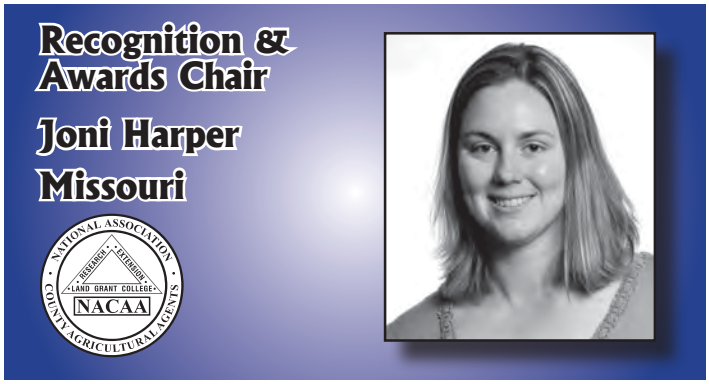
Congratulations to Emelie Swackhammer and her team from Pennsylvania. They are the Ag Awareness and Appreciation Award National Winners for 2020. Emelie presented her winning entry during the Ag Awareness and Appreciation Recognition Virtual Event on Thursday, Oct. 1, 2020. Her topic was "Responding To an Invasive Insect Pest: Teaching the Public Why Agriculture Is at Risk and Encouraging People to Help". Congratulations also go National Finalists Alicia Halbritter and her team from Florida, Teresa Dean and her team from New Mexico, and to Regional Finalist, James Hunphrey from Missouri and to all state winners and entrants.

State winners include: Landon Marks from Alabama, Allison Howell from Arkansas, Michael Hiller from Texas, Steve Pettis from North Carolina and Amber Anderson from Virginia.

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

The Public Relations and Ag Awareness Committee appreciated having entries from three of the four regions in 2020 and challenges everyone in NACAA to submit an entry in one of the NACAA awards programs and especially in the Ag Awareness and Appreciation Award program in 2021. Your work makes a difference in your community!

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



Written by 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)

I would like to express the Recognition and Awards committee's congratulations to all of the Achievement Award, Distinguished Service Award and Hall of Fame Award recipients this year. The national and state committee members are very passionate about recognizing our fellow agents. It was with great sadness we were not able to present the awards in person. We had 66 Achievement Award, 62 Distinguished Service Award and three 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 excellence as an Extension Educator. Since 1973, NACAA has recognized 2,304 Achievement Award winners. American Income Life Insurance Company—Special Risk Division is the Achievement Award sponsor and has been a sponsor of NACAA for 52 years. The committee would like to thank Erin Bain, American Income Life, for the warm congratulations on the AA video.

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. Each individual has been selected by their peers for excellence as an Extension Educator. This was the 83rd year that the Distinguished Service Awards been presented by NACAA. The 62 recipients have joined a very

distinguished group of 7,457 NACAA members that have been honored with this award.

The committee is fortunate to facilitate the selection of Hall of Fame recipients each year. This is the 15th year for this prestigious award. Three outstanding Hall of Fame recipients of this award are 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 and for the video presentation.

I would like to thank the regional vice-chairs and state chairs for all the great work and support they gave to this committee during this challenging year. Thank you to Scott Hawbaker for all the hard work in putting together the award videos and making sure our recipients receive their awards.

NACAA 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).

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

The 2020/2021 scholarships had to begin after the ***ORIGINAL*** 2020 AM/PIC in Virginia dates (July 24) but before the 2021 Pennsylvania AM/PIC (July 4). The 2020 monetary contribution deadline for Scholarship vestment eligibility was the last day of the 'Virtual' NACAA AM/PIC, Oct. 1, 2020.

2020 NACAA Scholarship Report

On July 10, 2020 the Scholarship Committee met via ZOOM to judge the 6 applications (5 individual and 1 group). Their recommendations were then conveyed to the NACAA Educational Foundation for funding approval. The following Scholarships were awarded:

Individual

Samantha Robison, PA
MS in Homeland / Ag. Security & Food Defense - $1,000

Erin Harlow, FL
Int'l IPM Symposium in Colorado - $1,000

Tyrone Fisher, NC
Ag. Leadership Development Program - $1,000

Cyndi Lauderdale, NC
'Virtual' Master Gardener Coordinator Conf. - $ 230

Cynthia Gregg, VA
Forage & Grasslands Council Conf. in Georgia - $1,000

Group

Jessica Kelton, AL
Farm & Agribusiness Mgmt. Tour in California - $3,000

The number of scholarship recipients by Region was: North Central – 0 South – 5, Northeast – 1, West – 0. Eight (8) agents benefited from the Scholarship Program. The total amount awarded by the NACAA Educational Foundation was **$7,230**. We appreciate and thank them for their financial support.

The NACAA Scholarship Fund is managed by the Educational Foundation whose purpose is to oversee funds generated for the express purpose of making it available to members for various educational opportunities. In 1983, the fund was incorporated as a non-profit corporation. The funds are invested in mutual funds and are managed daily in an account by Raymond James. The board uses from 3-5% of the investment for scholarships. The Education Foundation is separate from NACAA.

In 2019, we held our 1st On-Line Bidding Auction. This replaced the 'Silent' Auction portion of the event. The 'Live' Auction was held as normal. We used a program supplied by Silent Auction Pro. The technical support was fantastic. While not problem free, the Scholarship Committee was ecstatic to finish-up the evening by 11 pm, instead of the usual 2 am. Once the annual on-line license is purchased ($796), the program is available for use by any state association. State associations would only pay the 2% of gross proceeds made from their own auctions, plus a credit card reader rental fee ($25). The learning curve on any new program or new method of doing things is always steep. If anyone has experience with another on-line auction service, please contact your Regional Vice-Chair to share your experience.

Since the 2020 NACAA AM/PIC was a 'Virtual' event, there was no Scholarship Auction. All contributions had to be monetary contributions, via credit card or check, from individual members or state associations.

Scholarship funds generated from past AM/PIC auctions, donations and drawing ticket sales:

2020	VIRTUAL AM/PIC	$ --------
2019	Fort Wayne, IN	$12,869
2018	Chattanooga, TN	$19,308
2017	Salt Lake City, UT	$ 8,232
2016	Little Rock, AR	$10,489
2015	Sioux Falls, SD	$11,746

Are you eligible to apply for an Educational Scholarship?

A member eligibility list and contribution amounts can be found on-line at https://www.nacaa.com/scholarship/index.php Select your State Association and click on the 'Continue' button. All contributions for your members are listed.

2020 NACAA Scholarship Committee consisted of:

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

Regional Vice-Chairs:

Travis Harper, harpertw@missouri.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 Zoeller from Ohio, Lance Ellis from Idaho, and Amber Yutzy from Pennsylvania.

The committee held an organizational meeting by Zoom/conference call in December 2019. We discussed procedures for promoting SFE entry submissions and for scoring the entries to be received. The committee voted to have the category SFE in Farm and Ranch Financial Management name changed to Search for Excellence in Farm and Ranch Business Management as discussed at the 2019 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 2020 NACAA AM/PIC. They were as follows

Consumer or Commercial Horticulture- Lance Ellis

Crop Production- Chris Zoeller

Environmental Quality, Forestry, and Natural Resources- Amy-Lynn Albertson

4H and Youth Programming- Amber Yutzy

Farm & Ranch Business Management- Linda McClanahan

Livestock Production – Linda McClanahan

Sustainable Agriculture- Amber Yutzy

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

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 April 27, 2020. As a result of COVID-19 the deadline was extended to March 31 for all applications and states were given until April 15 to judge entries. All the entries forwarded by the states were judged by May 15, and national winners, finalists, and state winners were notified of their placing by May 25th.

There were 81 completed entries this year. The entries per category was as follows:

Consumer or Commercial Horticulture- 9

Crop Production- 13

Environmental Quality, Forestry and Natural Resources- 6

Farm and Ranch Financial Management- 6

4H and Youth Programming- 20

Livestock Production- 13

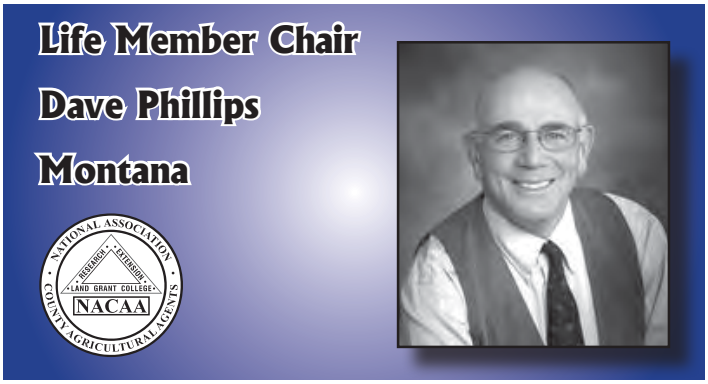
Sustainable Agriculture -8

Young, Beginning or Small Farmers/Ranchers- 6

The total number of entries received was an increase of 16 over last year. There is a lot of opportunities for more members to participate by submitting entries in SFE. The entries are easy to prepare and submit, and the program provides an excellent opportunity for individual and team recognition. Our 2020 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. This committee met via zoom many times throughout the summer to keep up with changes to the AM/PIC and ongoing changes within our own university systems. 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. Thanks to NACAA Executive Director, Scott Hawbaker for his support and assistance.



Dave Phillips, Chair, Montana
September, 2020

The Regional Vice-Chairs for the Life Member Committee 2019-20 have been James Devillier, LA; Herb Reed, MD; Milt Green, Wyoming; and Dave Stenberg, Nebraska. My sincere "thank you" to each of you! Paul Craig, PA, will be the National Life Member Committee Chair as of October 1, 2020, and continuing through the AM/PIC in 2022. James and Herb are continuing as Regional Vice-Chairs for this coming year, until the completion of the 2021 AM/PIC. Coming onto the committee as Regional Vice-Chairs are Susan Kerr, WA, representing the Western Region and Steve Munk, SD, representing the North Central Region. They will serve in their Vice Chair roles through the 2022 AM/PIC.

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

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

This has been the fifth year that the Life Member Committee has set up a rotating schedule by region to submit an interesting article for a Life Member page in each edition of *The County Agent* magazine. We hope you have read them and enjoyed learning about some of the things Life Members have done as active members and what they may be doing after retirement. We plan to continue this series of articles for the 2020-21 year as well. If you are a life member and have an interesting story to tell and would like to submit an article, please contact your Life Member Regional Vice-Chair.

The life members hold an annual business meeting each year during AMPIC. At that meeting a memorial service is held to honor all NACAA members who have passed away during the past year. Names are gathered by the Regional Vice-Chairs with the cooperation of state life member contacts. Two challenges we continue to face each year are 1) to make sure we have a life member contact in each state and then 2) for them to be able to find or be aware of the individuals who have left us so we can be provided with the information needed for the "In Remembrance" publication and memorial service. We continue to seek each state's cooperation in this effort. For this past year, the "2020 In Remembrance" program will be posted up on the Life Member page of the web site and also included in the proceedings of the 2020 'virtual' AM/PIC.

In your particular state, if your association is having an event or activity, keep in mind the life members so they can participate and/or stay connected. Life members often like to hear what is

going on in your state, appreciate having the opportunity to be part of the association meeting or going on that tour or visit you have planned for educational purposes. So think about contacting a life member near you when something is being planned.

This was my last year as the NACAA Life Member Committee Chair. I thank the Life Member Committee and the NACAA Board for their confidence in me to have served in this capacity. I also wish to thank the Virginia Life Member Committee for their planning and hard work to develop a Life Member program for the 2020 AM/PIC. Unfortunately, we all know that such a program and the entire AM/PIC could not happen as hoped for and as planned due to COVID-19. Regardless, **"thank you"** Virginia Extension Staff and Life Members! We are all hoping for a return to normalcy and the 2021 AM/PIC in Philadelphia! **Take Care and Best Wishes!**

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 four years. I have thoroughly enjoyed serving in the capacity as the liaison to NACAA for Extension Journal, Inc. I am transitioning from secretary to President-Elect in 2021 and look forward to continuing to assist with moving the organization forward.

Journal of Extension

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

The *Journal of Extension* remains a rigorous, refereed journal for Extension professionals, and is now indexed in the *Web of Science Core Collection's Emerging Sources Index* (ESCI), thereby increasing visibility of both the *Journal of Extension* and the Extension profession overall. JOE authors now also have accessibility to track citation activity associated with their article(s).

If you are interested in being a reviewer and have breadth across several areas as well as depth of expertise, please visit *JOE*: http://www.joe.org/about-faqs.php#rp01. You can apply to become a *JOE* reviewer by sending the name and e-mail address of a reference who can speak to your ability to serve as a reviewer and a file containing your curriculum vitae to Robert Ricard at: robert.ricard@uconn.edu.

A Year of Change

Exciting changes are occurring within Extension Journal Inc.! Many of these changes are due to strategic planning the board participated in during 2019. Because we have been operating at a budget deficit for a number of years, the board has explored options to increase revenues and reduce costs to produce the *Journal of Extension*. Last year, 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 earlier this year to move forward with the proposed partnership. The new partnership will allow 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.

Upcoming Plans

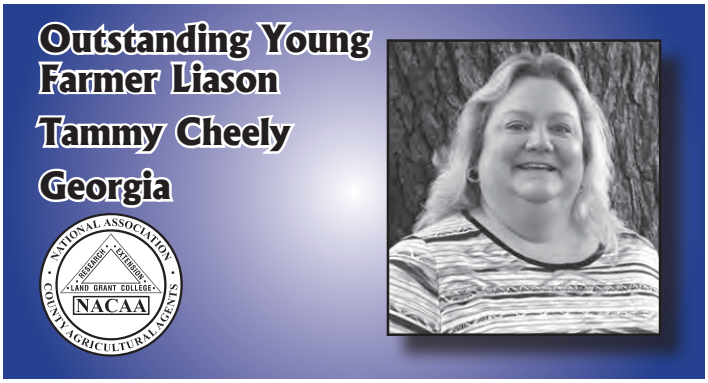
The transition of the *Journal of Extension* and the Extension Job Bank from its current operating structure to a new structure in collaboration with Clemson University Press began the week of September 15, 2020 (during the EJI September Board meeting). The transition is anticipated to continue over the next six months with much of the structure of the new partnership in place by the end of January 2021. The *Journal of Extension* will also undergo a rebranding, with new logos and a marketing plan being developed to raise the profile and awareness of the Journal.

While the new partnership will both take the *Journal of Extension* to the next level and reduce the costs of production, EJI continues to depend completely on the financial support of every Land-Grant University in order to maintain production. Every Land-Grant University is invoiced for a subscription fee for the *Journal of Extension*. Those subscription fees are necessary to support the operating budget of the Journal. Subscription fees range from $800 to $1,600 per year, per institution and are based on the size of each institution's Extension team. It is imperative that EJI recover annual subscription fees from all Land-Grant Institutions in order to continue to provide the *Journal of Extension* as a valuable resource for our national Cooperative Extension system. The subscription fees themselves, even when recovered from all Institutions, are not enough to cover the *Journal of Extension*'s operating expenses. As such, EJI is also heavily dependent on fees from the Extension Job Bank postings in order to generate enough revenue for operations.

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.



When I was chosen to replace as NACAA's Liaison to the Outstanding Young Farmers Program, I had no idea how rewarding and just simply fun this assignment would be. I attended the 2020 National Outstanding Young Farmer Awards Congress in Westbrook, Connecticut in early February. The experience was special from beginning to end.

The National Outstanding Young Farmers Awards Congress is the culmination of the intense independent judging process. Nominees from across the United States are eligible and may be submitted by anyone. Multiple nominations from any one state are permitted; however, following the judging process to determine the semi-finalists, no more than two from any state will be chosen.

The National Outstanding Young Farmers program is administered by the Outstanding Farmers of America and supported by NACAA, John Deere and the United States Junior Chamber. The qualifications include the following:

- Nominees must be between the ages of 21 and 40, not becoming 41 prior to January 1 before the National OYF Awards Congress.
- Nominees must be actual farm operators, deriving a minimum of two-thirds of their income from farming.
- All the information about the National Outstanding Young Farmers Awards Congress and program can be obtained by visiting www.ofafraternity.org.
- National winners are determined based on personal contributions in the following categories:
    - Progress in agricultural career (50%)
    - Extent of soil and water conservation practices (25%)
    - Contributions to the well-being of the community, state, and nation (25%)

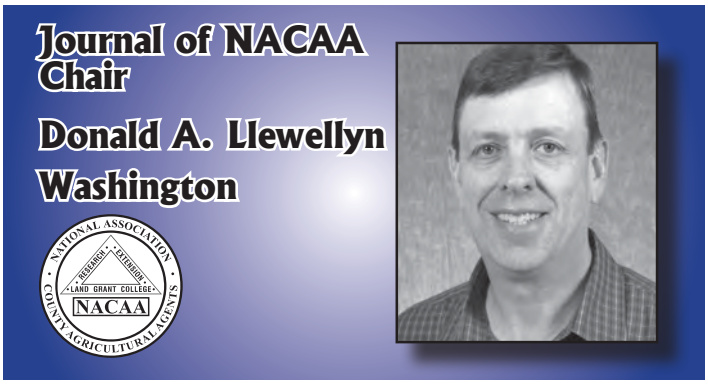
As the farmer's business has changed, so has his or her involvement in the community. Today's farmer has become an active citizen, participating in everything from local and state government to civic groups and charitable organizations. It is not only fitting that farmers be honored for their contributions and achievements—it is essential. This award has been established to recognize outstanding achievements in agriculture as well as community involvement.

Applications are usually due mid-summer, but due to issues with Covid-19, the deadline was extended until October 5th this year. This process has been completed and judging is underway to choose the top ten finalists that will compete at the 2021 Outstanding Young Farmer Awards Congress that will be held February 4 – 7 in Appleton, Wisconsin.

Plans are to proceed with the meeting as usual but to have a virtual process for applicants that don't feel comfortable traveling due to Covid-19.

The 2022 Outstanding Young Farmer Awards Congress on February 2 – 6 in Hilton Head, North Carolina.

For more information, contact Tammy Cheely at 706-465-2136 or tcheely@uga.edu.



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 helping them facilitate a positive career trajectory. After taking the reins as Editor following the 2019 NACAA AM/PIC, the learning curve was quite steep. I want to thank the two previous editors (Stephen Brown and Lee Stivers) for their unwavering support as I embarked on this new challenge. Scott Hawbaker has been awesome as well. Their willingness to help me learn how to manage the Journal will always be greatly appreciated. As Editor, I now have been involved in three issues of the Journal of NACAA (in addition, I job shadowed Lee Stivers during her last issue). The following are some highlights during my time as editor of the Journal of NACAA:

· December 2019 issue had 18 manuscripts published

· June 2020 issue had 26 manuscripts published

· For the December 2020 issue, I have received 24 manuscripts

which will soon be going out for peer review

· In general, (although it varies by issue) the acceptance rate is running around 70% since I have been Editor

· I was able to participate in the Regional NACAA meetings last week and report to our members on the activities of the Journal of NACAA and to encourage members to submit manuscripts

· I gave a presentation during the Early Career Development section at the recent AM/PIC on publishing articles in the Journal of NACAA

· Over the course of 2019 and 2020, I have had good success in recruiting new reviewers for the Journal of NACAA

· 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 Authors and reviewers alike have been a joy to work with in this endeavor. It is my belief that the members of NACAA certainly appreciate the value of having a journal that accepts manuscripts from the wide array of subject matter and topics that are scholarly activity in Extension.

I am very much looking forward to seeing everyone in person in 2021.

Poster Session

Applied Research

2020 NACAA

105th
Annual Meeting
and
Professional Improvement Conference

Virtual

National Winners & Finalists

1st Place

DINGY CUTWORM (FELTIA JACULIFERA) PHEROMONE LURES ARE NOT HIGHLY EFFECTIVE IN ATTRACTING THE CLOSELY RELATED GRANULATE CUTWORM (FELTIA SUBTERRANNEA)

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Pheromones of four differing races (A, B, C &D) of the dingy cutworm (Feltia jaculifera) were obtained to determine if any are highly effective in attracting adults of the closely related granulate cutworm moth (Feltia subterranea). The latter species can be a very damaging pest of low desert alfalfa, especially on bedded alfalfa trying to regrow after a harvest. The caterpillars feed at night and hide during day, making detection difficult. While many species of moth pest moths have commercial pheromones available for utilization in monitoring, there is no commercial pheromone available for granulate cutworm. Sets of 5 traps (Races A-D, + blank) were placed in a line along the field edge of six (6) alfalfa fields located throughout the Palo Verde Valley of California. Traps were approximately 150 feet apart to reduce pheromone scent overlap. Moths were collected from each trap twice/ week during July-August, 2019, counted and recorded. Very few granulate cutworms were captured in bucket traps during 2019, even though moths were prevalent and many fields needed treatment for granulate cutworm caterpillars. No significant differences were noted for any lure. Number of moths collected from traps with no pheromone exceeded two race lures (A & D). Pheromone lures of dingy cutworm from Race A, B, C or D were not highly effective in attracting adult male granulate cutworm moths.

2nd Place

ALLIUM LEAFMINER: PEELING BACK THE LAYERS OF INFORMATION NEEDED TO MANAGE THIS INVASIVE INSECT

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Allium leafminer (ALM) Phytomyza gymnostoma, an invasive insect from Europe, was discovered in Lancaster County, Pennsylvania in December 2015 and has since spread to at least five additional states. Larvae feed in leaves, stems and bulbs of all vegetable alliums causing plant damage, secondary infections and/or market rejection. The purpose of our research was to develop management recommendations for ALM. We determined the flight periods of ALM and created a degree day model to predict emergence to know when control measures were needed. We also evaluated the efficacy of insecticides labeled to control native leafminers in allium on ALM. Research from Austria showed two flights of ALM (spring and fall) lasting from 3 to 4 weeks; our observations from population studies beginning in fall 2016 found similar emergence times but flight periods of 5 to 7 weeks. Research trials began in fall 2017 to evaluate the efficacy of various insecticides for this pest on leeks and continued with trials on sweet onions in spring of 2018 and 2019 as well as additional leek trials in fall of 2018 and 2019. Trial results with spring-planted onions indicate that insecticide applications may not be necessary as minimal damage will occur from ALM on this crop in Pennsylvania. Conventional insecticides that were most effective for ALM control on leek included dinotefuran, cyantraniliprole, and spintoram and organic options included spinosad and azadirachtin. Spring and fall flight periods were monitored during these seasons to advise growers when control measures were necessary. The use of colored sticky traps for monitoring ALM emergence in 2016 and 2017 was not as accurate as visually scouting fields for leaf damage. A spring-emergence degree-day model was developed in 2019 to more accurately determine when scouting should begin and will be validated in 2020. Work continues on developing a fall emergence degree-day model. Fall emergence is has been observed to start with cool temperatures but then stop with subsequent warmer temperatures making model development more challenging. Growers following our recommendations have reported successfully control of ALM in their crops.

3rd Place

SOYBEAN RESPONSE TO FUNGICIDE AFTER SIMULATED HAIL DAMAGE

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The objective of this greenhouse study is to determine soybean

plant response to Priaxor® (fluxapyroxad + pyraclostrobin) application after simulated hail injury (33% defoliation, 66% defoliation, stem bent at 135-degree angle, and stem cut-off) at the R2 and R5 soybean growth stages. Priaxor® was applied at 4 fl oz/a three days post plant injury. Plant greenness was observed and measured using the Minolta SPAD-502 chlorophyll meter. Plant maturity date was noted at the R8 growth stage. Seed was hand-harvested and seed weight was determined. No interactions between fungicide and hail injury level were recorded. Foliar fungicide application did not increase seed yield nor change plant maturity date when averaged across R2 and R5. Hail injury impacted plant maturity and seed weight across crop stages. The 33% defoliation injury level was similar in plant maturity and seed weight compared to untreated. More severe defoliation methods reduced seed yield by 19 to 32% and plant maturity was delayed 5 to 11 days as compared to the control. At R2, the plants were greener nine days post fungicide application than nontreated plants, however this was temporary. Greenness observations after this timing were not significantly different.

National Finalists

CAN MUSTARD COVER CROPS REDUCE PLECTOSPORIUM BLIGHT IN PUMPKIN?

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Ohio produces 4-5,000 acres of pumpkin (*Cucurbita pepo*) annually, making it a valuable fall crop for many growers to sell at their farm market. Soil borne diseases like Plectosporium blight (*Plectosphaerella cucumerina)* are known to infect foliage, vines and fruit, thereby lessening marketable yield. The objective of this study was to determine if the use and incorporation of a mustard cover crop prior to planting a pumpkin cash crop could act as a biofumigant, reducing the inoculum and symptoms of Plectosporium blight in pumpkin. A five treatment replicated trial consisting of two mustard cover crop hybrids known to have biofumigant properties were sown in April 2019. Two types of fungicide controls and an untreated check were also part of the trial. The cover crops were incorporated into the soil and the pumpkin cash crop was transplanted in the field two weeks after. No significant difference in disease severity between the treatments was observed on the petioles or fruit, though mean fruit weight was significantly higher in the fungicide control treatment. Despite having a successful spring seeding and incorporation of the mustard cover crop, the weather in late July through September was hot and dry, conditions that did not allow this fungal disease to fully develop on the treatments, limiting conclusions about the efficacy of using cover crops to reduce Plectosporium blight based on this trial.

POPULATION LOCATIONS OF THE OZARK WOODLAND SWALLOWTAIL (PAPILIO JOANAE)

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Papilio joanae is a rare butterfly species originally discovered in woodland habitats of the Ozarks region of Missouri. A positive identification has not been confirmed in many years, but populations are thought to still exist. *Papilio joanae* is closely related to *Papilio polyxenes* (Black Swallowtail) and nearly identical in appearance. Visual field differentiation between the two species is almost impossible and requires DNA testing for accurate identification. Because of the vast similarities, it is thought that *P. joanae* could possibly be misidentified as *P. polyxenes*, a common butterfly species, in some situations.

P. polyxenes were collected and DNA tested from 25 sites in the Ozarks. Results from this testing did not include any discoveries of *P. joanae*, but it is thought that misidentification between the two species still exists. DNA testing, as well as field scouting, will continue until populations of *P. joanae* are discovered and identification confirmed. New testing and scouting methods will be included in ongoing efforts.

CAN OVERLAPPING RESIDUALS IMPROVE WEED CONTROL IN PUMPKINS

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Weed control in pumpkins is challenging for many reasons, including the production practices of wide rows, no-till which excludes the use of cultivation, long growing season, and limited number of herbicide options. These practices result in a greater reliance upon herbicides for weed control. Unfortunately, there are very few herbicides labeled for postemergence weed control in pumpkins, so novel uses of soil-applied herbicides need to be explored.

S-metolachlor is a common residual herbicide currently labeled for application between pumpkin rows, but it is not labeled for pre-emergence application in pumpkins. The objective of this research was to evaluate the potential of s-metolachlor as an overlapping residual approach for pumpkin production in Maryland, Pennsylvania, and Delaware.

S-metolachlor was applied at 2, 3, or 4 weeks after planting at a low or high rate. All plots were evaluated visually for weed control and pumpkin response. Additional plots treated with ethafloralin as a pre-emergence only were monitored weekly to document the emergence pattern of key weeds. Pumpkins did not show injury from the s-metolachlor over-the-top applications. Both the low and high rates of s-metolachlor provided at least 80 percent control of pigweed and large crabgrass species. However, waiting 4 weeks after application to apply s-metolachlor resulted in weed escapes. Treatments including s-metolachlor provided similar yield to weed free plots.

UNDERSTANDING THE IMPORTANCE OF BLOOM IN BLUEBERRY ANTHRACNOSE

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Why is the bloom period a critical control point for so many plant pathogenic diseases? Recognition of floral chemical signals would appear to be critical to the success of many fruit rotting pathogens, as flowers always precede fruit. Objective; in an effort to determine if plant signals produced during bloom play a critical role in the infection process and sporulation events of some fungi, the blueberry anthracnose pathosystem was investigated. In many growing regions blueberry anthracnose can only be adequately controlled with bloom period fungicide applications. This disease is most often caused by *Colletotrichum fioriniae,* a latent hemibiotrophic pathogen that can severely limit the production of numerous crops worldwide. In the current study in vitro floral extraction methods and field rainwater monitoring devices were developed to capture potentially bioactive host floral signals, also referred to as floral extracts (FE). These FE were co-incubated with *C. fioriniae* via a glass coverslip bioassay. The bioassay enabled quantification of pathogen responses such as spore germination, appressorial formation, and the production of secondary conidia with or without FE. Floral signals increased the rate and magnitude of secondary conidiation and appressorial formation from 12-18 h in sterile water to 6 h in the presence of FE. Thus, during bloom there should be a greater number of overall infection periods and sporulation events. The rainwater collections alluded to a critical factor; floral signals can become mobilized and therefor potentially activate and synchronize multiple overwintering / inoculum reservoirs during rain events. Additionally, as the distance from inflorescences decreased, bioactivity increased. In detached fruit assays, conidia in the presence of FE enabled more infection than conidia alone, indicating that appressoria forming in response to FE were viable. These data have partially elucidated 'why' the critical disease control window for blueberry anthracnose is during the bloom period. Armed with this knowledge, exploiting this pathogen:host relationship is the next step in moving towards grower recommendations, fungicide use patterns, and 'trap-based' sprays.

IMPACT OF COVER CROPS ON SUGARCANE AND SUGAR YIELD

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Sugarcane is a perennial crop that is commercially produced in 24 Louisiana parishes. Research has shown the greatest potential for soil loss occurs during the fallow period and in the plant-cane crop prior to sugarcane root proliferation. Reducing soil loss and improving soil health has been the focus of cover crop research in other agronomic crops in the U.S., but little research has been done on sugarcane grown in Louisiana. Crop productivity and profitability must also be considered. A mixture of Sunn Hemp, Bulleye Radish, and Rapeseed was drill-planted at 28, 9, and 9 pounds per acre, respectively, on the row hips of a newly planted St. Mary Parish sugarcane field in October 2017 to evaluate the impact of cover crops on sugarcane yield. The trial was harvested in December 2018 by a mechanical combine that placed the sugarcane biomass into a weigh wagon. Biomass weight was used to estimate sugarcane yield (tons of sugarcane per acre). A subsample of 10 stalks was taken from each plot to estimate sucrose content. Sugarcane yield and sucrose content were used to estimate sugar yield (pounds of sugar per acre). Sugar yield was significantly greater, providing an additional 7.1 tons of sugarcane and 1,437 pounds of sugar per acre for the cover crop treatment as compared to the standard. After the additional expenses associated with the costs of growing a cover crop was taken into account, the cover crop treatment provided an additional $135.47 of revenue per acre.

MICROBIAL QUALITY OF WATER USED IN POTATO PACKINGHOUSE OPERATIONS

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Postharvest handling of potatoes regularly includes the use of flumes, dump tanks, and spray washers. Soil, plant matter, and disease-causing pathogens can potentially accumulate during postharvest water uses. This project evaluated the microbial quality of water used in potato packinghouse operations using generic *Escherichia coli*. Five potato packinghouse operations were sampled three times each during the season. At each visit, water and potato samples were collected in triplicate during two time-points (morning and afternoon). A total of 630 samples were collected. The average population of generic *E. coli* in flume water samples (n=90) was 413 MPN/100 milliliters, while the average population of generic *E. coli* in spray bar water (n=90) was below the limit of detection (<1 MPN/100 milliliters or zero detectable generic *E. coli*). Generic *E. coli* populations were significantly higher in flume water, compared with spray bar water. The average population of generic *E. coli* on potato samples from incoming bulk bodies/before entry into flumes, in flumes, post-flume/before spray bar, spray bar, and post-spray bar/before packing was 106, 386, 251, 3 and less than 1 MPN/100 milliliters, respectively. Populations of generic *E. coli* on potatoes were significantly higher on potatoes before the spray bar, compared to on potatoes after the spray bar. Thus, water used for the final rinse in the spray bar system was effective at reducing the quantity of generic *E. coli* on potatoes, as generic *E. coli* populations were below the limit of detection for all potato samples tested post-spray bar/after drying/before packing.

NEW TOOLS TO IDENTIFY PHOSPHORUS HOTSPOTS AND PREDICT PHOSPHORUS LOSS RISK FROM MANURE IMPACTED SOILS

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Poultry is the second-largest agricultural industry in Alabama with an economic impact of $15.1 billion in revenue. Poultry litter (PL) is bulky which limits their economical long-distance transportation. Repeated land applications of PL result in the buildup of phosphorus (P) in the soil leading to the creation of "P hotspots" near the poultry operations. This accumulated P in soil is susceptible to P loss via runoff and promote eutrophication of surface water. Wedowee watershed in Alabama has witnessed the expansion of poultry operations in the last five years. Lake Wedowee is the major source of water for public drinking supply and P runoff during storm events can increase the P loading rate and potentially deteriorate the water quality of the lake. Tools such as P index or soil test P are used to estimate the risk of P loss; however, there is a growing concern that these tools are not able to correctly identify P hotspots or prioritize implementation of best management practices to reduce P loading during runoff events. The objective of this study was a) to use the concept of Soil P Storage Capacity (SPSC) to **identify** P hotspots in Lake Wedowee watershed, and b) to **predict** the potential risk of P loss during runoff events using the approach of SPSC. Soil samples up to 60 cm depth were collected from farms located in Wedowee watershed. These farms had a history of poultry litter application. The soil samples were processed and SPSC was determined according to the procedures of Chakraborty et al, 2012. Results indicate that SPSC can be used as a site assessment tool to predict the nature of P hotspots, i.e. whether a site is acting as a source or sink of P and the amount of P they can potentially discharge during rainfall events. This work will help to prioritize the implementation of best management practices to reduce P loading in the Wedowee watershed.

EVALUATING THE EFFECTS OF PLANTING DATE AND CUTTING HEIGHT ON TEFF GRASS IN IDAHO

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Teff (*Eragrostis tef*) is a relatively new forage crop to Idaho. Teff trials were established in Kimberly Idaho to determine basic agronomical practices such as optimal planting date and cutting height. Plots were planted at three different planting dates in late spring. Plots were harvested for the first time at 3 different cutting heights 6 weeks after the last planting date. A second harvest was taken. There was no statistical difference in yield between the May 13th and the June 3rd Planting dates, however there was a difference between those dates and the June 14th planting date. Cutting height on the first harvest did have a significant impact on yield for the first harvest as well as regrowth and yield on the second harvest, however it did not have an impact for the overall yield in the growing year. The later planting dates have an effect on forage quality on the first cutting. Later Planting dates improved RFQ, RFV, Crude Protein and TDN values. Planting date did not have a significant effect on the second harvest. Cutting height had little effect on forage quality in both the first and second cuttings.

UTAH AGRITOURISM: OPERATOR ATTITUDES AND BEHAVIORS TOWARD ZOONOTIC DISEASE

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The risk of contracting a zoonotic disease increases at agritourism events that feature animals. Utah experienced a rise in human infections of Shiga toxin-producing Escherichia coli that was linked with petting zoos in 2018. Utah State University Extension, in collaboration with the Utah Department of Agriculture and Foods and Utah Public Health, conducted an online survey to assess factors influencing transmission, biosecurity interventions, and whether education and outreach were needed amongst agritourism operators. Respondents (n=31) represented 14 counties across Utah and Idaho. Agritourism visitation was the greatest October-December. 74% of operations allowed direct animal contact and 35% allowed eating in animal areas. Most (68%) gave verbal instructions about disease and hand washing, but only 35% had written instruction (e.g. signage). 74% had washing stations and/or sanitizer present. Respondents preferred online and printed materials over other educational experiences (in-person workshops and others). Agritourism is a new and critical demographic for USU Extension to reach.

SOUTHERN REGION ENTRIES

CORN EMERGENCE EVALUATION

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This evaluation asks, will corn seeds that germinate sooner produce plants that yield more? Three years of on-farm tests were conducted in Chesapeake, Virginia from 2016 to 2018. Seven separate test plots were set up at three separate farms. At these separate farms, different production practices, varieties, equipment, soils and dates of planting were used. At each site, a forty linear foot of planted row was flagged each day between 11:00 a.m. and 1:00 p.m. for the next twelve days. Beginning on the first day of emergence (defined as coleoptile visible above the soil line) and each day thereafter, a colored flag was placed beside each emerging seedling. A red flag for 1st day, a blue flag for 2nd day, and a yellow flag for seedlings on or after the 3rd day. When corn reached maturity, ears were hand harvested, segregated by flag color and shelled with an old-time crank style single ear sheller. Corn from all red flags, blue flags, and yellow flags were counted and weighed. Average weights per ear were calculated for each grouping. Calculating yield advantage was based on using a standard final plant population of 38,000 plants/acre multiplied times average wt./harvestable ear for each of the emergence dates. Using a 38,000 plant population showed 8.3 more bu./acre for corn emerging on day 1 vs. day 2. A yield advantage of 7.0 bu./acre for corn emerging on day 2 vs. day 3. A yield advantage of 15.3 bu./acre for corn emerging on day 1 vs. day 3 and after.

IS DILUTION THE SOLUTION? ASSESSING TALL FECUE TOXICITY IN COOL SEASON PASTURE

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Endphyte infected tall fescue is the most important and common cool season forage for Virginia livestock producers. The fungal endophyte presents a challenge, as it produces toxic ergot alkaloids that cause a myriad of problems including reduced weight gains, reduced milk production, and reproductive performance, among other issues. Recommendations for managing tall fescue toxicosis have included diluting fescue toxins by interseeding legumes, particularly red and white clover varieties. To evaluate this practice as well as interseeding alternative forages such as bermudagrass and alfalfa a demonstration was conducted frost seeding a normal broadcast rate (1X) and a double rate (2X) of a grazing type alfalfa, bermudagrass, and red and white clover mixture. Short term and long-term establishment of these forages were limited, fescue made an average of 60% of the pasture. Forage samples were collected for tall fescue in year 2 and 3 and total forage sward ergot alkaloid concentration in years 3 and 4. All tall fescue samples collected had a total ergot alkaloid concentration above 200 parts per billion (ppb). Total sward total ergots were lower ($P<0.05$) than tall fescue alone. Fescue total ergot alkaloids were not reduced when plots were

rotational grazed early when compared to summer stockpiled fescue ($P<0.20$). However, total sward ergot alkaloids were reduced when plots were rotationally grazed early ($P<0.05$). Managing pastures for cool season species diversity and early spring grazing may reduce total pasture toxicity.

BLACKBERRY ADVANCED BREEDING LINE TRIAL: BRINGING NEW CULTIVARS TO NC

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In 2018, ten advanced breeding lines from the University of Arkansas' breeding program were planted at the Mountain Horticultural Crops Research and Extension Center in Mills River, NC to be evaluated for commercial suitability in Western North Carolina. The objective of the project is to help farmers identify the best genetics for environmental and market conditions in the mountains. Throughout the growing season each blackberry line was evaluated for overall viability, winter hardiness, harvest windows, fruit quality, and productivity. Observations and data collected in 2019 identified two breeding lines of significant interest for commercial production in NC. Ponca produced fruit early in the season and exhibited superior flavor above all the others in the trial and APF-370T showed the greatest potential for double cropping as well as excellent berry firmness and shelf-life. Results from the trial will be presented at the Annual North Carolina Commercial Blackberry and Raspberry Growers Association Meeting and Mountain Horticultural Crops Research and Extension Center field days. Trial outcomes will help growers identify highly adapted cultivars to plant in the future to stay competitive and successful in the blackberry industry.

CRAPE MYRTLE BARK SCALE: A NEW INVASIVE SPECIES IN NORTH CAROLINA

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Research Objective and Methods: Crape Myrtle trees in North Carolina have a new pest, the Crape Myrtle Bark Scale (CMBS). In the spring of 2017, a nursery grower in Iredell County was concerned about this new invasive scale damaging his nursery stock, and went to a County Commissioners public hearing to express these concerns. Cooperative Extension was contacted to address this need. A collaboration was formed to research this issue and to determine the most effective treatment times and products to be administered. The experiment was setup in a complete block design with four replications of six treatments. To monitor crawlers, double-sided sticky tape was placed on infested branches of the tree at breast height. The tape was replaced weekly though the growing season on all treatments, and biweekly through the winter only on control trees. Tape was placed on grid paper to be counted to monitor the insect life cycle and chemical efficacy.

Research Project and Educational Results: CMBS workshop result surveys from 205 residential and green industry professionals resulted in a 78% overall practice change intent to: start or increase recommended CMBS chemical applications, apply treatments at the correct time of year, correctly identify CMBS and symptoms before treatments, use recommended irrigation and/or proper cultural practices (IPM), and to avoid transporting any plant material that may have CMBS on it.

Results and Raw Conclusions: Significant population differences were observed between different insecticide treatments as compared to the control. Excluding the control and contact insecticide treatments, there was not a significant difference between systemic and insect growth regulator treatments. CMBS can cause severe limb dieback and greatly reduce the aesthetics of crape myrtles. However most of the crape myrtles that were heavily infested were able to withstand this damage and put on new growth the following spring. In the first year of the project, the Twice Stabbed lady beetle was the main beneficial insect. However the second year other species of lady beetles were noticed. Nymphs over-wintered and were active even during below freezing temperatures, and females generally matured in March.

EFFECTS OF PLASTIC MULCH VS. OPEN-BEDS ON BIOMASS YIELD IN SIX LOW-THC CANNABIS SATIVA HEMP STRAINS

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North Carolina farmers have been growing *Cannabis sativa* for CBD production, as part of the North Carolina Industrial Hemp Pilot Program, since 2017. Farmers are

currently utilizing farming innovations that are commonly found with other horticultural crops, specifically plastic mulch, which is common in tomato production, and open-bed cultivation, which is prevalent in tobacco production. This study was to determine the differences in biomass production for six different *Cannabis sativa* strains, when utilizing these two production systems. Located at the Mountain Horticultural Crops Research and Extension Center in Mills River, North Carolina, this project consisted of blocks of five plants, with four replications for each of the six strains, on the two bed types for a total of 240 plants. All plants were installed on June 28th, 2019 and harvested when strains were determined to be at peak maturity, with 75% amber trichome coloration. The results of this study showed that there was a significant impact due to the type of bed when analyzing total size of the plants, but there was no significant difference in the whole dry weight or stem diameter when averaged across strains. This shows that farmers that are comfortable with a certain type of bedding operation can continue to utilize that system without a concern of yield loss, no matter the strain that is selected to grow.

EVALUATION OF NEMASTRIKE FOR CONTROL OF NEMATODES IN NC

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Nematodes have become more problematic in North Carolina cotton production over the past few years, primarily due to the loss of aldicarb as the predominant means of control. Growers have adopted in-furrow liquids as their primary control measures for thrips, and many growers are no longer equipped to apply granular insecticides. Cultivar tolerance to nematodes are primarily specific to root-knot nematodes, however, several other species also affect cotton. Velum Total™ has been evaluated as a control measure but can only be used by growers who are equipped to apply in-furrow liquids. Nemastrike™ seed treatment (released 2018) is touted to provide broad spectrum control of nematodes. The research objectives were to evaluate effect of Nemastrike™ on plant growth, symptomology, and numbers of nematode species, and to evaluate the effect of Nemastrike™ on yield of cotton in multiple environments with a history of problematic nematode pressure.

Replicated trials were conducted in two separate fields during 2018. Fields were chosen based on soil type (deep sands), and history of nematode pressure. Treatments consisted of both Nemastrike™-treated and non-treated seed of DP 1646 B2XF from the same seed lot. Non-treated seed received base seed treatment of both fungicide and imidacloprid to control seedling diseases and thrips. Liquid imidacloprid was applied in-furrow in both treatments to negate any effect of thrips. Composite soil samples were collected in each plot prior to harvest.

In conclusion, yields were improved by Nemastrike™ seed treatment in one of the two treated fields. Yield responses appear to be environmentally dependent and not necessarily predicted by soil test results. In one environment, end-season nematode numbers were higher in treated plots, possibly due to greater root mass, although yields were similar between treatments in this environment. Nemastrike™ seed treatment may provide some suppression of nematodes and may improve yields in some cases. The frequency of yield responses can only be determined through additional research in a larger number of environments.

MODIFYING CANE ARCHITECTURE OF PRIMOCANE-FRUITING BLACKBERRY WITH PROHEXADIONE CALCIUM AND SUMMER PRUNING

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In the southeastern United States, primocane growth management of blackberry relies on summer pruning/tipping primocanes at multiple heights throughout the growing season. Tipping increases the risk of cane blight infection (*Leptosphaeria coniothyrium*) and is both labor intensive and expensive. In response to the labor cost and disease pressure associated with tipping an experiment was initiated in 2019 to to compare effects of primocane growth management strategies on cane architecture, reproductive development, and fruit quality of 'Prim-Ark Traveler' blackberry in Mills River, NC. We investigated the use of a plant growth regulator, prohexadione calcium (P-Ca), as an alternative primocane growth management strategy for primocane-fruiting blackberry. Treatments consisted of an untreated control, tipping at 46 cm and 91 cm or three applications of 200 ppm P-Ca + 0.125% (v:v) non-ionic surfactant. Visible effects of P-Ca on primocane height were apparent within 14 days of the initial application and a significant reduction in height (25% reduction) was observed 21 days after treatment. Cumulative, marketable, and cull yield did not differ among treatments.

Results from the study showed that P-Ca has promise as an alternative to reduce primocane height, but this practice would likely need to be augmented with additional practices to enhance fruiting lateral number and subsequent productivity if it is to be a commercially viable option. Future research will focus on addressing specific P-Ca application timings, alternative plant growth regulators, and cultural practices to assist with managing season long vegetative growth while increasing yields.

YAK GRAZING & SPECIES PREFERENCE AMONG FORAGE GRASSES IN AN EASTERN KENTUCKY HILL FARM

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Yak (Bos grunnien)s are native to the Tibetan Plateau and are a staple of the culture of Tibet, very valuable to Tibetan people still to this day. The climate in Tibet is much cooler than the climate of Kentucky, with significant precipitation differences. The landscapes of these two places vary in many other ways as well, including vegetation types. Zhi-ba Shing-ga Yak Farm in Menifee County, Kentucky has 80 yaks. By farm acreage, Zhi-ba Shing-ga Yak Farm is average. The livestock are fed primarily on grass pasture supplemented with hay in the winter. Menifee County is home to KY 31 fescue and native stands of fescue have been found to be highly infected with an endophyte making the grass toxic to livestock. The owner of Zhi-ba Shing-ga Yak Farm discovered, with the help of the County Agent and Forage Specialist, that Yaks do not consume the native KY 31. The fescue in the Yak pastures were found to be highly infected with the toxic endophyte of tall fescue. A grazing preference study was conducted on this farm to determine Yak preference among commonly grown and improved forages. The idea for this study originated from the County Agent. A plot study was established in the spring with nine variety of grasses replicated 4 times. Each plot was 8 feet by 20 feet. The following species were compared: orchardgrass, Kentucky bluegrass, festulolium, and tall fescue (toxic, endophyte free and novel endophyte). The outside of the project was seeded with rye grass. Grades on each plot were taken with an average grade of C. Each study site was grazed twice during the 2018 summer. Summer results showed that the yaks preferred the Pay Day, Linn, and Rye grass. Results from collecting samples for endophyte sowed that they love to consume crabgrass. The results of the forage species study will help with future yak producer in the state of Kentucky by finishing their claves quicker and by reducing weed pressure.

END-POINT DETECTION OF PIERCE'S DISEASE IN WINE GRAPES USING RAPID TEST KITS

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Pierce's disease (PD), caused by the bacterium Xyllela fastidiosa, is a major challenge to sustainable wine grape production in Georgia. Pierce's disease is vectored by insects which can rapidly spread the disease 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 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 test kits. Agdia's AmplifyRP rapid detection kits were purchased for a pilot program, and were housed in the Lumpkin County and White County Extension offices. UGA Extension agents and grape producers sent suspected PD-positive petioles for same-day confirmation. During the growing seasons of 2018 and 2019, fifty-five samples were taken from sixteen vineyards in eleven north Georgia counties. Samples were collected from fourteen different grape cultivars. Further testing of the AmplifyRP rapid detection kits in future growing seasons will help determine their real-world functionality and suitability for grower use.

ESTABLISHING CITRUS RESEARCH TRIALS TO SUPPORT THE GROWING INDUSTRY IN GEORGIA AND IN THE SOUTHEAST

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Since 2013, commercial citrus planted in Georgia has increased from less than 1500 trees and 5 growers to approximately 150,000 trees and 125 growers as of spring of 2019. Most growers have no prior experience with citrus and are faced with choosing from satsuma varieties, rootstocks, and other citrus hybrids in which they have little information. Limited research data cold hardy citrus in the southeast to guide growers. To provide information to growers in Georgia and other citrus growing regions in USDA zone 8b, Lowndes County Extension has established four cold hardy citrus research trials with a fifth and sixth in development to provide growers with researched based information to guide their decisions to support this emerging industry. Planted trials include: 1) Evaluation of "Owari" Satsuma on 10 Different Rootstocks, planted in 2014. 2) Evaluation of 10 Early Maturing Satsuma Varieties, planted in 2016. 3) Evaluation of Satsuma Hybrids "Orange Frost" and "Artic Frost" on Rubidoux and US-852 Roostocks, planted in 2018. 4) Evaluation of "Sugar Belle" Mandarin on four rootstocks, US-852, Rubidoux, US-897, US-852, and US-942, planted in 2018. A fifth and sixth trial, 5 & 6) Evaluation of "Silver Hill" satsuma and "Tango" on 10 new Huanglongbing (HLB) tolerant rootstocks, is currently being produced for planting in 2020. To establish trials, Lowndes Extension has cooperated with USDA-ARS rootstock geneticist, Dr. Kim Bowman of Ft. Pierce Florida, three USDA certified citrus nurseries in Florida, the USDA-ARS National Clonal Germplasm Repository for Citrus and Dates in Riverside California, and Greenleaf Nursery based out of Oklahoma. Due to restrictions of shipping citrus budwood to citrus producing states, trees for the early satsuma variety trial and the satsuma hybrid trial consisting of "Orange Frost" and "Artic Frost" were produced by Lowndes Extension in Cooperation with Loch Laurel Nursery of Valdosta. Data gathered from these trials includes fruit quality, yield, cold tolerance, early ripening, fruit color, tree size, and tendency towards alternate bearing. Citrus trials require many years of harvest data to draw meaningful conclusions.

FUNGICIDE EFFICACY AGAINST BOTRYOSPHAERIA CANKER ON LEYLAND CYPRESS

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Leyland cypress (*Cupressocyparis* × *leylandii* Dallim.) has been the green industries' standard and the most popular screening evergreen used on the market. Leyland cypress is not native to North America, and has a USDA hardiness zone rating from 6 through 10A (Dirr, 1998). Botryosphaeria canker is a major disease of Leyland cypress especially in Southeastern landscapes, and it is found extensively throughout Georgia. An isolate of *Lasiodiplodia theobromae* originally recovered from Leyland cypress was used in this study. The protocol for the fungicide product evaluation consisted of five treatments with six single-plant replications per treatment per plant species. The trial protocol was conducted separately on both Leyland cypress and Japanese privet. The trial protocol consisted of five treatments including a non-fungicide (water) treatment, three rates (6, 8, and 10 fl. oz/100 gal) of the experimental fungicide BAS 75007F (BASF Corp., Research Triangle Park, NC), and one rate (8 fl. oz/100 gal) of Banner Maxx (propiconazole; Syngenta Crop Protection LLC, Greensboro, NC). Treatments were placed in a randomized complete block design on the greenhouse bench covering an area of approximately 4' X 5' of bench space. Fungicide treatments were applied to the foliage and stems using hand-held pump sprayers until run-off. Plants were treated twice at 14-day intervals prior to inoculation to assure uptake of the fungicide within plant tissues. After inoculation, two additional fungicide applications were made at 14-day intervals. Plants were treated for a total of four applications over a 56-day period. Greenhouse temperatures ranged from 24-30°C during the day to 21-24°C at night for the duration of the trial. Plants were monitored throughout the experiment for indications of canker development such as stem discoloration, sunken tissue, resin flow and callus formation. Botryosphaeria canker development was measured 6-weeks after inoculation by measuring canker length and width (mm).

"IMPACT OF BIO-SOLIDS APPLICATION AT DEER PARK RANCH ON LAKE WASHINGTON" - DEVELOPING A COLLABORATIVE METHODOLOGY TO ARRIVE AT A CONSENSUS OF IMPACT

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Situation: In the summer of 2019 a blue-green cyanobacteria, Dolichospermum circinale, bloomed in Lake Washington, generating questions about the safety of a primary drinking water supply for Brevard County. Based on available data at the time, land application of biosolids and commercial fertilizer was likely the source. The Brevard County Commission placed a 6-month moratorium on any new permits. Brevard Natural Resources was instructed to test for nutrients, metals, and contaminants of emerging concern, such as Perfluoroalkyl Substances (PFAS), pharmaceuticals, and personal care products know to accumulate in bio-solids. Methods: A consortium of

agencies included University of Florida Brevard Extension Service, Brevard Natural Resources, Brevard Soil and Water Conservation District, Florida Department of Environmental Protection, St. Johns River Water Management District, United States Department of Agriculture Natural Resources Conservation Service, and Deer Park Ranch collaborated to collect 50 soil samples from Deer Park Ranch where bio-solids had been used in place of commercial chemical fertilizer over 20 years. Applied Ecology, Inc., collected 11 water samples and 3 grass tissue samples that were tested for multiple forms of nitrogen, phosphorus, 7 heavy metals, 24 polyfluoroalkyl (PFAS), and 58 pharmaceuticals, personal care products and other contaminants of emerging concern at Deer Park Ranch, upstream of and within Lake Washington, and in residential drainage canals entering Lake Washington. Results: No chemicals of human health concerns were found leaving Deer Park Ranch. While a few pharmaceuticals were found in plant tissue samples, these were not found in water leaving the site. Metals leaving the site were below drinking water threshold values. Most of the PFAS level results were below laboratory detection limits. Canals draining developed areas east of the lake had higher PFAS concentrations than waters leaving the ranch. Conclusion: Water samples indicate that phosphorus from state-permitted land application of biosolids is leaving Deer Park Ranch during periods of heavy rain but no chemicals of human health concern are leaving the ranch.

A STRATEGIC PRIORITIZATION PROCESS TO GUIDE REGIONAL AND STATEWIDE AGRONOMIC ROW CROP EXTENSION RESEARCH AND PROGRAMMING

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Florida boasts a diverse agriculture industry and economy that rivals that of any other state in the United States. In recent years, staple crops such as citrus or peanuts, have face challenges and threats from disease, pest, trade, profitability and regulation. In the face of these challenges Florida producers have been looking to new emerging crops to supplement traditional crops. In 2020 the University of Florida began a research initiative into emerging agriculture enterprises to fund research to determine the viability of new crops and markets for Florida producers. Agronomic row crops are a division of this initiative that represents a diverse sector of the Florida agriculture economy. This diversity makes determining research priorities into potential crops and alternatives difficult over such a large spatial extent where vast differences in production methods, soils, infrastructure and climate exist. In order to guide this research into new agronomic row crops for we began with a strategic and objective prioritization process to determine crops that would benefit most from research efforts and provide a viable new commodity for as many Florida producers as possible. We developed a 10 question Likert based survey on a list of emerging agronomic row crops distributed to extension and research faculty around the state. Survey questions included topics like market viability, available infrastructure, growing potential, spatial extent of growing potential, ongoing research and current knowledge base, and research needs. Based on 9 responses from agronomic research and extension faculty we calculated a composite crop with higher scoring crops having the greatest potential to enter the Florida agriculture economy and industry. Sun Hemp (*Crotalaria juncea*) was the highest ranked potential agronomic row crop for its potential as a seed and silage crop while providing soil remediation attributed for traditional crops such as peanuts. The next two highest ranked crops were sunflower (*Helianthus sp*) and carinata (*Brassica carinata*) both as a seed oil crop that could integrate well into traditional crop systems in Florida. By using a strategic prioritization process like this extension and research faculty can make concerted efforts into research and extension programing at state and regional levels.

AN ECONOMIC ANALYSIS OF STOCKPILED GRAZING CORN

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While perennial forage systems provide the basis for beef production systems, forage gaps still exist. One option that has been given consideration to fulfil the fall and winter forage gap is BMR grazing corn. Grazing corn was evaluated for its potential to fill forage production gaps, reduce stored feed needs, increase the nutritional quality, increasing biomass production, improve animal performance. An economic analysis was conducted evaluating the research from Auburn University, University of Georgia, and the University of Florida to measure the potential value and costs of utilizing stockpiled grazing corn over a 10-year production period. An electronic spreadsheet was developed as a tool to help producers determine if planting and grazing corn for winter stockpile can be an economically viable production practice for their operation. The economic factors included in the spreadsheet were corn seed cost, planting cost, average daily gain, forage production, forage utilization, and cost per dry matter ton produced and consumed. The value of gain and animal gain were calculated by the excel spreadsheet. The value of gain ranged from $56 to $104 per acre. The level of animal gain ranged from 46 to 99 pounds of gain per acre. The most sensitive economic factors in the data set were increase in average daily gain, forage utilization, and seed cost.

DEVELOPING MANAGEMENT STRATEGIES FOR BRUNSWICKGRASS IN BAHIAGRASS PASTURES

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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, Sumter and Pasco counties in 2018 to address Brunswickgrass response to the application of hexazinone at 0.14, 0.28, 0.56, 0.84, and 112 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 an application of 0.56 kg ha-1 e 80% Brunswickgrass control was achieved. When the rate was increased to at least 0.84 kg ha-1 control increased to at least 94%. During the timing study, percent control increased as application timing was delayed. In May 64% control was achieved across all treatment rates and locations, while percent control increased to 95% in September.

LONG-TERM EFFECTS OF SMUTGRASS CONTROL

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Situation: Giant Smutgrass *(Sporobolus jacquemontii)* is a perennial bunch- type grass that produces over 45,000 seeds per plant per year. Weeds in pastures and rangelands cost ranchers and livestock owners in excess of $180 million annually in Florida. Chemical control for smutgrass is a great option for producers and is important to complete during the rainy months and is highly dependent on rainfall.

Methods: The smutgrass control trial was completed to determine the percent control of smutgrass using the herbicide hexazinone. The research trial was completed on a 2.0 hectare complete randomized block design with three replications. The two variables measured a cut and uncut and method of application. The blocks represented a cut wipe method with a 30% solution one direction, uncut wipe 30% solution one direction, cut spray 2.34 L/Ha, uncut spray 2.34 L/Ha, uncut control, and cut control. A visual percent control of plant density was completed by multiple agents before the trials were started. The trial began in August 2018. The visual percent control of plant density was completed by multiple agents at a year and half post treatment. The visual percent control for post treatment was to determine the long-term effects of chemical and mechanical control on smutgrass.

Results: Visual measurements were taken a year and half post herbicide application. The cut wipe method showed the largest percent control with a 55% reduction. Uncut wipe shows the second-best method with 32.5% reduction.

Conclusion: Long-term results indicate that management of the invasive bunch grass is possible with proper chemical and mechanical control methods. Interestingly, the wiper was far more effective than the traditional spray method.

ONE. TWO. THREE. WE'RE COUNTING MANATEES! USING DRONES TO IMPROVE MANATEE SYNOPTIC SURVEYS

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The Florida Fish and Wildlife Conservation Commission (FWC) uses airplanes to monitor Florida's manatee population. Unfortunately, this sampling method is costly, limited to altitudes above 500 feet, and has resulted in data gaps along Florida's Springs Coast. In response, we designed a method utilizing drones to efficiently improve manatee counts at a lower cost and from lower altitudes resulting in clearer images.

After reviewing FWC's limited manatee data and conducting visual observations, we programmed a flight path within the Litchi app to fly a Phantom 4 Pro drone over our areas of interest. Three drone flights were conducted after major cold fronts had passed between December 2019 and March 2020 at an altitude of 150-250ft. Video was recorded and reviewed on a computer.

Weather did not meet the threshold established by FWC for aerial surveys to be implemented between December 2019 and March 2020. However, FWC previously conducted 26 aerial surveys between 1995 and January 2019 and an average of 13 manatees were recorded per Hernando survey. When compared to FWC surveys, our average of 45 manatees per drone flight was statistically significant suggesting drones are an effective method for monitoring (t-test, p value of 0.0003). Due to the lower flight altitude, scars used for identification

were clearly documented on most manatees observed during drone videos. Additionally, we were able to complete our drone surveys at a total estimated cost of $350. This is a cost savings of $2,337.50 when compared to conducting airplane surveys for the same area.

More manatees were counted by using drones and at a lower cost than airplane surveys. While we could not do a direct comparison to 2020 data, the average over a 24-year span was relatively smaller than what we found with drones the following year.

A LOOK AT THREE TOMATO VARIETIES IN A HOME GARDEN AND FRUIT PRODUCTION

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Tomatoes are a staple of the current day home garden. They are used in multiple facets from slicing for consumption-garden to table, canned, and frozen. The homeowner has 20+ options when it comes to varieties of tomatoes to plant. The plants can come as Determinate that produces fruit all at one time and Indeterminate that produces continuously throughout the season. The fruit size and amount of fruit produced also needs to be looked at when choosing a plant type. If the homeowner is wishing to can for salsa, they may not be able to utilize a mass fruiting at one time and fruit may be wasted. Should the homeowner be looking to just have a slicer for consumption as it comes off the plant again a mass fruiting may prove undesirable. However, should a homeowner be looking for a tomato that carries a sweetness or taste desirable in sauces they need to research before choosing a variety. Once a variety or multiple varieties are chosen a strict schedule of fungicide needs to start quickly to stay ahead of the potential disease's tomatoes are prone too. Also, a stringent Insecticide schedule before flowering helps to avoid unwanted pests in the garden that can damage/prohibit good fruit production. With a look at three varieties in a homeowner garden, the differences in production and size can be observed firsthand by the homeowner before looking at a future production. To keep records for the fruit production each variety was picked separately, the fruit was then counted and weighed. The homeowner was able to see and taste which would be a future plant desired and see varieties they may not wish to use again due to low production and taste.

BERMUDAGRASS HAY YIELD RESPONSE TO DIFFERENT FERTILIZER SOURCES

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Use of a variety of fertilizer sources is common among Arkansas and southeastern U.S. bermudagrass (*Cynodon dactylon*) hay producers. Sources often include one of more of the following: poultry litter, urea, ammonium nitrate, diammonium phosphate, potash, bulk blended fertilizers, and/or foliar applied amendments. To lower fertilizer input costs, producers often rely on these foliarly applied amendments or poultry litter of an unknown nutrient value used alone or in conjunction with an existing fertilizer program that may or may not be based upon soil test recommendations. The purpose of this research was to measure bermudagrass yield response using a variety of commonly used fertilization practices and to include treatments paired with Q2 Plus® liquid fertilizer, one such foliar product that is available in north central Arkansas. The research was conducted at two bermudagrass hay field sites, located in Baxter and Fulton Counties, with 9 treatments, replicated 4 times. Applications were made following the first cutting in late May 2019. Treatments included: commercial fertilizer N-P2O5-K2O applied according to soil test recommendations with and without sulfur, 17-17-17, poultry litter, Q2 Plus®, combinations of Q2 Plus® with the other treatments. Plots were cut and yield measured 43 days after treatment.

Forage yield response between the two sites varied among the various treatments. Forage yield showed no difference in those plots that were treated with Q2 Plus® only and those that didn't receive any treatment (control). In both locations, when Q2 Plus® was coupled with a treatment, such as 17-17-17, poultry litter, or commercial fertilizer at soil test recommended rates, the forage yields did not differ from those treatments by themselves. Additionally, where soil test sulfur was below a yield limiting threshold, the use of ammonium sulfate as a sulfur (and partial nitrogen) source increased forage yield.

BUILDING SOIL FERTILITY THROUGH HAY FEEDING

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Nearly all livestock operations in Arkansas feed hay for some period during the winter months. Beef cattle producers report that winter feeding is the largest expense incurred. Izard County consists of mostly small to medium sized cattle operations. Off-farm employment, land availability and machinery costs have more small operators purchasing their hay rather than producing it. Locally, purchased hay costs are approximately $25-$45/bale. By feeding in small concentrated areas, producers fail to utilize the nutrient value within each bale of forage. Nutrient concentration poses a concern to

water sources. A demonstration was conducted to measure the benefit of strategically feeding hay to improve soil fertility and limit nutrient runoff. Six one-acre areas were mapped, gridded and soil sampled in October of year one. Hay samples were analyzed. Hay was unrolled as uniformly as possible across the 20 acre field. Manure was harrowed to more evenly distribute the nutrients. Soil samples were retaken 6 months post hay feeding in October of year two. Phosphorous levels increased by an average of 17 lbs. /acre. Potassium levels increased an average of 90 lbs. /acre. Organic matter increased from an average of 1.96% to 2.40%. The P and K value alone is $36.40/acre and $728.00 total. A nutrient credit offsets hay expense by $18/ton or $5.88/bale (4'x5'). By better managing their hay feeding, producers are fully capitalizing on an existing input that offsets hay expenses by decreasing fertility needs, increases forage production and reduces nutrient waste.

HORN FLY CONTROL METHOD COMPARISON ON BEEF CATTLE

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A high population of horn flies can have a negative impact on the productivity and profitability of beef cattle enterprises. The efficacy and cost of a fly control treatment method can have an effect on these things as well. This demonstration was set in place to compare the efficacy and cost of two different horn fly control methods. The first method to discuss is the insecticide-impregnated ear tag. Secondly is the VetGun remote application method. An isolated beef herd was used for each treatment. Each method was used according to the protocol recommended by manufacturers. Fly population data was collected from 10 animals from each herd bi-weekly. Data was also collected from a control herd where no horn fly control treatment was used. Both methods were found to be effective in keeping fly populations below threshold throughout the season. However, they did differ in cost per head. It was found that the VetGun remote application method cost $19.95 per head and the insecticide-impregnated ear tag cost $5.99 per head. It is concluded that the insecticide-impregnated ear tag was the most cost-effective option between the two and was adequate in controlling the horn fly population.

MAKING INFORMED DECISIONS ON IRRIGATION TIMING

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Irrigation is an important consideration to minimize economic risk in row crop production. Improving irrigation water management is necessary to produce a successful and profitable crop. However, concerns exist about groundwater decline due to irrigation demand. The State of Arkansas projects that by 2050 groundwater levels will shrink to levels where irrigation demand will not be able to be met by groundwater alone. The objective of this program was to increase irrigation water use efficiency, by helping farmers make more informed decision concerning using irrigation only when is needed by the crop in the field. Soil moisture sensors were chosen to meet this need. To aid in adopting this technology, 5 result demonstrations were conducted in 2018 and 26 in 2019. Watermark moisture sensors were placed in each field at 6 in, 12 in, 18 in. and 30 in. deep. Readings were taken on regular intervals to calculate the amount of moisture in the soil profile. Irrigation events were then scheduled using these observations. Water use measurements were used to determine both water and cost savings using moisture sensors. Results from these demonstrations indicate an average water savings of over 105 million gallons of water and an average cost savings of $11.06 an acre over the 900 acres in the demonstration program. Participating farmers provided favorable feedback in the ease of use and the value of the data. Adoption of moisture sensors to determine irrigation initiation is increasing due to educational efforts being conducted, increase in affordable telemetry where data can accessed on a mobile device and the farmer's desire to be more efficient in their irrigation operation while maintaining yield. The irrigation demonstration program will continue working with producers to make their irrigation practices more efficient and therefore less costly. Eventually, this will be another tool for producers to use to improve their profitability on the farm as well as meet the needs for water conservation. Results from these demonstrations are disseminated through spring production meetings, civic organization presentations, multi state farmer to farmer conservation field day and an annual demonstration book for the county.

APPLICATION TIME AND RATE IMPACT OF POULTRY LITTER AND UREA ON CORN GRAIN YIELD IN ALABAMA

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In Alabama, poultry is a major industry having a total economic impact of $15.1 billion and generating an estimated 1.4 billion kg of poultry litter (PL). PL is regarded as a relatively cheap source of nutrients particularly N and P for row crops especially corn (*Zea mays* L.). However, there is little information

regarding yield benefits with respect to PL application rate and time contrary to urea-based fertilization. The study compared the application rate and time effects of urea and PL on corn grain yield. The research was conducted at two sites (E.V Smith and Wiregrass) in a randomized complete block design with four replications. The treatments included two N sources applied at two rates i.e. 168 (low) and 336 (high) kg N/ha for urea and a similar N equivalent of PL (5.60 and 11.20 Mg/ha); two application times (single application at planting and split application as 25 % N at planting + 75% N at V6) and two urea and PL combinations each with low and high rate. The corn yields were standardized to 15.5 % moisture and 56 pounds per bushel. The results indicated that there was a significant effect of treatment ($P<0.0001$) and location ($P<0.0001$) on grain yield, however, the interaction effect of treatment and location was also significant ($P<0.0001$). A significant N source × location interaction effect ($P<0.0001$) and N rate × location interaction effect ($P = 0.0003$) on grain yield was observed. There was no significant difference between single and split applications of both PL and urea ($P > 0.05$).

APPLICATION TIMING FOR DALLISGRASS CONTROL IN BERMUDAGRASS FORAGE

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Dallisgrass (*Paspalum dilatatum* Poir.) has potential as a desirable livestock forage, but is often viewed as an unwanted weed in high quality bermudagrass (*Cynodon dactylon* (L.) Pers.) systems. Nonselective chemical control options are available, but the potential loss of desirable species proves too great to utilize in-season applications. Prior field observations have found dallisgrass to maintain green leaf tissue longer into the winter months compared to bermudagrass, thus providing a possible window for effective control with minimal injury to bermudagrass. Using cooling degree days (CDD) beginning August 1 and/or field observations are two methods that exist in the mid-South for determining that application window. Therefore, the aim of this study was to evaluate effects of herbicide and application timing on dallisgrass when applied following autumn frost and bermudagrass dormancy, but prior to dallisgrass quiescence. A two (application time) by four (treatment) factorial arrangement was established in a randomized complete block design with three replications near Starkville, MS in 2018. Applications were made following at least two frosts (below 0 °C) and again in mid-February before bermudagrass emergence with 840 and 1,680 g ae ha^{-1} of glyphosate (Roundup Powermax) and 105 and 210 g ai ha^{-1} imazapic (Plateau). December application was equivalent to CDD of at least 460 using a base temperature of 22 °C and the formula CDD = 22 - [(Tmax+Tmin)/2]. Visual control of dallisgrass at 113/31 DAT was greatest (>90%) from either rate of glyphosate or imazapic during December and either rate of glyphosate during February. December application of glyphosate also resulted in the largest reduction (>67%) in dallisgrass occurrence by 166/84 DAT. In order to achieve the greatest amount of bermudagrass coverage during spring emergence, at least 840 g ae ha^{-1} glyphosate could be applied in December or February or 210 g ai ha^{-1} imazapic in December. This data indicates effective dallisgrass control and bermudagrass safety are achieved when herbicide applications are made above CDD = 460. It is suggested that field observations should accompany CDD measurements to ensure bermudagrass dormancy. February applications of imazapic were ineffective at reducing dallisgrass stand occurrence.

DOES FERTILIZING SOYBEAN WITH POULTRY LITTER ENRICH THE GRAIN WITH MINERAL NUTRIENTS?

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Alabama ranks second in broiler production nationwide generating 1.5 million tons of poultry litter (PL) each year. Many row crop farmers in Alabama are using PL as a slow-release nutrient source in their row crop production system including soybean (*Glycine max L.*). However, little is known about the effect of PL on soybean grain yield and nutrient composition. The objective of this study was to evaluate the effect of PL on soybean grain yield and seed nutrient composition in response to three application rates (1, 2.5, and 5 tons/acre). A two-year replicated field plot study was conducted during the 2018 and 2019 growing season on a Compass loamy sand in central Alabama. Treatments included pre-plant PL application (2 weeks before planting) at three rates (1, 2.5, and 5 tons/acre) and a control plot (no litter). Soybean cultivar (AG74X8; Maturity group-7) was planted on June 14th and harvested on 20th November. Plot yields were determined by combine harvesting the middle two rows. Grain nutrient content of total nitrogen (N), phosphorus (P), potassium (K), magnesium (Mg), calcium (Ca), sulfur (S), boron (B), zinc (Zn), manganese (Mn), iron (Fe) and copper (Cu) were determined according to the routine procedure. Data analyses were performed using

PROC GLIMMIX of SAS 9.4. Poultry litter significantly affected soybean grain yield in 2019 ($P<0.05$). The PL-treated plots had a 42% greater grain yield than the control plots. The PL application rate of 5 tons/acre resulted in the highest grain K and Cu concentrations and differed significantly ($P<0.05$) from the 2.5 ton/acre application rate and the control treatment.

NORTHEAST REGION ENTRIES

INDUSTRIAL HEMP PRODUCTION IN WEST VIRGINIA

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The goal of this project was to assess every aspect of hemp production on multiple sites in the Greenbrier Valley of West Virginia. The need for this arose as the number of acres in production rose from 14-acres in 2017 to an estimated 640-acres in 2019. Data for economics, hemp yields, nutrient management, diseases, insects and IPM issues were collected and analyzed. Collection of such data will allow agents to advise producers in production of hemp including startup costs, variety selection and sourcing, integrated pest management, and nutrient recommendations.

The primary focus of hemp production has shifted to cannibidiol (CBD) oil from hemp fiber. With such a new and emerging industry there are and will continue to be numerous questions surrounding growing hemp for CBD production. With those questions, agents saw an opportunity to partner with producers to capture data and gain knowledge about the concept of growing hemp, troubleshooting issues, nutrient management and various hemp variety performance.

By scientific name, both hemp and Marijuana are the same, however, varietal differences exist between the two. The primary difference is Marijuana varieties have a tetrahydrocannabinol (THC) value greater than 0.3% (typically much greater; 5%-30%) and very low CBD concentrations; desirable hemp varieties contain very low levels of THC with high concentrations of CBD.

Data was collected at eight sites with six different hemp varieties. Collected data included plant variety, production yields, CBD concentration, THC concentration, and tissue analysis. At each site four plants of the same variety were evaluated. Each plant had a green weight taken and divided into leaf material, bud material and stem to evaluate potential bud mass ratio, stem ratio, and leaf ratio of each plant. Each variety then had two plants dried to determine moisture level of the plant at harvest. Plant and bud material were then sampled for CBD and THC content using a certified and accredited lab.

The collected data from the field and an additional producer questionnaire(s) were analyzed to garner information we can share with current and future hemp producers.

WHAT ARE THE BARRIERS PREVENTING CUSTOMERS FROM VISITING FARMERS MARKETS MORE?

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Farmers' markets (FMs) could be considered the original flag bearer of the local foods movement. Research conducted by the USDA documents the explosion in the number of the FMs and sales over the past 15 years. Late in the last decade, USDA research found a flattening trend in the development of new markets, decline in farmer participation, and weakening customer sales; creating uncertainty regarding the viability of FMs themselves and as a sales venue to sustain farming operations in the long term. Understanding the barriers experienced by customers is important to (re)design FM operations and locations improve the customer experience and increase sales, and advance vendor composition and product displays to attract patrons and maximize customer sales. An online Qualtrics survey was developed and completed by 3,800 persons located throughout the U.S. A Likert scale (0=not important to 4=extremely important) was utilized to calculate average scores to rank and measure the magnitude of barriers experienced by three customer groups (flag bearers casual shoppers, non-market shoppers). Means difference tests analyzed statistical difference defined as a p value less than 0.05. Consistent barriers among all three customer groups were issues related to convenience. Market times conflicted with personal schedules. Customers preferred one-stop shopping. Access to and purchase of local foods were important to shoppers as was the ease to make such purchases at retail outlets other than FMs. The four largest barriers to spending more at FMs were prices being too high ranking first and lack of carrying cash ranking second. Limited variety of products and number of vendors to choose from ranked third and fourth. The research served as a foundation to develop *Reversing the Downward Trend: A Toolkit for Farmers Markets to Match Consumer Trends.* The toolkit suggests strategies to retain dedicated shoppers, entice less frequent shoppers to return more regularly, and to attract customers who do not shop at FMs to participate.

ARTIFICIAL FLOATING WETLANDS FOR NUTRIENT REMOVAL

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Artificial floating wetlands (AFWs) offer a unique way to reduce the amount of nitrogen and phosphorous in a water body using natural microbial action and obligate aquatic vegetation. Planted with the same species of macrophytes that might be grown in a land based constructed wetland, we extend the range of the vegetation out into deeper waters of a lake or pond. Using an artificial substrate, AFWs are anchored offshore in water depths that exceed the normal habitat requirements of the plant material and yet are able to continue to provide the same water treatment ecosystem services as their land based counterparts. Microbiological activity plays a major role in nutrient removal in wetland systems and the large surface area of the woven floating wetland material provides a tremendous amount of substrate for the growth of bacteria. The drawback to using AFWs is that the expense of the commercially available products makes it unlikely that they would be purchased without the funding of grant, municipal or corporate dollars. To this end, we've engineered a lower cost Do-it-Yourself floating wetland using layers of commercial outdoor pond biological filter media, marine foam floatation and native obligate wetland plants. This poster describes the design, materials and tools we use, and provides pond owners the information to build and install their own artificial floating wetland.

MANAGING HERBICIDE-RESISTANT COMMON RAGWEED EMERGENCE AND GROWTH IN SOYBEAN

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Herbicide-resistant common ragweed (*Ambrosia artemisiifolia* L.) is prevalent on Maryland's Lower Eastern Shore and Southern Maryland. In 2019, common ragweed populations were found to have two or three-way site-of-action resistance on the Eastern Shore. Early-season management of common ragweed is strongly dependent upon reducing weed emergence and controlling ragweed populations prior to soybean planting; therefore this study evaluated the combination of delaying cover crop termination in order to increase cover crop biomass and competition with weeds, and herbicide control. We performed two on-farm trials at two sites with a history of herbicide-resistant common ragweed. The first trial investigated ragweed emergence and growth following various cover crop termination timings (4 Apr, 29 Apr, or at soybean planting) and timings of residual herbicide application (at cover crop termination, at soybean planting, or not at all). The second trial evaluated various residual herbicide treatments applied at soybean planting (Command (clomazone), Linex 4L (linuron), Dimetric (metribuzin), Command + Linex, Command + Dimetric, or Linex + Dimetric). Experiments were in a randomized complete block design with four replications. When herbicide was applied only at cover crop termination, common ragweed was more prevalent in soybean when cover crops were terminated 4 April than 29 April or at soybean planting. Delaying cover crop burndown ("planting green") and applying herbicide only at soybean planting resulted in lower common ragweed prevalence in soybean than applying herbicide twice—at 4 April cover crop burndown and at soybean planting—regardless of whether residual herbicide was included at planting or not. In addition, there was less common ragweed in soybean when residual herbicide was applied at planting (late-May to early-June) versus at cover crop burndown (early April). In the residual herbicide evaluation trial, at one location, none of the residual herbicides resulted in lower common ragweed prevalence than the control. However at the second location, treatments of Command, Linex, Dimetric, Command + Dimetric and Linex + Dimetric had less common ragweed than the control. Soybean yield was not significantly affected by delaying cover crop burndown or using residual herbicides.

PERFORMANCE OF GRAFTED AND NON-GRAFTED TOMATO PLANTS AMONG FOUR CULTIVARS IN A HIGH TUNNEL SYSTEM

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Grafting high tunnel tomatoes has shown to improve plant vigor, yield, and disease resistance, however grafting also is more expensive. In sites with limited rotation and thus high disease and pest pressure, the added expense is easily justified but in new sites with low disease inoculum the utility of grafting is still uncertain. A study was undertaken in 2019 to examine the effect of grafting on tomato performance of four cultivars in a new high tunnel site with no history of vegetable production and very low disease and pest pressure. The study utilized a randomized complete block design with five replications. Cultivars Red Deuce, Red Mountain, BHN 589 and Mountain Fresh Plus were randomly assigned within each replication row. Each cultivar replication contained three plants grafted to Maxifort root stock and three own-rooted plants. The trial utilized standard horticultural practices

throughout the growing season. Fruit were harvested over a 60 day period as they ripened and were separated by size and quality using the standard USDA grading system. Total mass and fruit number were recorded for each grade. A consumer survey of taste and overall quality was conducted at area farmers markets. Data was analyzed and means separated using the Tukey's Honest Significant Difference test. Results indicate grafting had significant effect on overall yield with grafted cultivars accumulating greater mass of fruit (P value .001). In addition, when comparing LG/XL fruit, both main effects of cultivar and grafting were significant, with grafted plants exhibited a greater mass of LG/XL fruit, and cultivars Red Deuce and Red Mountain yielding significantly better than BHN 589 and Mountain Fresh Plus. When overall value was tabulated, grafting resulting in higher net return for cultivars Red Mountain, BHN 589 and Mountain Fresh Plus.

WEED SUPPRESSION WITH LIVING MULCH AND STRIP TILLAGE IN ORGANIC PEPPERS

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Organic vegetable farmers rely on tillage and cultivation as tools to control weeds, which can increase production costs and negatively impact soil health. Growing organic vegetables under reduced tillage is made even more difficult because of a lack of effective and affordable herbicides labelled for organic use. Organic mulches produced by winter cover crops can effectively suppress weeds in no-till agronomic crops, and can potentially allow vegetable crops to be grown with reduced tillage. Here, we present results of a three-year project testing whether winter cover crops can provide season-long suppression of weeds in a bell pepper (*Capsicum annuum*) crop. Our experiment tested three treatments using an annual cover crop mixture of rye (*Secale cereale*) and crimson clover (*Trifolium incarnatum*) and one treatment using perennial red clover (*Trifolium pratense*). The rye/crimson clover treatments each received different amounts of tillage: a conventional tillage (CT) treatment was rototilled to incorporate all cover crop residue, a no-till (NT) treatment was flail mowed and pepper transplants were planted directly into the resulting residue, and a strip-till/roller crimp (ST-RC) treatment was rolled and tilled only within the strips where peppers were transplanted. The red clover treatment was also strip tilled, and the remaining clover was allowed to remain as a living mulch (ST-LM) between pepper rows. The ST-LM treatment significantly reduced weed biomass production compared to all other treatments, and significantly reduced the amount of labor required to control weeds. The CT treatment consistently produced the highest yields, however ST-LM out-yielded other reduced tillage treatments. Living mulch and strip tillage show promise as an effective method for suppressing weeds under reduced tillage vegetable production.

NORTH CENTRAL REGION ENTRIES

COSHOCTON COUNTY AGRICULTURE NEEDS ASSESSMENT

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When an Agricultural Extension Educator is hired to serve a County, it is critical for the Educator to get to know their agricultural community and to determine what the most pressing educational needs are. This poster will share how a two-page assessment was developed to gauge the educational needs of the 1,191 farmers in Coshocton County, Ohio. The assessment was conducted from October 2018 through October 2019 with 142 producers responding. Respondents were asked to indicate which types of Extension Programs would be of interest to them. A variety of topics were provided in the areas of crop management, commercial horticulture, consumer horticulture, farm management, livestock management, and natural resources. Four of the top five topics were from the crop production area with nine of the remaining fifteen topics from the farm management area. The top five overall topics were forage, hay & pasture at 65.5%, fertilizer & nutrient management at 57.7%, weed, insect & disease management at 55.6%, beef cattle production at 54.2%, and row crop production at 45.8%. Respondents were also asked to cite their preferred time for programs. Forty-six percent (45.8%) responded they would prefer evening workshops with 30.3% reporting it did not matter when programs were held. With regards to the day of the week for programs, 50.7% responded that it did not matter the day of the week which a program was held. For those who selected specific days, Tuesdays was most preferred at 26.1%. Respondents were also asked to indicate the different manners in which they would like to receive management information and details on educational workshops and events. Two preferred manners emerged with 64.1% choosing to be notified by email and 55.6% via direct mail. The responses of the needs assessment are being used by the Educator and his Agriculture Advisory Committee to develop a five year education and research plan.

HOW DO PLANTING DATE, FUNGICIDE, AND INSECTICIDE IMPACT SOYBEAN YIELD?

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Previously conducted research indicated that soybean planting date is the management practice that most influences soybean yield. Foliar fungicide and insecticide applications were also found to influence soybean yield. The objective of this study was to evaluate a standard soybean production system compared to an enhanced soybean production system. Trials were conducted at six on-farm locations across Ohio in 2019. The study was a randomized complete block design with three replications of treatments. The standard production system was planted mid-to late May at 160,000 seeds per acre. The enhanced production system was planted late April to mid-May at a rate of 130,000 seeds per acre, with foliar fungicide and insecticide applied at the R3 growth stage. Planting and harvest dates, tillage type, previous crop, soil type, and weather data were collected in-season. At the V2 to V3 growth stage, soybean plant stand was measured. At harvest, grain moisture concentration and yield were recorded. Additionally, we completed an analysis to determine return above seed cost in dollars per acre. Statistical analysis was completed to determine Least Significant Difference (LSD) and coefficient of variation for each location. At three locations, soybean grain yield was 4 to 20 bu/acre greater in the enhanced system compared to the standard system, ranging in partial return increases from $12 to $161/acre. This increase in yield and profitability is likely attributed to earlier planting and reduction in disease with the foliar fungicide application. At two locations, soybean yield was not influenced by the production system treatments. At one location, soybean yield decreased by 5 bu/acre (loss of $64/acre) in the enhanced system compared with the standard system. The lack of yield response to earlier planting may be attributed to weather. The effect of planting date is minimal when there is dry weather during pod-set (R3 to R4 growth stage). Due to some of the variability of results and the extreme weather of 2019, the research team will be replicating the study in 2020.

SOFT RED WINTER WHEAT RESPONSE TO NITROGEN RATE DURING AN ABNORMALLY WET SPRING

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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 2017B, a medium-maturity variety, was established in the fall of 2018 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 20 pounds of nitrogen per acre prior to planting. Experimental design was a completely randomized block replicated four times. Analysis was a simple ANOVA. Grain yield, test weight, and spike number were measured for each plot. Yields were 26.4, 41.8, 42.4, 47.7, 49.7, 48.2, and 49.9 bushels per acre for the 0, 40, 70, 90, 110, 130 and 150 nitrogen rates, respectively. All treatments were significantly better than the 0 check, $p<0.01$. Among the other treatments, significant differences were only between the lowest and highest nitrogen rates. Large amounts of nitrogen were lost because of the excessive spring rain; thus, an optimal spring nitrogen rate was difficult to establish for this given study.

SOYBEAN RESPONSE TO IN-SEASON APPLIED SULFUR

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A field trial looking at soybean response to in-season applied sulfur (S) was conducted to evaluate yield and economic outcomes. A trend in reduced atmospheric sulfur deposition suggests there may be a need to make applications for crop production. This study conducted in Madison County, Ohio at the Molly Caren Ag Center in 2019 evaluated 30" soybeans and Thio-Sul as a sulfur source. The trial was planted on 5/29/19 at 140,000 seeds population. At growth stage V3, 10 gallons per acre (GPA) of Thio-sul was applied using a Y-Drop™ sidedress drawn applicator. The rate of Thio-sul is

equivalent to 29 lbs. of S. The Thio-sul was diluted with 10 GPA of water for a total application of 20 GPA to reduce any plant injury potential. The growing season from planting date to maturity resulted in 12.69" of rain which is well below normal. At harvest, no statistical difference in yield was observed between the in-season applied sulfur (51 bushels/acre) and the zero check (48 bushels/acre). A $10.00 per acre economic advantage was reported with the in-season sulfur treatments, however; there would be no statistical economic difference between treatments since yield is part of the economic calculation. Future evaluation should be continued in different growing seasons and field environments. Rainfall catchment of sulfur deposition along with soil and plant tissue analysis could be conducted to validate the needs of a soybean sulfur program.

SOYBEAN SEEDING RATES IN MUCK SOILS

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The author has conducted three years of soybean seeding rate studies testing up to six different seeding rates in both 15-inch and 30-inch rows. The objectives of these studies include determining if there is a yield difference between 15 and 30-inch rows in studies where both row widths are compared and if so, which width produces the best yield and at what seeding rate. If only one row width is compared, the objective is to determine the seeding rate that produces the best yield. Each study has been conducted using randomized strips that have been replicated at least three times across this field scale on-farm research.

In addition to seeding rates, the author has taken stand counts as well as soil tests. Although seeding rates were treatments studied, factors that remained the same include seed variety, fertilizer, tillage, and weed control. Economic factors were also studied in both 2017 and 2018 with this on-farm research that has also been featured in The Ohio State University eFields book. These studies were conducted in muck soil, where organic levels were higher than mineral soils. As a result, yields were not as high as soybeans grew well vegetatively, however did not yield as well as other studies. In addition, the researcher tested soil health and soybean cyst nematodes in this study.

Results of the 30-inch row study in 2016 indicated that the highest yielding soybeans were seeded at 162,000 seeds per acre while the 15-inch row study from the same year produced the highest yield at 213,000 seeds per acre. Results of the 15-inch row studies in 2017 indicated that the highest yielding soybeans were seeded at a rate of 210,000 seeds per acre while best economic seeding rate was 210,000 seeds per acre which returned the most profit per acre. Results of the 15-inch row studies in 2018 indicated that the highest yielding soybeans were seeded at a rate of 180,000 seeds per acre while best economic seeding rate was 120,000 seeds per acre which returned the most profit per acre.

WEED MANAGEMENT IN PASTURES WITH TIMED MOWING

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The purpose of this trial was to determine if weed populations in pastures could be changed or reduced by varying the timing of mowing throughout the late spring and summer growing periods without the use of herbicides. Weeds can become a problem when they interfere with light penetration to the forage plant leaves, if nutrients intended for the forage plants are used, or they take water or growing space from the forage plants. This can directly influence the yield, quality, and productivity of the field. Treatments in this four year study consisted of: (1) Control (no mowing), (2) June mowing, (3) July mowing, (4) August mowing, (5) September mowing, (6) June/August mowing, (7) July/September mowing, and (8) monthly mowings in June/July/August/September. Each treatment was replicated four times. Forage and weed dry matter samples were taken at the beginning of each month and each plot was visually rated for broadleaf weed pressure contained at the time of sampling. A scale of 0-9 was used (0 meaning 0% weeds present to a 9, meaning 90% weeds present). Results for 2019 indicate that mowing in June had similar results as the control. June mowing produced 4.1 tons of forage and 688 pounds of weeds, compared to the control which resulted in 4 tons of forages and 565 pounds of weeds on a dry matter basis. The average visual rating was 4.1 for June and 3.0 for control plots respectively. Monthly mowing did reduce weeds, but also reduced total forage production to only 2.4 tons of dry matter. In 2019, the July treatment resulted in the lowest quantity of weeds with 522.0 pounds of weeds per acre and 4.0 tons of forages. The July/September treatment had only eight more pounds of weeds but reduced total forage production by 912 pounds per acre.

PERENNIAL CROPS CAN IMPROVE SOIL SALINITY

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Since the mid 1990's, saline soil acres have increased in North Dakota due to an abnormally wet period that spanned for

more than 20 years. Soil salinity is caused by the translocation and accumulation of water soluble salts in the soil to a level that impedes plant growth. Excess salts restrict plant water uptake by adversely affecting soil water osmotic potential. Soil salinity is determined by measuring the electrical conductance (E.C.) of a soil:water slurry and is expressed as mmhos cm^{-1}. Soil E.C. levels greater than two mmhos cm^{-1} can hinder growth of many crops. Soil salinity is only managed through water management. Water management strategies include subsurface drainage and cropping systems. Cropping system strategies include perennial cropping and cover cropping. This project monitored the changes of soil salinity from the perennial forages alfalfa (*Medicago sativa* L.) and hybrid wheatgrass (*Elymus hoffmannii* L.). Salt tolerant alfalfa was planted in areas where the salinity was less than four mmhos cm^{-1} and hybrid wheatgrass was planted in soils with electrical conductance greater than four mmhos cm^{-1}. Both forages where planted at 16.5 kg ha^{-1}. Soil E.C. was measured at the 0-15 cm depth with an in situ soil E.C. probe. Measurement points were recorded by a handheld global positioning system. Soil E.C. was measured in the fall of 2013 at the Minot site and 2014 at the Bowbells site. Final E.C. measurements of both environments were recorded in the fall of 2019. Soil salinity decreased from 2.8 to 1.8 mmhos cm^{-1} ($p < 0.001$) at the Bowbells site and 3.2 to 1.0 mmhos cm^{-1} ($p < 0.001$) at the Minot site. This research suggests that saline areas can be improved over time with perennial forages.

AN ANALYSIS OF MISSOURI CONSUMER PREFERENCES FOR PAWPAW

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Establishing Missouri's Pawpaw Industry: Horticulture, Market Research, and Outreach is a 3-year project led by a multidisciplinary team from the University of Missouri Center for Agroforestry and University of Missouri Extension. Among the project goals is investigation of consumer acceptance and preferences for pawpaw and value-added products. 367 consumers at 4 Missouri farmers markets sampled fresh pawpaw (*Asimina triloba*) and gluten-free pawpaw muffin in 2019, and completed a survey to gauge familiarity with pawpaw and pawpaw value added products and to understand pawpaw purchasing preferences. Familiarity with fresh pawpaw and value-added pawpaw products, past pawpaw purchases, and how frequently respondents consumed pawpaw products were measured directly. Pawpaw purchasing preferences were measured using a discrete choice experiment method. Descriptive statistics were calculated to capture consumption frequency, consumer preference, and demographic characteristics. A mixed logit model was used to determine the statistical significance and the effects of the selected attributes on consumer preferences for pawpaw. Survey results indicated that, regarding respondents' experiences in the past, 58% had heard about pawpaw, 31% had eaten pawpaw, and 13% had eaten pawpaw value added food products. Of respondents, 49% indicated that pawpaw has a banana flavor, 59% indicated a mango flavor, 30% indicated a papaya flavor, and 7% indicated a pineapple flavor; 81% liked eating fresh pawpaw; 65% liked eating pawpaw muffins; 87% indicated they will purchase fresh pawpaw in the future; and 75% indicated they will purchase pawpaw muffins in the future. Consumers were willing to pay per-pound premiums of $1.34 for organic, $1.07 for pesticide-free, and $1.92 for locally produced pawpaw relative to conventional fruit and fruit for which the region of origin was not identified. Project results indicated a significant untapped market for fresh and value-added pawpaw products. This study also provides strong evidence of the value of labeling pawpaw products as organic, pesticide-free, and/or locally produced since those products have strong appeal for consumers.

WESTERN REGION ENTRIES

OMEGA-3 FATTY ACID ENHANCED FEED EFFECTS ON GROWTH AND ACID LEVELS IN MARKET-AGE SMALL SCALE UTAH TURKEY FLOCKS

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Each year more than five million turkeys are raised commercially in the State of Utah resulting in over ninety million pounds of turkey that goes into the Market. Based on

an expressed market demand for healthier perceived Omega-3 fatty acid enhanced products, in this study we focused on the addition of flax seed, an omega-3 fatty acid enhanced feedstuff, and its effects to the diets of research turkeys. Our research compared the average daily gain, carcass dressing percentages, and intramuscular and external fatty acid levels of 200 flax feed additive research toms versus 200 standard control toms fed the same feed with no flax additive. Although research toms fed the flax additive weighed in slightly higher across the research period than the control toms, results showed no significant difference in average daily between the research and control pens. Cutting edge results were provided as birds were weighed live just before harvesting and then immediately had a hot carcass weight taken. This practice gave us pinpointed results on true dressing percentages. For the group the average dressing percentage totaled 78.76%. In regards to the acid levels, preliminary results of the study have shown that percentages of omega-3 fatty acids present in the turkey meat and adipose tissue were statistically significant in comparison to the control pen that received no flax feedstuffs. The overall findings from this research will allow for the team to assist in educating and making significant impacts for many large and small scale turkey producers throughout the State.

Poster Session

Extension Education

2020 NACAA

105th
Annual Meeting
and
Professional Improvement Conference

Virtual

1st Place

SOUTHERN WOMEN IN AG; ADVANCED CATTLE WORKSHOP

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The U.S. Department of Agriculture accounts $536 million worth of economic impact in Georgia to women farmers. Of the 17,779 women that identified as farming operators in Georgia in the U.S. Census for Agriculture, 53% were the spouse of the principle operator. Only 36% of those women identified as the principle farming operator. It is not from lack of skill that women are not more prevalent in the industry – but perhaps lack of confidence. Increasing the confidence of women in agricultural settings by encouraging them to experience basic agricultural techniques/skills in a stress-free, all female environment, will result in their increased involvement in agriculture. According to studies, women tend to learn more effectively with hands-on activities. Therefore, catering to women's unique learning styles will enhance their experience. These women, like all farmers, need technical advice to help their farming operations be successful. Therefore, the Southern Women in Agriculture (SWAG) Advanced Cattle Workshop was developed to provide women involved in or interested in cattle production, a comfortable learning environment to gain hands-on experience and network with other women involved in the industry. A two-day hands-on training was held April 29-30, 2019 on the UGA-Tifton Campus, Tifton, GA. There was a total of 18 attendees and 3 UGA ANR county agents, not including volunteers and instructors. Each day consisted of three two-hour breakout sessions which allowed all attendees ample time to engage and participate in each of the hands-on activities provided. Sessions included: cattle handling/chute side, truck and trailer driving, tractor and equipment, media training, bovine reproduction, and forages and fencing. Based on the evaluation, comfort level increased by at least 1 score in every station. 100% of respondents said that the workshop met their expectations and they would definitely recommend this workshop to others, and 80% would be interested in future trainings geared towards women involved in agriculture. As a result of this program, 5,882 acres and 1,222 head of cattle will be impacted by the knowledge gained. Additionally, all attendees received Beef Quality Assurance Certification and a one-year membership in the Georgia Cattlewomen's Association.

2nd Place

TEEN GREEN: CONNECTING UNDERSERVED YOUTH TO CAREERS IN NATURAL RESOURCES

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Osceola County is a diverse and rapidly developing county. Youth from urbanized areas of the county have little exposure to the area's natural resources or possible environmental career paths. The purpose of the Teen Green program is to introduce high school youth from under-represented backgrounds to environmental professions. The measurable objectives were: 1) to increase their knowledge about soil, water, and plant science principles by 70% in a fun and interactive way that will spark their interest in environmental careers; and 2) Increase their knowledge about environmental professions by 50%. The 3-day workshop incorporated a variety of educational methods including labs, lectures, tours, and hands-on games. They collected soil and water samples, conducted water quality analysis, analyzed soil for texture and pH, and created landscape design blueprints. In addition, the youth toured the University of Florida Mid-Florida Research and Education Center where they explored labs, learned how to take plant cuttings, and received resources for alternative higher education paths. This is critical, as many of the youth do not have the resources to attend a traditional 4-year University immediately after graduation. Twelve high school-aged youth attended the 3-day workshop. The program was evaluated with a pre- and post-test to measure average knowledge gain. The students (n=12) increased their knowledge about soil and water sciences by 84% and their knowledge about natural resources career paths by 52%. In addition, 67% (n=12) of attendees reported that they are very likely or somewhat likely to pursue a career in natural resources after attending the workshop. By connecting youth to their environment, they are exposed to new topics and potential career paths that will impact their economic stability and well-being while protecting the environment.

3rd Place

WSU AND UI SHEEP AND GOAT JUDGES SCHOOL AND SHOW MANAGEMENT CONFERENCE

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With an aging demographic of current livestock judges in the Pacific Northwest, and an increasing number of 4-H and FFA youth showing meat goats, there is a need for trained individuals to evaluate livestock projects at our county fairs and junior livestock shows. In addition, youth livestock shows, and sales committee frequently experience conflict that could be avoided or minimized if show management had a broader understanding of current issues affecting the livestock industry. Considering these factors, the planning committee offered two separate tracks at the 2019 PNW Judges School and Show Management Conference.

Since it is expensive and complex to offer a multi-species judging school, the committee focused on organizing a high-quality sheep and goat judges' school; with plans to offer a WSU/UI beef and swine judging school in the future. The Judges track focused on evaluating sheep and goat market projects both live and on the rail. Participants also had the opportunity to judge several classes of breeding sheep and goats; evaluate fitting and showing classes; discuss the management of the show ring; practice giving oral reasons; learn about the role of the judge as an educator; and a packer's expectation of youth livestock projects.

The Show Management track focused on financial management and accounting for market livestock sales committees; biosecurity; livestock handling procedures; youth quality assurance programs; selecting and hiring qualified judges; fair management software; emergency management and show ring procedures.

At the conclusion of the program, participants completed a Qualtrics survey to provide feedback on the judges' school and show management conference. Seventy-five percent of the judge's school survey respondents stated that the school contributed significantly to their knowledge of youth livestock shows in contrast to sixty-seven percent of the show management respondents who said the same. Ninety percent rated the judges' school as good or excellent while one hundred percent of show management respondents rated the quality of the conference as excellent or good. One hundred percent of both groups indicated they would like to attend a future PNW Livestock Judges School or Show Management Conference.

Finalist

COMBINING DISTANCE LEARNING TO SUCCESSFUL AG MARKETING CLUBS

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Iowa Net Farm Income on an accrual basis dropped by nearly 41% from 2014 to 2018. This despite above average crop yields and improved livestock production efficiencies. Most every U.S. farm operation faces ever increasing export competition and global trade challenges.

Over the past 20 years, Iowa State University (ISU) Extension of Central Iowa has established 3 successful ag marketing clubs that meet during the fall and winter months. They are coordiated by county Extension office staff. I addition, in 2010 the Iowa Commodity Challenge web page was developed through a partnership with the Iowa Farm Bureau Federation. It provides weekly updates and year-round learning opportunities. The site includes 15 videos, a marketing tools workbook, various learning activities, basis tracking tables and editable old and new crop marketing plans.

A goal for 2019 was to improve net farm income of club participants by at least $5,000 per farm operation through improved marketing strategies, tools and market planning. A total of 338 participants attended an ag marketing club meeting and/or utilized the Iowa Commodity Challenge web page. Completed survey responses were obtained from 110 respondents in March 2020 to evaluate the effectiveness of these educational efforts.

Respondents indicated that their net farm income resulting from the ISU Extension educational efforts averaged a positive $15,837 per farm operation. The average farm size of respondents was 750 tillable acres of corn and soybeans. Thus, the impact of this educational program was $21.13 per tillable acre average and over $1.7 miilon for these respondent operations. Plans are to expand the program statewide as a Virtual Ag Marketing Club in 2020 with timely webinars, videos, podcasts and newsletters along with updated material on the Iowa Commodity Challenge web page.

I-29 MOO UNIVERSITY: CREATING A LASTING PARTNERSHIP

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In its 15th year, I-29 Moo University is a collaboration of University Extension educators and specialists with expertise in dairy production and management from Iowa, Minnesota, Nebraska, North Dakota, and South Dakota. I-29 Moo University, formally known as I-29 Dairy Outreach Consortium, began in response to the limited number of dairy specialists and educators across Land-Grand University Extension systems. Dairy extension faculty in this five-state region have collaborated resources, educational materials, and programs to reach a larger audience with a limited number of extension faculty.

The objective of the consortium is to enhance a sustainable dairy community along the I-29 corridor while providing resources and science-based education to meet the growing demand for food through best management practices, utilization of research-based expertise and resources, and advocating the benefits of a vibrant dairy community through a collaborative effort.

In the first ten years of existence, the consortium offered an annual conference for dairy producers. In 2015, the consortium expanded their programming and began offering a tour, short course, and multi-state workshop series each year to better meet the needs of dairy producers. The annual conference was eliminated at this time.

The use of technology, including webinars, e-newsletters and webpages, has been at the forefront of this consortium to provide information, articles, and updates. In 2018, the consortium began offering webinars throughout the year, and in 2019 the consortium created a webpage to house the consortium's resources, proceedings, newsletters, and recordings of webinars.

The consortium faces several challenges for measuring impact of programming and information delivered. One challenge is the measurement of changed behaviors and practices as a result of the information shared in newsletters and during webinars. Another challenge is measuring economic impact from these programs.

Since the consortium began there has been more than $57 million in direct economic impact from 37 programs including workshops, tours, and webinars; 36 newsletters; and booth exhibits. Since 2013, more than 2,445 attendees have participated in programs and more than 500,000 cows have been represented. The longevity, economic impact, and reach of the consortium have indicated multi-state extension collaborations are sustainable and impactful.

MISSOURI GROWN PROGRAMS HELP PRODUCERS INCREASE ON-FARM PROFITS

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A series of "Missouri Grown" programs over the past three years has given producers and market gardeners the information they need to add new crops and increase profits for their operations. Since 2016, several workshops for producers, market gardeners and home gardeners were held in northeast region of Missouri. The objective was to teach and provide information on alternative horticulture crops, new varieties, improved production methods and ways to increase farm profits with value-added products. Multiple teaching methods were used because this particular audience is quite diverse. Over the past three years, 414 individuals attended Missouri Grown workshops and tours in northeast Missouri, with 15-40 people in attendance at each workshop, held in various locations. The workshops and tours addressed edible mushroom production, small fruit crops like elderberry, blackberry, raspberry, fruit tree grafting, garlic production, and produce safety. Vegetable farm tours were held during the summer where participants could see how produce was grown in the field and in high tunnels, and how it was harvested, sorted, and marketed. They also saw how a wholesale auction operated. Producers learned and incorporated into their operations concepts about better and more efficient planting methods and irrigation systems, variety selection for higher yields, use of grafted tomatoes, vegetable sorting methods, more efficient packaging and labeling, and better marketing strategies.

In the evaluations, all participants indicated practice changes. Follow-up visits were made to producers on their farms and at the farmers' markets to see what changes they made and to determine if on-farm profits were increasing. In 2019, two producers sold to a Hy-Vee grocery store, 21 producers were selling to local farmers' markets, 1 operated on farm produce stand, and 1 operated a u-pick blueberry operation. In the past three years, 80% of the producers who had attended a workshop or tour indicated on evaluations that they added new products to their operations, which helped increase their overall sales. New products included honey, honey-based products, edible mushrooms, hydroponic lettuce, microgreens, Asian vegetables, cut flower bouquets, dried flower arrangements, dried spices, specialty melons and more. Growers reported an increase in sales between $1,000-5,000.

COMMUNITY FOOD MENTORS STRENGTHEN SELF SUFFICIENCY SKILLS OF FOOD PANTRY USERS

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To address food insecurity, Maine's Master Gardener Volunteers grow and glean over 200,000 pounds of produce for food pantries and soup kitchens each year. Making free produce available does not, however, guarantee that it will be used. A 2013 survey of Maine food pantry managers indicated that many clients did not take fresh produce because they lacked knowledge and confidence regarding how to use it. The objective of the Community Food Mentors program is to improve food self-sufficiency skills of food pantry users through peer-to-peer education. Community Food Mentors (CFMs) undergo 15 hours of training in nutrition, food safety, cooking and preserving fresh produce, and cultural sensitivity. They then conduct weekly hands-on lessons in food pantries, helping clients learn simple ways to incorporate a variety of fresh vegetables into their family meals. CFMs provide recipes, taste tests, and food safety/preservation fact sheets while distributing fresh produce grown by Master Gardener Volunteers. In Hancock County, CFMs reach approximately 200 food pantry users per year. After six years, data show that food pantry users made positive shifts in food selection behaviors and food resource management skills. Food pantry managers have asked us to continue our programming since its inception in 2014, as their facilities have been transformed from simple food distribution sites to learning locations. Community Food Mentors have formed powerful bonds with food pantry clients.

LABOR SHORTAGE IN THE PA MUSHROOM INDUSTRY

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Chester County, Pennsylvania is home to an estimated **68 commercial mushroom farms**, producing two-thirds of all U.S. mushrooms (Holliday, 2018). Historically mushrooms were picked by single Latino migrant men; today Latinx families are settled in the area and both women and men work in harvesting. However, **employers have identified a widespread labor shortage** as the principal threat to the future of their businesses. The objectives of our work was to help identify gaps and needs that contribute to the problem encpuntared by both, workers and growers. We accpmplished the following goals by doing on farm face to face interviews with farmworkers mainly in Spanish as well as by sending and online survey to farm owners.

1. Assessing the scale and scope of impacts of the labor shortage on mushroom farm businesses.

2. Examining factors that motivate workers (particularly harvesters) to stay or leave a farm.

3. Identifying similarities and gaps between worker and employer perspectives on the labor shortage.

As a result of this project we concluded that:

Many employers consider the labor shortage to be severe, especially for harvesting positions.

Harvesters' motivations to stay on a farm are partly based upon factors that impact pay. However, 65% live with their families here. Therefore, flexibility with scheduling to facilitate childcare is perceived as an advantage, and the very early morning starting hours are seen as a drawback.

Workers and farm owners agree on the importance of raising pay and providing benefits/ incentives to improve employee retention. Yet, workers put more emphasis on difficulties with scheduling and supervisors than employers. Similarly, Garcia (2006) indicates that "satisfaction with employer" is one factor that contributes to workers leaving or staying in the mushroom industry.

NEW EXTENSION PROGRAM AIMS TO EDUCATE AG SERVICE PROVIDERS ABOUT MARYLAND AGRICULTURE

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Government agriculture (ag) service providers administer government programs and provide technical assistance to farmers. Ag service providers in Maryland include agencies such as: United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), Farm Service Agency (FSA), Maryland Department of Agriculture (MDA), Maryland Department of Environment (MDE), and Local Soil Conservation Districts (SCD). Employees within these agencies often have specialized technical backgrounds and degrees in areas such as biology, environmental science, engineering, policy, etc., but often have very little working knowledge of farming; yet are working closely with farmers. This disconnect from basic on-farm knowledge creates a

significant barrier to the job and prevents ag service providers from maximizing their efforts. This gap in practical agricultural production knowledge needs to be addressed in order to keep farms viable into the future and service providers safe when on the farm. To address the need for agriculture education for these ag service providers, University of Maryland Extension has established a partnership with USDA-NRCS to develop a multi-day, interactive training where ag service providers will receive classroom and on-farm instruction to better familiarize them with all aspects of Maryland agriculture. This will translate into improved customer service and relationships between farmers and government ag service providers.

KENTUCKY FARMS, KENTUCKY FLAVOR (KYF2)

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KYF2 is two great award-winning shows in one: Kentucky Farms, Kentucky Flavor! The show first highlights the Kentucky farmer growing a seasonal specialty crop and then adds the flavor with a nutritional recipe utilizing the featured specialty crop. Consumers gain a better understanding of how the crop is grown on the farm and have the confidence to prepare dishes at home using fresh local produce. The ultimate goal of the project is to connect the farmer with the consumer, boost farm sales, increase profitability, and provide recipes and food demonstrations to encourage and grow the local food economy in South Central Kentucky. In 2018, a third season of Kentucky Farms, Kentucky Flavor (KYF2) aired thanks to funding from the USDA Specialty Crop Grant in partnership with SOKY Marketplace in Bowling Green, KY. At the end of the season, farmers reported 100% increase in sales and awareness of their specialty crop, gained new social media followers, increased traffic on the farm which led to a 10 to 15 percent in sales, and noted that the program brought new customers to the farmers market.

COLORADO BEEKEEPER MENTORSHIP PROGRAM: EDUCATING BEEKEEPERS/ PROTECTING POLLINATORS

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In 2006, the beekeeping industry was alerted to Colony Collapse Disorder, a mysterious disorder in managed hives where 30–90 percent losses were reported. Through reporting of these large colony losses in the popular media, the public became even more aware of the importance of pollinators in our food supply and ecosystems. A new generation of hobby and part-time professional beekeepers was born. The number of new beekeeping clubs and individual memberships in state beekeeping associations continues to grow nationally, and in the Upper Arkansas Valley in central Colorado.

Chaffee County Extension Director Kurt Jones created an official volunteer program entitled the Colorado Beekeeper Mentorship Program with the aim to recruit and train a cadre of volunteers who could work with novice beekeepers and promote scientifically-based beekeeping and integrated hive management principles. Volunteers were selected based on an application and screening process which included reference checks, criminal and motor vehicle histories, interviews, and beekeeping experience. Upon admittance into the program, volunteers participated in a seven-session course. Researchers, extension specialists, extension agents and experienced beekeepers taught classes aimed at mentoring novice beekeepers. Subjects included starting the apiary, equipment needs, safe handling and establishment of bee hives, disease recognition and abatement, bee nutritional needs, high altitude plants, seasonal management needs, and the art of mentorship. The Colorado Beekeeper Mentorship Program was sponsored by CSU Extension, United States Department of Agriculture--NIFA (2017-70006-27289) and Western SARE with assistance from the Central Colorado Beekeepers Association. Evaluations indicated that participants had the greatest knowledge gained in hive health and disease recognition, hive nutrition, and seasonal management activities and goals. In follow-up evaluations in 2019, participants reported spending 39 percent of their time in hive health activities, 37 percent of their time in educational activities, and 24 percent of their time in hive establishment. The total hours reported exceeded 475 hours with a total value of more than $12,100.

GREEN THUMB GARDENING CLASSES IN CASCADE COUNTY, MONTANA

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The Green Thumb Gardening classes was a four-part, hands on, continuing educational series for novice gardeners. The classes were from April to August covering topics from sowing seeds to harvesting vegetables. The classes are focused on adults who cannot commit to the Master Gardner program but want to grow their own produce to feed their families. Educational resources from Montana State University Extension, Colorado State University Extension, Michigan State University Extension, North Dakota State University Extension, University of Missouri Extension, Purdue Extension, Penn State Extension, and University of Maine Extension. The four sessions were titled, "Spring into Gardening," "Gardening

101," "Greenhouse 101", and "Harvesting 101." Montana State University Extension partnered with Bundi Gardens and River City Harvest Community Gardens to reach out to more adult learners on horticulture knowledge and insight to horticulture in Cascade County, Montana. Twenty-one adult learners took the opportunity to learn from the Green Thumb Gardening classes from April to August 2019. Their gardening knowledge ranged from novice to some experience growing vegetables and fruit at the first class. By the end of the classes, the adult learners expressed their increased knowledge of gardening and planted successful gardens with the gardens producing hundreds of pounds of produce.

SOUTHERN REGION ENTRIES

AGRITOURISM SAFETY IN VIRGINIA

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Safety is a concern for agritourism venues because an operating farm may expose visitors to many unfamiliar conditions, situations, and/or animals, which opens the farm operation to potential liability risks during these interactions. The purpose of this research was to review current safety protocols on Virginia agritourism operations and seek information that was needed to improve for the future. Based on a survey sent to Virginia operators, numerous areas were identified which would benefit from further education and risk management information. Insurance offerings tailored to agritourism operations are needed, in addition to improved employee screening and training for operations management. The survey found that 25.24% of responses do not do any type of pre-employment screening while over 7% do not participate in walkthroughs before events. The purpose of this research was to document specific protocols already in place, identify, and describe critical areas of improvement for Virginia agritourism event, venue, and visitor safety practices.

FARM SAFETY DINNER THEATER

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University of Kentucky's Dr. Deborah Reed has pioneered research examining using community dinner theater to present farm safety issues. Dr. Kim Niewolny from Virginia Tech received grant funding from the Southern Extension Risk Management Education to bring farm safety dinner theater programming to Virginia. Amy Byington and Brad Jarvis, Agriculture and Natural Resource Extension Agents, were selected to pilot the programming in Virginia with assistance from Dr. Reed and Dr. Niewolny.

Brad Jarvis' dinner theater took place on February 20th, 2020 with 60 participants at Graves Mountain Lodge, Syria, VA. Actors were from the farm community and the scripts were adapted from Dr. Reed's Farm Dinner Theatre Tool Kit and plays directed by Shirley Workman, local theater company. The evaluations (n=42) indicated that all guest enjoyed the dinner theater as a means of learning farm safety issues with 95% agreeing to discuss farm safety with their family and 86% agreed to take greater health and safety precautions on the farm. All Madison participants strongly agreed the health and safety discussions following the plays were helpful and 86% agreed the theater message would prevent injuries on the farm to themselves and others.

Amy Byington's Farm Dinner Theater took place on February 22, 2020 during the Women in Agriculture Conference with 53 participants. The scripts were written by Lee FFA Members with assistance from Beth Shell and Amy Byington and the FFA members were also the actors. The program was well received with 83% of those returning evaluations agreeing or strongly agreeing that the plays encouraged them to have farm safety conversations with their families. Evaluations showed that 89% agreed or strongly agreed that the play convinced that they needed to take additional safety steps on their own farms. Amy Byington will be making videos with the Lee FFA Members to share their plays on social media to bring awareness to farm safety.

BRINGING HORTICULTURE HOME

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The purpose of this educational program was to educate residential and consumer audiences on sustainable practices for landscapes, fruits, and vegetables in the home garden setting and to evaluate their perceived value of the programming in terms of money saved, increased property value, conservation, quality of life, or knowledge gained.

This educational endeavor was accomplished through three interrelated channels: County horticulture outreach, an In-depth Development Training series, and the Gardeners Toolshed series. The In-Depth training series was offered only to certified Extension Master Gardeners in the region and

focused on intensive training in specific subject areas and their commitment to teach the learned curriculum. The Gardeners Toolshed is a series of classes offered free of charge and open to the public. These classes covered basic gardening information on a variety of topics. 44 in person educational sessions were offered with a total of 1,849 attendees. Educational methods included, lecture style programs, group discussion, hands-on workshops, demonstrations, and newsletters. Topics ranged from ornamental and vegetable IPM, and urban water stewardship, to upcycling in the garden, and small-scale food production.

Impacts of this program were evaluated in three different areas: increase in knowledge, implementation of learned practices, and perceived economic value. 43% of participants responded to the post program survey. Of those surveyed, 100% learned something new, 51% have implemented learned practices, and average perceived value per participant was $552. This equates to a potential local economic impact of $1,020,648 associated with Extension programming in residential and consumer horticulture in 2019.

FEEDER CATTLE MARKETING PROGRAM

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Southeastern feeder cattle have long had a poor reputation in Western and Midwestern feedyards for animal health issues, lack of castration, and other generally accepted beef quality assurance practices. Tennessee and Trousdale County feeder calves are no different. When addressed with local producers to make improvements such as weaning, vaccinating, de-horning and castrating, the argument is always "well they will not pay me anymore for those shots, etc!" Through multiple educational meetings to address weaning, vaccinations, BQA practices, and marketing alternatives UT Extension brought awareness to the importance of these practices.

In partnership with Trousdale County Livestock Association, Trousdale County Livestock Market, and local veterinarians we came together to offer a local market for these weaned and vaccinated cattle. In the past 3 years, we have held 6 sales totaling 4,933 head of weaned and vaccinated feeder calves. Resulting in more than $210,393 in premiums to producers because the calves were weaned, graded and grouped in large lots. It also allowed for savings on reduced commission of $65,856.

"YOU CAN'T TRUST THE WEATHERMAN: EDUCATING FORAGE PRODUCERS ON THE BASICS OF HAYLAGE PRODUCTION"

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Extension education in forage production has long focused on encouraging producers to harvest hay early in the growing season in order to have a product that has acceptable levels of protein and energy to meet the nutritional requirements of livestock. The late-boot stage that is considered the optimum balance between yield and quality of most cool-season grasses, occurs in the first two weeks of May in Tennessee. Weather conditions in May often make it difficult to find a 5-day window that is generally needed to cure, bale, and store hay using traditional harvest methods. The dilemma forage growers face each spring is does one cut the hay when it needs to be cut to have good quality even if there is rain in the forecast, or do they wait until the forecast is clear and cut later, though doing so means quality will be reduced?

Haylage involves baling hay at 40-60% moisture and then wrapping it in plastic. This creates an anaerobic environment which allows the forage to ferment. Since haylage is baled at a higher moisture, it doesn't need nearly as much time to dry down. Typically, the entire process from cutting to wrapping is less than 48 hours. This means producers can harvest forage when it is at the right quality, not when the extended forecast is perfect.

Over a 3-year period from 2017-2019, a variety of educational efforts were designed to teach forage producers the process, advantages, challenges, and economics regarding haylage production. This included two field days, multiple production meetings, and mass media efforts. We estimate that haylage production increased by at least 100% following those efforts and that last year approximately 30,000 rolls of haylage were produced in Smith & Trousdale County.

AN INTERACTIVE EQUINE PASTURE MANAGEMENT WORKSHOP SERIES DESIGNED FOR THE FOOTHILLS REGION OF NORTH AND SOUTH CAROLINA

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The Foothills region of the Carolinas is a unique area along the western border of North and South Carolina. State and county equine census data from 2008 and 2004 for the four neighboring counties- two on each side of the state

line, estimate a range in equine population between 17,100 and 19,400. The influx of non-native equestrians and farm managers to an already thriving equestrian community has led to an increased demand for educational opportunities covering best pasture management practices specific to our climate, soil and forage types. Clemson and North Carolina Cooperative Extension partnered to offer a unique interactive pasture management course for the Carolina Foothills area. The 1-d course, held May 31, 2019 at Cotton Patch Farm in Tryon, NC, offered a total of 4 h of instruction. Participants were split and rotated between four groups to allow for hands-on opportunities. Of the 45 participants, 82% completed the written evaluation. Subject knowledge before and after the workshop was reported using a 5-point Likert scale (1 = very low, 5 = very high) in five categories: 1) determining body condition score, 2) effective and efficient grazing management, 3) importance of soil health, 4) sprayer calibration, and 5) identification of pasture plants and forage varieties suitable for local pastures. Reported subject knowledge rating increased in all 5 categories, with an average pre-workshop rating of 2.55 and an average post-workshop rating of 4.06. The survey responses indicate an eagerness among area horse owners to further their knowledge on the topics presented, and the collaborative Extension effort was an effective method to provide the best resources from each land grant institution.

EXPANDING WILDLIFE EDUCATION FOR FUTURE GENERATIONS

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The Wildlife Habitat Education Program (WHEP) is a natural resources program aimed at teaching wildlife and fisheries habitat management and conservation to youth ages 9-18. The program provides youth the opportunity to make real-life wildlife management decisions, tests their wildlife knowledge in a friendly competition, and exposes youth to potential career opportunities. In an effort to build the program in South Carolina, an adult WHEP Educators Training was held for formal and non-formal educators, 4-H volunteers, and Extension agents to provide them with resources and hands-on experience to teach their students and 4-H members about wildlife. A mixed-method evaluation with a 5-point Likert scale and open-ended questions was used at the training. All of the educators that attended the training (n = 21) agreed or strongly agreed that the training increased their skills in wildlife areas of interest to them, provided them information/resources to successfully lead a WHEP team, and gave them hands-on experience that will help them with future WHEP activities. In addition, 90% agreed or strongly agreed that the WHEP training made them more passionate about youth wildlife programs. Eight-one percent of these participants were new to WHEP. Projected reach of youth that would engage in WHEP following the training was 668 youth.

INCREASING PROFITABILITY OF FOREST LANDS IN SC: PINE STRAW MANAGEMENT WORKSHOP AND FIELD TOUR

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Forestry is the #1 industry in SC with an annual economic impact of $21.2 billion dollars. The forest industry is also #2 in labor with 98,306 jobs and $4.95 billion in annual income. Although timber products are the primary market, landowners pursue alternative sources of income. Pine straw is extremely popular as a mulch in the southeastern United States, and because of this pine straw harvesting is a strong industry in the region. Raking pine straw can be an attractive and valuable source of income for forest landowners, providing an opportunity to cover some of the costs associated with establishment and maintenance associated with longleaf pine ecosystems.

Evaluations from multiple previously conducted programs indicated a strong desire to learn more about pine straw harvesting as an alternative income source for forest landowners in SC. Before beginning to develop a program to address these requests a needs assessment was conducted and educational goals were identified. These goals included increasing the knowledge, productivity, and profitability of forest landowners in the following areas: pine straw markets, pest management in pine straw producing stands, forest health and invasive species, ecological impacts of raking pine straw, prescribed fire and pine straw production, and fertilization of pine straw producing stands.

The Pine Straw Workshop and Field Tour program was offered on September 10, 2019 and again on November 14, 2019 due to the level of interest. The workshop included 3.5 hours in the classroom followed by a field tour.

Eighty-one participants from SC, NC, and GA attended two workshops/field tours. Based on evaluations, 51% currently

rake pine straw with 43% raking 0-25 acres, 29% raking 51-100 acres, 14% raking 26-50 acres, and 14% raking 100 or more acres. 100% of participants increased their knowledge, 86% found the field tour beneficial, and 100% were interested in advanced level workshops in the future. 82% indicated that they would also save and/or earn more money as a result of the knowledge gained by attending this workshop/field tour. This program encouraged landowners to implement pine straw harvesting methods on their property thereby increasing their financial returns.

FARM TO PHONE: MAKING QUICK AND TIMELY VIDEOS ON CROP PRODUCTION

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Videos are a popular educational tool for the modern farmer. We developed a series of short, online videos to keep North Carolina's small grain farmers ahead of emerging crop production issues. The videos were created, filmed and edited in-house with an average turn-around time of 4 days from filming to web release. Videos are filmed in the field just prior to the time when farmers will need the information. Content in all of our 2-minute videos is tightly focused on technical information geared directly to the commercial audience. Each video outlines the significance of the topic; illustrated identification, control and prevention; and, follow-up links for more information. Impact of the pilot series led to additional funding from commodity groups for a total of 45 videos on corn, soybeans and small grains. Keys to success in quick video production are: 1) conversational story-telling for viewer engagement; 2) using a mobile device; 3) maximum length of 2 minutes; 4) maintaining quality sound and images.

HENDERSON COUNTY COMMUNITY/ CHARITY/SCHOOL GARDEN WORKSHOPS

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County Agents and Extension Master Gardener Volunteers with NC State Cooperative Extension work to **increase agricultural awareness** and **fresh food opportunities** among members of their communities. Surveys of young people across the country have shown that children lack basic knowledge about how their food is produced. Many areas of our state have been labeled a 'food desert' by the USDA, meaning access to fresh foods is low. Community, charity, and school Gardens teach agricultural awareness and increase access to fresh foods.

Henderson County in western North Carolina has a population of over 120,000. Nearly 10% of these residents live in poverty. Many charities exist to provide those in need with necessities. Local community, charity, and school gardens donate vegetables to these local charities.

14 community gardens, 8 charity gardens, and 17 school gardens exist in Henderson County. The managers of these gardens work independently to educate children and adults about the benefits of vegetable gardening and to produce vegetables for the underprivileged. Henderson County Extension Agents and Extension Master Gardener Volunteers saw the need to identify, coordinate, and educate the many leaders of local community gardens. Efforts to provide leadership and to organize these garden leaders and to educate them in horticultural and public service have been ongoing. Two workshops have been held for garden leaders in Henderson County.

YOUTH CATTLE WORKING CONTEST

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The NC Cooperative Extension team saw a need for a livestock related, hands-on program for FFA students in the region. The team worked to design a practical, real-world contest to both educate and test the students knowledge of beef cattle handling and production. Livestock Extension Agents work with high school agriculture teachers to educate students about the National Beef Quality Assurance Guidelines, general production practices, and livestock handling. Students learn how to properly sort beef cattle out of a group, guide the cattle through a livestock handling facility, and restrain each animal individually to properly administer vaccinations. Each team of three students are scored based on preparedness, teamwork, safety, and correctness of vaccine administration. The top three teams from each regional competition will qualify to advance to the final state contest. Since the inaugural contest in 2016, we have seen steady growth. The competition has expanded to four contests per year, the number of FFA students participating has increased 233% since 2016.

PROMOTING SUSTAINABLE AGRICULTURE USING COVER CROPS AND AGENT TRAINING

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The SARE funded, CoverItUp project, was designed to educate Extension agents, consultants, and producers of the benefits in utilizing cover crops to improve farm sustainability through soil health initiatives. Demonstration plots, field days, classroom and field trainings provided opportunities for attendees to learn in a real-world situation. Forty demo plots of cover crop mixtures were the primary teaching tool. The Train-the-Trainer events prepared Extension agents to discuss cover crop benefits and limitations with producers. The 2-year project included 4 field days with 126 attendees. Participants received thumb drives preloaded with pertinent fact sheets. Soil erosion simulator provided a visual learning environment to highlight soil loss between various soil covers. Marketing items were distributed to increase long-term awareness. This project is an approved Plan-of-Work activity and agents have a "ready-to-use" program for county programming. Attendees indicated increased knowledge of 65 to 100% for each of the following areas: specie selection, planting date, seeding methods, termination tactic, effect on water quality, effects on soil erosion, and soil health. Outcomes were field days (4), Extension publications (3), national presentations (2), Mentor Farmers (4), popular press articles (3).

DOUGHERTY COUNTY 4-H AGRICULTURE FIELD DAY

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The Dougherty County Agriculture & Natural Resources County Extension Agent and the 4-H Youth Development County Extension Agent met with the Career, Technical and Agricultural Education director to discuss the possibility of conducting an Agriculture Field Day targeting all seventh graders in the Dougherty County School System

When talking to kids in the urban area about careers in agriculture, farmers are the first thing that come to mind. The goal of the Dougherty County Agricultural Field Day was to educate students in five agricultural fields of study. These areas included Agricultural Business, Horticulture, Environmental Education and Natural Resources, Crop Production and Animal Science. Five representatives per field of study were identified. Each representative was sent an Ag Field Day flyer and vendor form to complete and confirm their attendance. The 4-H Agent developed a pre/post-test that was given out to the students at the beginning of each assembly and then again after they visited their last station. The CTAE director handled the logistics of providing tables and chairs for each station, soliciting volunteers, assigning each of the four middle schools times in which to participate in the field day, arranging lunch and transportation to Merry Acres Middle School where the Ag Field Day took place.

A total of 788 youth from three of the four middle schools were exposed to the Agriculture Field Day. By participating in interactive presentations and hands-on learning experiences, students learned how vital the agricultural industry is to Dougherty County and the state of Georgia.

Data from the post-test showed that 82% of participants were able to name a career related to agriculture other than a farmer. 91% of students also reported knowing how much money the agricultural industry contributes to Georgia's economy. 73% of participants stated they would be interested in an Agricultural Pathway at the middle or high school level. 86% of the students surveyed were able to recall the top 5 agricultural commodities.

ENHANCING PROFESSIONALISM WITH GREEN INDUSTRY CERTIFICATIONS IN GEORGIA

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The green industry provides over 84,000 jobs and $68.5 billion in economic impact for the State of Georgia. As a significant international and regional hub for transportation, the state continues to experience steady growth and development, and the demand for ornamental horticulture products and services will increase. Certification programs are a means to affirm professional proficiency and to promote best management practices among practitioners. To help establish a standard of professionalism among workers, UGA Extension administers two certification programs, the Georgia Certified Plant Professional (GCPP) and the Georgia Certified Landscape Professional (GCLP), which are self- study courses offered through the UGA Center for Urban Agriculture. Both require a written test, plant, and pest identification with the GCLP having additional hands-on demonstration tests. The Georgia Certified Plant Professional program was conceived in the 1970s initially as the 'Georgia Nurseryman Certification, a collaboration of the University of Georgia Horticulture Department and green industry professional organization. A similar partnership in 1994 formed the Georgia Certified Landscape Professional program. Since its inception, 1,662

individuals have attained the GCPP, and 351 have the GCLP certification. Frequently, certified individuals assume the role of owners, supervisors, and crew leaders, which translates to indirect program impact for employees who benefit from training from GCLP/GCPP certified supervisors. Certification benefits also extend to clientele and the environment in the form of best management practices for improved knowledge of plant material, pest management, healthy landscapes, and enhanced environmental quality. The Georgia Certified Plant Professional and Georgia Certified Landscape Professional programs are strongly supported by two of the largest green industry professional organizations in the state, the Georgia Green Industry Association, and the Georgia Urban Agriculture Council. Each year, they sponsor and host venues for professional certification and training opportunities at their statewide educational and trade show events.

FULTON FRESH: FARMERS, FAMILIES AND BEYOND

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In the metro-Atlanta area, 79% of its 53 urban farms generate the majority of their revenue through farmers markets (FoodWell Alliance Baseline Report, 2017). However, despite the increase in demand for fresh, local food, farmersstruggle to attract a diverse demographic at these markets. Though 22 of these farms are in Fulton County, there is a distinct lack of local food availability in western and southern regions of the county. Many of these areas have been labeled as food deserts using criteria developed by the USDA. Food deserts are characterized by increased presence of unhealthy, national food chains, and severely limited access and awareness to fresh and nutritious food sources. The Fulton Fresh Mobile Market, a model based on free produce awarded to those whoattend nutrition courses, is a prime vehicle to mobilize urban farmers and promote healthy local food sources in low income areas. The Fulton Fresh Mobile Market continued its Featured Farmer program during summer of 2019. This engaged urban producers by featuring one unique local crop grown by a farmer within 15 miles of Atlanta, or available for purchase at accessible locations in Fulton County. Additionally, the mobile market partnered with a distributor at the State Farmers Market who specializes in locally and Georgia Grown produce, furthering its mission to support the local economy as muchas possible. Throughout the ten-week summer season of the Fulton Fresh Mobile Market, a total of 36,975 pounds of fresh produce were distributed to a total of 2,568 Fulton County residents. Each of these bags of produce contained one unit of a locally grown Featured Farmer item, totaling 425 poundsof local metro-Atlanta produce distributed. All six farmers stated they were not aware of the resources Cooperative Extension had to offer, and have repeatedly made use of our services since participating in this program. Instead of just seeing farmers once a year for soil tests, Fulton County Extension has received thirty two agricultural diagnostic samples in 2019 alone including weed identifications, insect identifications and recommendations, and plant disease diagnoses.

GEORGIA'S FIRST CISMA: DIVERSE PARTNERSHIPS AND UNIQUE APPROACHES FOR TACKLING REGIONAL INVASIVE SPECIES ISSUES

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Coastal Georgia contains ecologically rare and valuable habitat along 100 miles of coastline. It includes habitats such as maritime and pine forests as well as estuarine and freshwater habitats. Invasive species have had an impact in the coastal area for many decades and significant effort has been exerted to manage them and eradicate if possible. In March of 2012, the Coastal Georgia Cooperative Invasive Species Management Area (CoGA CISMA) was established to work across Federal, State, Local, and private lands for invasive species management. The CISMA covers 11 counties and includes approximately 3,900,000 acres. This area also contains two major ports with close proximity to a third in Florida. By focusing on the ecologically significant coastal landscape, this CISMA strives to manage invasive species more effectively and increase early detection and rapid response efforts through diverse

partnerships and innovative outreach efforts. Our innovative projects such as invasive species playing cards, billboards, and film festivals have reached nontraditional audiences. Several creative partnerships have also allowed us the benefit from the intern labor force to help us with intensive treatment methods such as the hack-and-squirt treatment of trees and by increasing our education and outreach efforts. These factors as well as our status as one of four states in the nation without a noxious weed list, make invasive species a chronic and pressing issue. While growing and learning, this CISMA is working to affect positive change in invasive species management to protect our valuable and sensitive coastal ecology.

MONROE COUNTY HEIFER EVALUATION AND REPRODUCTIVE DEVELOPMENT: ASSISTING PRODUCERS SELECT AND MARKET SUPERIOR REPLACEMENT HEIFERS FOR ADDITIONAL REVENUE OPPORTUNITIES

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Replacement heifers are vital to the continuation of sustainable and profitable beef cattle production. Because producers are continuously seeking to improve efficiencies in brood cows and herd genetics, it is in the best interest of the producer to retain only females that excel reproductive and confirmation standards. Through the Monroe County Heifer Evaluation and Reproductive Development (HERD) program, beef cattle producers in Monroe County are able to select and market superior replacement heifers for additional revenue opportunities. Working closely with eight producers more than twenty different measures of data on reproduction, disposition, breeding, pedigree and gain were recorded by the Extension Agent on 450 heifers during the period of November 2018 through April 2019. After the initial screening test, the better quality heifers were selected as HERD program heifers while heifers that did not meet minimum requirements were culled. Sixty heifers were catalogued for the Monroe County HERD Bred Heifer Sale. From the sale, a total of $104,150 of revenue was generated for Monroe County producers from an average sale price of $2,107 per heifer and the overall highest selling heifer was $3,800. Artificially Inseminated heifers sold, on average, $959 more than similar heifers that were bull-bred. After fifteen successful years, the Monroe County HERD sale is continuously proving that Georgia producers are in demand of high genetically superior bred-heifers in order to continue to improve their own herd genetics and are willing to pay a premium.

4-H TEEN CONSERVATION EXPERIENCE

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The 4-H Teen Conservation Experience provided an opportunity for 4-H youth who have a passion and love for entomology, natural resources, and environmental 4-H projects to expand their knowledge for why conservation is vital. 4-H Teen Conservation Experience was held in Jekyll Island at Georgia 4-H Camp Jekyll. Nine teens, ages 14-18, who had previously participated in Florida 4-H entomology-related projects were invited to attend from across north Florida. The three-day overnight experience exposed the teens to careers in conservation, on-going research, and local ecology. The weekend included a trip to CoastFest, a local conservation festival, collecting insects, salt marsh and island beach ecology lessons, and tracking rattlesnakes through the marsh while learning about the ecosystem and the importance of field research. The Florida 4-H teens who have participated in environmental education projects for multiple years and came together for the inaugural "4-H Teen Conservation Experience" weekend are working to create an state-wide Conservation Corps. This board will work together to focus the curriculum development, conservation implementation, and service project expansion. The teens had the chance to meet with conservation specialists, educators, and researchers to learn about their roles in conservation and environmental education. The teens left with lifelong friends and a new appreciation and understanding of the different forms and levels of conservation and how important it is for the future.

AT THE WATERS EDGE - CITIZEN SCIENTIST SURVEYS OF DIAMONDBACK TERRAPIN POPULATIONS IN THE FLORIDA PANHANDLE

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Diamondback terrapins (*Malaclemys terrapin*) are the only brackish water turtles in the United States. These terrapins inhabit coastal marshes and mangroves from Cape Cod MA to Brownsville TX. The population status of this animal has changed over time with commercial harvest, incidental take in the blue crab fishery, and loss of nesting habitat due to coastal development. Many become roadkill on highways, drowned in crab pots, and up to 90% of their nest are depredated by the raccoon (and other animals). Today the illegal pet trade has added extra pressure to indigenous populations. Within this range there is a large knowledge data gap concerning their status in the Florida panhandle. It is not known how frequently they are nesting, if populations are stable, or if there are issues with derelict fishing gear and illegal harvest. This is a national and state concern.

In response to the knowledge gap, Natural Resource Extension Agents with the University of Florida IFAS Extension and Florida Sea Grant program in the Florida panhandle have partnered with USGS to develop the Panhandle Terrapin Project. The goal of this project is to train citizen science volunteers to survey known, and potential, nesting beaches for the frequency of nesting, predation of those nests, number of individual heads found in the lagoons, and assist the USGS with mark-recapture of these animals. UF IFAS Extension and Florida Sea Grant conducts volunteer trainings in March, as volunteers survey their assigned beaches from April 1 to September 30.

Citizen science surveys began in 2015 and continue. UF IFAS Extension and Florida Sea Grant has trained 72 volunteers to monitor terrapin activity. During that time, volunteers have been able to (1) determine that terrapins do exist in each of the panhandle counties, (2) identified 5 nesting beaches in two of the six counties surveyed, (3) were able to capture, mark, and collect tissue samples from two animals. To date, a total of 27 trainings have occurred with 576 surveys conducted. Volunteer data collection continues so that federal and state natural resource managers have a long-term dataset for critical management planning.

BEST MANAGEMENT PRACTICES VIDEO SERIES HIGHLIGHTING AGRICULTURAL PRODUCERS IN THE SUWANNEE VALLEY

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In 2019, a group of University of Florida/IFAS Extension agents developed an eight-video series highlighting the historic changes and adoption of Best Management Practices (BMPs) being implemented on farms. The videos feature a variety of successful conservation farming practices in the Suwannee Valley. Some of the practices targeted include; usage and impacts of soil moisture sensors, improved nutrient stewardship, and soil health topics such as rotational grazing systems, conservation tillage, and benefits of cover crops. The videos were launched weekly on social media accounts and YouTube and were used during presentations of local stakeholders to their intended audiences, reinforcement during Extension presentations, and stakeholder websites. In addition to the hundreds of viewers through email blasts and classroom training audiences, all social media metrics provided a total of 18,440 interactions of the videos. The videos averaged a reach of over 2,000 people on Facebook and 165 views on YouTube. The momentum built by this project has stimulated synergy to continue the effort on behalf of the farming community on a broader scale in North Florida.

CENTRAL FLORIDA SMALL RUMINANT PRODUCTION CONFERENCE

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Small ruminant production is popular in Florida due to niche marketing opportunities for meat, fiber, and/or milk products. Small ruminants require proper management to be most productive and reduce the overall death loss across species attributed to non-predator causes such as environmental stress, dystocia, and internal parasites (USDA, 2015). Sheep and goats account for more than 35,000 head of animals in the top ten producing counties of Florida. Central Florida is home to the top sheep and goat producing counties, therefore the Central Florida Livestock Agents Group developed a Small Ruminant Production Program that has occurred annually since 2013. Topics have included parasite prevention and control through FAMACHA, marketing strategies and business models for small ruminant production, milking parlor practices, forage production, animal nutrition and health, as well as animal selection criteria. All programs have incorporated classroom lectures and hands-on demonstrations utilizing state and county faculty as well as local farm cooperators. A total of 251 people have participated in this program since 2013. When asked to evaluate management practices 100% of participants indicated they would change at least one practice such as routinely monitoring body condition scores of animals, forage testing and toxic weed control, invest in cool-season forages, strategic use of anthelmintic drugs, and selection of animals based on confirmation. As a result of the first two years of this program, FAMACHA trainings were implemented to properly educate small ruminant owners on anemia and its correlation to gastrointestinal parasites. 45% of survey respondents reported these trainings as the key strategy in their parasite control plan along with proper pasture management. This program has developed a state-wide reputation and will continue to be a mainstay event for the livestock agents of Central Florida.

COLLABORATIVE BLUEBERRY GALL MIDGE MONITORING IN CENTRAL FLORIDA

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Blueberry gall midge (BGM) is a new blueberry pest that threatens Florida production. This minute insect lays its eggs in the blueberry buds. The resulting larvae eat the buds, destroying flowers and leaves and thus impacting yield. Detection is difficult and timely sprays are required to prevent damage. **Objectives**: This program was developed to assist growers in making decisions about BGM control to minimize unnecessary sprays while maintaining production. **Methods**: Regional agents and the Blueberry Extension Coordinator set up traps and monitored BGM populations in Central Florida farms on a weekly basis throughout the flowering season. 15 farms were monitored in 2018/19 and, of these farms, the 2 farms in each Agent's region with the highest BGM populations (8 total) were monitored in 2019/20. Population tallies were reported to the Blueberry Extension Coordinator who collaborated with the Florida Blueberry Growers Association (FBGA) to rapidly disseminate data to growers. FBGA members were surveyed to determine if this program helped them reduce sprays or increase yields. Following the completion of the 2018/19 monitoring program, an educational program was provided with seminars on blueberry pests including hands-on identification exercises with an emphasis on blueberry gall midge. The 2020 educational program is postponed due to COVID-19. **Results**: All survey respondents, 29% of whom own 100+ acre farms, indicated that they used the published results of the monitoring program to assist in making spray decisions. 57% reduced their pesticide use and 57% observed reduced pest damage. Growers reported reduced production costs. Twenty-two growers attended the educational program in Spring 2019 and responded positively to an exit survey. **Conclusions**: 1,345 BGM were identified across 15 farms in the region during the danger period in 2018/19. 221 BGM were identified in 8 farms in 2019/20. The program resulted in diminished damage, reduced pesticide use, and grower savings.

COOL-SEASON FORAGES TO ENHANCE THE BOTTOM LINE OF SOUTHEAST BEEF OPERATIONS

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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 project was a collaboration with University of Florida Agronomy specialists who provided the Marion County Extension agent with cool-season forage seeds for both beef cattle production interests and wildlife food plots for deer farm interests. The agent worked with a local cattle producer and deer farmer to plant the cool-season forage demonstration plots on the cooperators land. The primary objective was to showcase the results of the forages adapted to the region for the 120-day cool season, the planting and establishment methods, fertilization regime, and grazing management best suited for maximum forage production. 90 days post planting the agent held a field day for ranchers in the area. 54 people attended the program, representing over 3,500 acres and 1,000 head of cattle in Marion County. The agent partnered with University of Florida wildlife researchers to provide deer health topics at the field day, an ancillary benefit many of these forages in the demonstration possess. 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

CREATING A WILDLIFE AND INVASIVE SPECIES EDUCATIONAL (WISE) WORKSHOP

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Invasive species are severely impacting Florida's native fauna and wildlife. Florida has more invasive species than anywhere in the United States. Latest estimates state that $90,836,680 has been spent between 1999-2000 on exotic animal and plant control. In fact, 1.7 million acres have been affected by invasive plants alone. Educating residents on the identification and proper removal of exotic invasive species will help protect Florida's unique and fragile ecosystems.

The Wildlife and Invasive Species Educational (WISE) workshop was first created in 2016. The goal of WISE was to provide continuing education for Master Naturalists, Master Gardeners, Cooperative Invasive Species Management Area (CISMA) members, and other advocates promoting native wildlife and the control of invasive species.

154 participants attended WISE. Eventbrite was utilized for registration. WISE was promoted using local media, social media, and flyers. Participants demonstrated a 35% increase in knowledge gain, as measured by pre and posttests.

WISE offered Continuing Education Units (CEU's) in Agricultural Pest Control, Aquatic Pest Control, and Demonstration and Research.

The 2020 WISE was a three-day event. The first two days consisted of presentations by educators including UF/IFAS Extension Faculty, UF/IFAS Extension Specialists, CISMA, and the Florida Fish and Wildlife Conservation Commission (FWC). The third day consisted of a tour of the Florida Bass Conservation Center, guided hikes to several local wildlife management areas and parks by Extension Faculty.

Topics for the 2020 WISE included landscaping for wildlife, horseshoe crabs, venomous snakes, pollinators, the Florida black bear, living with panthers, goliath grouper, invasive fish, nuisance wildlife, gopher tortoises, and invasive plants.

Educational booths consisted of CISMA, FWC, Master Naturalist, Hernando County Audubon Society, UF/IFAS Sea Grant, Clearwater Marine Rescue Center, UF Honeybee Research and Extension Lab, Center for Aquatic and Invasive Plants, and UF/IFAS Bookstore.

DELIVERING A UNIQUE APPROACH TO PESTICIDE SAFETY TRAINING ACROSS MULTI PROGRAMMATIC AUDIENCES

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The objectives of this program were to increase knowledge about pesticide residues, the importance of personal protective equipment (PPE), and encourage a behavior change to begin wearing PPE if they were not already wearing it correctly. The program has developed over the last three years and was originally adapted the "Florescent Tracer Manual" from Washington State. The program is flexible depending on the audience need and has been taught in 30 minute to 2 hour sections. It includes an instructional media presentation plus activities using tracer dye to demonstrate pesticide residue. The activities are either woven into the discussion time or sometimes set up as group activities depending on the situation and instructor. The activities were created to be adaptable across multiple pesticide applicator industries, including pest control professionals, landscapers, and agricultural producers. In most of the training, we present scenarios to the audience which they then have to interpret which PPE to use and how to wear it properly. Someone then actively puts on the PPE and continues to "interact" with the pesticide (tracer dye). This might include answering a cell phone before removing gloves, touching a steering wheel, or using damaged gloves. Black lights are then used to make the invisible dye glow showing where the residue has traveled. Not only is it a fun activity and interactive, but makes the learner re-think how they wear PPE's in their daily routines. By not being able to see the dye and then illuminating it really drives home the point of how important it is to correctly wear PPEs. After seeing it presented at a state conference, Massey Services employed a similar training and Univar Solutions also asked to use our materials and has done training throughout the state. To date, over 10 programs and 270 applicators have gone through this training with UF faculty or Univar representatives. Through this unique pesticide safety training, pesticide applicators saved a combined potential of **$17,000** (34 X $500) for the individuals who said they would be more mindful of or change how they wore safety equipment during a follow-up or exit survey.

EVALUATING THE PROFITABILITY OF GRAZING WARM-SEASON ANNUAL FORAGES

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Many producers plant and graze warm-season annual forages to provide a high-quality forage during the late spring and summer. On-farm economic evaluations were conducted to determine whether producers were economically planting and grazing warm-season annual forages. Six producers planting and grazing warm-season annual forages were identified. Each operation was evaluated based on their level of forage production, forage utilization, and cost of forage production. Enterprise budgets were developed for each individual operation to determine their cost of forage production. Values for the estimated level of forage production and forage utilization were obtained from the producer. Five of the six producers evaluated planted and grazed warm-season annual forages economically. The net return to Florida's farmers and ranchers was $56,568 and the economic impact this program had on the State of Florida was $104,624. Each of the producers completed an evaluation survey: 74% will make a change to their operation based on the information shared, 82% will continue to develop and use enterprise budgets for their system, and 26% will increase their number of planted acres next year. We received positive feedback from producers about their interaction with the agents and specialists that were involved with this program. The knowledge gained by those involved will enable them to be more prepared for future production years.

EXPERIENTIAL LEARNING TURNS COMMUNITY FOOD WASTE INTO COMPOST GOLD

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According to the Environmental Protection Agency, the US throws away 37 million tons of food waste annually. This waste combines with anaerobic conditions in landfills to create methane, a gas 25 times more harmful than CO_2. Landfills comprise 18% of total methane emissions in the US, contributing to climate change. To decrease this problem, UF/IFAS Leon County agents conducted 18 hands-on workshops from 2017-2020 focused on reducing food waste.

The main objectives of the workshops were to teach the community environmental benefits of recycling food waste and how to recycle and use food waste as a soil amendment. To accomplish these objectives, attendees were given digital copies of the presentation and factsheet, were asked to follow-up post-workshop, and received hands-on experiential learning. Workshops were either focused on vermiculture, where participants assembled bedding and *Eisenia fetida* worm species into multi-tiered vermicompost systems to take home, or thermophilic composting, where participants observed an active compost system, were taught how to use a compost thermometer, and assisted in flipping a pile. Of 145 participants surveyed, 81%, 83%, and 92% increased their knowledge of the benefits of recycling food waste, materials to create compost systems, and compost system maintenance, respectively. Follow-up consultations revealed many positive program impacts. For example, one workshop participant reported they started collecting five 5-gallon buckets of food waste weekly from both a local restaurant and coffee shop to make compost for their local community garden. Another follow-up consultation was with a Leon County librarian who brought the vermicompost system constructed at a workshop to the downtown library, where it has been in production for three years. A follow-up consultation with a participant who worked at a popular local plant nursery revealed that they took the vermiculture knowledge gained to start raising *Eisenia fetida* at the nursery and sold "Worm Composting Starter Packs" to the public that contained the factsheet created by Leon County Extension. In conclusion, this educational program effectively decreased food waste in Leon County and positively impacted the community by teaching participants the importance of recycling food waste and how to be successful at recycling food waste.

EXPLORING FOOD SYSTEMS IN SOUTHERN ITALY WITH FLORIDA MASTER GARDENER VOLUNTEERS PRODUCES STATEWIDE IMPACT

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Objective: To provide an international food systems educational opportunity for Florida Master Gardener Volunteers (MGV's), where participants increase their knowledge of agrotourism, fruit production, and alternative fruit crop selection for Florida. **Methods:** Study food systems of Southern Italy by exploring agricultural enterprises in pomegranate, lemon, apple, olive and wine production; botanical gardens and other edible landscapes. Other areas of concentration included sustainability, cultural methods, and integrated pest management. **Results:** On-site focus group revealed an increase in knowledge and awareness of sustainable agricultural practices. Of the 31 MGV's who participated in the Food Systems Tour of Southern Italy, 74% (N= 23) responded to a 2 month post-trip survey, revealing an average increase of horticultural knowledge between 68%-88%, depending on the site location. 100% of the 20 who responded to a 5 month post-trip survey, shared information they learned with others, including other MGV's, community members, friends, family and extension clientele. They reported sharing information about crops, sustainable horticulture practices, agrotourism, Mediterranean diet and food preparation, wine, and alternative crop techniques via workshops, videos, extension publications, PowerPoints, consultations, plant clinics, phone desk, and planting crops studied on tour. 50% of participants reported an increase in their local food purchasing practices. **Conclusion:** MGV's shared their gained knowledge with Floridians throughout the state. Sharing their global experiences with fellow volunteers and clientele can help disseminate information to bring more awareness of food systems, agrotourism, and potential for alternative fruit crop selection in Florida.

FIELD TO FORK: BUILDING AG AWARENESS AND LIFE SKILLS IN YOUTH

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As farmland continues to decrease and cities grow, consumers are further removed from agriculture and where their food comes from. Younger consumers are more likely to eat out or purchase prepared foods and less likely to cook at home. Many youth lack an understanding of our food system, as well as the life skills they need to purchase and prepare food. Gardening, cooking at home, and purchasing local foods instead of eating out are ways to not only help address rising obesity in our county, but also support local agriculture. The purpose of this educational program was to 1) increase youth awareness of agriculture production, 2) build life skills for growing, preparing, cooking, and grilling their own food, and 3) for youth to begin gardening, cooking, and grilling at home. The camp was a week-long from 8am – 4pm each day for ages 11 -14. The program used multiple delivery methods such as hands-on demonstrations, PowerPoint presentations, interactive games, and team building activities. Through partnerships with local businesses, campers were able to tour a local blueberry farm, hog farm, meat processer, farm to table

restaurant, and grocery store. Hands on activities included cooking, knife skills, grilling, gardening, meal planning, shopping, and a work experience in a local restaurant. A total of 11 youth attended the day camp of which 11 completed the pre/post test and evaluation. 100% (11/11) reported knowledge gain in gardening techniques, soils, and food safety. 91% (10/11) were more aware of agriculture and the food supply chain and 72% were more interested in a career in agriculture. 10/11 parents completed the follow-up survey. Of those who responded, 100% noticed changes in their child's behaviors since attending camp. Changes included planting a garden and cooking and grilling at home. A day camp with hands on experiences is an effective way to engage youth, increase agriculture awareness, and build life skills.

FLORIDA PEANUT DIAGNOSTIC SURVEY

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In response to a widespread peanut collapse observed among North Florida growers in 2017, the University of Florida Research and Education Center-Suwannee Valley developed a process known as the "Florida Peanut Diagnostic Survey". The survey was a collective effort among Extension Agents, peanut growers, industry leaders, and University of Florida researchers. Data of plant disease and environmental conditions was collected, shared, and analyzed in order to mitigate the risk of future crop collapse. A central online data repository was developed to allow researchers and vested partners to view historical environmental data, track instances of disease, and correlate data points across broad geographical locations. This nexus of agents, growers, and researchers working in conjunction, fosters industry relationships and empowers growers faced with mercurial environmental challenges. Factors such as disease cycles, spread, and underlying environmental correlations can be observed and studied inter-seasonally and knowledge gained may serve as an insulator against future crop loss or even collapse. In 2019, the agent team observed a 250% participatory uptick in analyzed sampling from across seven Florida counties. Anticipated growth should provide the critical mass necessary to sustain the long-term project and produce meaningful results for agents and growers alike.

FLORIDA-FRIENDLY LANDSCAPING: A GRASS-ROOTS RESIDENTIAL PROGRAM THAT PROMOTES URBAN ENVIRONMENTAL STEWARDSHIP

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Situation: The State of Florida projects its population of 20 million will grow to 26 million over the next two decades, increasingly taxing available water resources and polluting surface and ground waters. **Methods:** 1) UF/IFAS administers FFL, with funding from the Florida Department of Environmental Protection and the US Environmental Protection Agency. 2) FFL provides educational outreach to residents, homeowners, builders and developers through its Florida Yards & Neighborhoods program and to commercial landscape professionals through the Green Industries Best Management Practices (GI-BMP) program that emphasizes water conservation and the reduction of nonpoint source water pollution through reduced water, fertilizer and pesticide use. 3) Statewide Extension Agents and Master Gardeners engage citizens to implement landscape and water sustainability practices. 4) Professional programs offered in multiple languages: English, Spanish and Creole. **Results:** In 2018, FFL reached 220,000 home owners saving 386,541,761 gallons of water (enough to supply 4,393 additional households for

one year), $1,279,453 on utility bills, and $1,005,009 by utility companies on water preparation and delivery costs. From 2006-2019 over 63,918 landscape professionals have been trained in FFL™ GIBMP with over 54,139 becoming GIBMP certified. Professionals report positive changes in fertilizer, pesticide and irrigation practices, and changes in attitude and ability to communicate FFL™ principles to clients as a result of program education. **Conclusions:** A strategic study on Florida's water resources, *"Water 2070: Mapping Florida's Future - Alternative Patterns of Water Use in 2070"*, found that the state's ongoing FFL™ program is fundamental to reducing future water demand and protecting water quality. Florida's 2009 state legislation found FFL™ serves a compelling public interest in water conservation, protection and restoration. Deed restrictions or local ordinances may not prohibit FFL™ use by homeowners. FFL has achieved statewide impacts and recognition through documented knowledge gain, behavior change, principle implementation and professional certifications.

GROWTH COMES FROM PALM SCHOOLS

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In 2019 Spring and Fall Palm Schools were offered to residents, representatives of the green industry and extension agents from Sumter and surrounding counties. The purpose of these workshops was to provide participants with the knowledge of not only palm anatomy, but also insight into palm selection, nutrition and maintenance. Participants became familiar with palm insects, diseases and disorders. Each Palm School included essential topics that were covered, but also focused on specific problems such as lethal bronzing. This educational program was achieved through presentations by UF/IFAS Extension specialists and extension agents with specific expertise with palms. The objective of Palm School was that attendees will demonstrate a knowledge gain of 25% knowledge increase upon completion of the workshop classes. In the spring palm school, 60% (n=84) of responding participants averaged a 27% increase of knowledge about palms. This knowledge gain may lead to proper palm selection and maintenance resulting in healthier palms.

HAY SAMPLING, IT WAS NEVER ABOUT THE DATA

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The goal of this educational project was to start an educational conversation about hay quality that would be listened to by producers. The number of samples sent to the UF/IFAS Extension Forage Testing Laboratory for quality analysis was approximately 5 per year, yet Columbia County hay sales are $6 million plus per year. Hay producers fall into three categories: 1 - produce for their own use; 2 - produce for their own use and sell the rest or; 3 - sell all they produce. Hay in the southeast is sold by the bale or the roll no matter the size or weight and forget about the quality. There are distinctions made about horse quality versus cow quality and barn kept versus outside for pricing purposes. However, no one in this project was sampling their hay to have for their own use or share quality results from a laboratory. Samples were taken after each cutting, either in the field or once it was picked up out of the field. Forage samples were sent to two separate laboratories depending on their assigned group. Bermudagrass hay tests ranged 8% - 16% CP and TDN 50% - 64% with bahia grass CP falling between 6% to 14% and TDN ranging from 43% to 59%. Quantity data was taken but no weights were available, so measurements are not comparable. However sampling was never about the data collection, it was about starting a conversation with one producer at a time and talking about their particular operation. The measured results opened up new dialogue about more than CP and TDN in their hay. Two producers allowed soil moisture probes to be installed to just see what was going on and multiple weed calls, fertilization questions, cutting in the morning versus afternoon information. All data collection did was start the conversation.

HILLSBOROUGH COUNTY HORSE OWNERS LEARN ABOUT MANURE MANAGEMENT AND BENEFITS OF COMPOSTING

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Situation: Best management practices (BMPs) for horse farms comprise an integrated approach to reduce the environmental impact in Florida soils and wetlands. BMPs provide a nutrient management plan based on farm size, year-round forage availability, climate conditions, pasture fertilization, integrated pest management, and manure management strategies. Horse manure contains water, macro and micronutrients, and potentially pathogenic microorganisms. Unmanaged manure piles can result in pathogens, offensive odors, leaching of nutrients into groundwater, and contamination of water bodies from nutrient runoff, causing negative impacts for water quality, human and animal health. Composting is a practice through which nutrients can be recycled for use in pasture systems, gardens, and nursery beds. Effective compost management and use can improve soil conditions and reduces the amount of waste generated.

Materials and Methods: In 2017, a collaborative team of private sector, state agency, and University of Florida extension personnel (state specialists and county faculty) initiated formal meetings to address horse manure issues on small equine farms and provide solutions to reduce the environmental impact of manure waste in water bodies in Hillsborough County. As a result of these meetings, the team created a series of workshops held in June 2018 and April 2019 to improve horse owner knowledge of composting. Workshops consisted of a combination of classroom instruction and hands-on demonstrations. Topics covered included an introduction to the importance of water quality protection and BMPs, "how-to" compost, compost quality, and how to use finished compost.

Results: A total of 44 people participated in the horse manure composting workshops. Program evaluations demonstrated knowledge gain (n=9) in the impact of manure on water quality, building a compost bin, proper location of compost bins, and how to use the compost in their operation. Sixty-nine percent of participants indicated they would share the information and knowledge gained with others. Fifty-four percent reported they would construct a composting area on their property, and forty-six indicated they will change at least one practice based on the information presented.

Conclusion: Composting workshops have been effective in improving Hillsborough County horse owners' awareness of on-farm nutrient management practices that promote water resource protection.

HOW TO START A SMALL RUMINANT PROGRAM

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Throughout the north Florida region an increase in small farms with small ruminants as an enterprise has been on the rise. The demand for locally made products from goats and sheep as well as the thought that these animals are "easier" than larger grazing animals has driven this type of farm or ranching activity. Therefore, the University of Florida/Institute of Food and Agricultural Sciences Extension (UF/IFAS Extension) Columbia, Hamilton, and Suwanee Counties partnered with Florida Agriculture and Mechanical University (FAMU) to develop a program to educate producers and assess the needs of those producers. FAMU already has a well-established and successful small ruminant program, thus the idea was to deliver one aspect of that program in combination with additional resources and information from UF extension to producers outside of the Tallahassee area. Ultimately the three Livestock Extension Agents from Suwannee, Columbia, and Hamilton, decided to partner with the FAMU small ruminant program coordinator to deliver the program in each county. All three counties either had no previous listserv of producers or had an outdated list. With the lack of contacts, programing was advertised using a flyer that was shared with any available contacts, through social media, posted at local venues and a newspaper article was written for the local newspaper that reached two of the counties. The goals, for this first meeting, were to: assess the number of small ruminant producers; determine what information was needed/wanted; and finally when and how did the producers want the information delivered. The same program material was offered at each location, with a single meeting in each county. The program focused on the end goal of livestock production, marketing. The program offered practical, profit driven information to

those producers already in the business and allowed those deciding to better make a decision. Total attendance was 63 individuals from within the counties and surrounding areas. General interest extended even further down the state. Our goal of creating a listserv for each county was met and through survey data collected future program ideas have been offered.

INTERNATIONAL ENGAGEMENT TO ENHANCE LOCAL AGRITOURISM

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Agritourism is the blending of agriculture and tourism together, offering visitors a unique educational experience while generating income for the farm. This type of on-farm experiential learning has been on the rise over the last decade as people try to find a stronger connection between what they eat and how it is produced. The success of agritourism for a farm is dependent upon the positive encounter that the visitor has and its lasting impact. Adding agritourism to an agriculture enterprise can be lucrative, but it requires a different business and marketing strategy that most farmers and producers might not have. Extension agents can be a valuable resource if they have the experience and knowledge in agritourism concepts. Gaining this type of proficiency and skill cannot be achieved by investigative study alone but must be supported with real-time experiences.

In October 2019, Extension faculty from different universities, including the University of Florida, embarked on a 10-day agricultural educational travel experience of Ireland. The objective was to enrich extension programs by increasing knowledge of sustainable farming practices and agritourism in Ireland. Attendees visited various types of large and small scale farms (livestock, grain, root crops), that hosted groups of visitors, including an agriculture experiment station. Each site was selected to enhance learning with farmers telling their side of the story; how they are adapting to climate change, fluctuating market structures and influences, political decisions such as Brexit, inter-generational farming and the decision to incorporate agritourism as an additional revenue stream.

The knowledge gained from this experience, along with the personal interactions with Irish farmers and extension professionals from across the United States, have helped agents improve their educational programming with innovative ideas and solutions for local farmers looking to add agritourism to their repertoire. Educational lectures have been given on the Irish agritourism experience to over 150 individuals including local producers and Master Gardener volunteers. A factsheet outlining agritourism tips for farmers has been developed. These international experiences are invaluable to extension agents as they search for solutions to many of the agricultural and environmental challenges that face our farmers today.

LIVING ON A FEW ACRES IN ST. JOHNS COUNTY, FL - DEVELOPING AGRICULTURE EXTENSION PROGRAMMING TO MEET THE NEEDS OF SMALL LANDOWNERS

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Situation: Historically, St. Johns County Florida has been an agricultural hub that produced vegetables, beef cattle and citrus. From 2010 through 2019, the population of St. Johns County increased 25% and is expected to continue increasing over the next 10 years. This growth has reduced the amount of land used for agriculture in the County. However, as this transition occurs, residents who own or are thinking of purchasing smaller tracts of land may be interested in starting a production agriculture enterprise. **Methods:** The "Living on a Few Acres" in St. Johns County workshop series was developed to provide basic agricultural production classes on various topics each month to help clientele make decisions on whether to develop an agricultural business on their land. One-hour classes were offered on the third Thursday of each month to address topics of interest. Currently, two series of classes have been developed. The first series included topics related to livestock production such as: beef cattle, small ruminant and backyard poultry production. The second series includes topics related to fruit and vegetable production such as: peaches, muscadine grapes and cottage food laws. To promote these workshops to new clientele,

YouTube videos were developed by the SJC Communications Department and sent to multiple media outlets in addition to traditional marketing efforts. **Results:** Participation for 8 of the 11 classes that have been completed totaled 48 and varied individually from 2 to 17. Although participation seemed low, it was apparent that those in attendance were serious about developing an agricultural enterprise with their small acreage. Several participants have attended multiple classes to integrate various production systems on their farms. Some participants have even used these classes as a networking venue to meet other small farm operations in the area. **Conclusion:** Overall, participants indicated the classes provided the information they expected related to each topic. Although participants who want to move forward with their enterprise will need additional information, these classes have been useful in helping them make initial decisions.

MANAGING SUMMER SOIL MOISTURE THROUGH WINTER COVER CROPS IN NORTHWEST FLORIDA

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Unless a grower can afford irrigation, there are not a lot of options left to manage soil moisture under dryland production. A lot of benefits of cover cropping take years to become apparent, but improved soil moisture is not one of them. Keeping the ground mulched during periods of drought during summer production reduces the "evapo" part of the evapotranspiration equation, and results in increased soil moisture compared to non-covered ground. Soil moisture sensors have been deployed around northwest Florida for multiple years, where producers killed part of their cover crop so we could have side-by-side comparisons of soil moisture and subsequent crop yield with and without cover cropping. **Objectives**: To demonstrate the efficacy of winter cover crops in maintaining soil moisture levels throughout the summer growing season in cotton and peanuts. **Methods**: Rye, a winter cover crop, was established late Fall 2018 in a field that was planted in cotton in 2019. A strip of land was left unplanted in the middle of the field and left fallow. The rye cover was fertilized and maintained till the crop was rolled down and stripped tilled. After establishment of the cotton crop, Sentek soil moisture probes were installed in two plots: in the rolled rye and fallow ground. Soil moisture was monitored throughout the growing season. Crop was harvested in late October. **Results**: Extension activities in the area have demonstrated improved soil moisture status and yield when a persistent cover crop remains on the soil surface during cotton and peanut production. These data are being used to advocate for statewide cost share for cover cropping in Florida, where proposals are currently being developed for $75/acre cost share for cover cropped land. **Conclusions:** Well-managed high residue cover crops can benefit growers that have no irrigation potential on sandy soils. More work needs to be done with mixtures of cover crops and to help get more funding for growers using winter cover crops to offset soil moisture fluctuations.

PESTICIDE SAFETY TRAINING IN THE SUWANNEE RIVER VALLEY OF NORTH FLORIDA

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Each year in the North Florida area, agronomic production meetings are held to assist producers in adopting appropriate pesticide management and crop production strategies necessary to promote sustainability in the Suwannee River Valley. Exit evaluations at these meetings suggested the need to incorporate pesticide safety training to encourage personal safety and provide the continuing educational units, required by Florida Department of Agriculture and Consumer Services (FDACS), for producers to remain certified to purchase and apply restricted use pesticides. In 2012, pesticide safety trainings were incorporated into each of the production meetings offered in Hamilton and Lafayette Counties. Over the years this premeeting safety training model has been adopted at production meetings throughout the Suwannee River Valley. **Objectives**: (1) To provide pesticide safety training to agronomic producers. (2) To provide mandatory continuing educational units (CEUs) to producers with a restricted use pesticide (RUP) license. **Methods**: Pesticide safety trainings were offered as one-hour optional meetings prior to existing county production meetings. Collaboration among Extension Specialists, Extension agents, Florida Department of Agriculture and Consumer Services, Division of Agricultural Environmental Services Specialists, and local agricultural chemical companies created a venue for expertise and information exchange. Topics included appropriate pesticide selection and procedures to safely incorporate them into a producer's pest management system. **Results:** During each 4-year recertification period producers with a private RUP license were able to receive the required 4 core and 4 private CEUs by attending these meetings. Pesticide training

offered during production meetings have impacted over 2,300 attendees during the past 8 years. In 2019 these trainings were attended by 319 RUP license holders in the Suwannee River Valley. A total of 7 core and 14 private CEUs were available to assist producers with recertification. **Conclusions:** Producers have attained information on relevant pesticide use policies, pesticide safety, and implementation. They have adopted record keeping systems, pesticide resistance management practices, created appropriate pesticide storage areas, are calibrating application equipment, practicing safe disposal of pesticide carryover, and have acquired all required personal protective equipment.

POLLINATORS: OUR TINIEST AGRICULTURAL AMBASSADORS

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Situation: Pollinators worldwide are in decline and scientists are concerned about resulting crop pollination deficits and diminishing native biodiversity. There is also alarm from the general public about threats to pollinators. Unfortunately, abundant misunderstanding exists about pollinators, causes of the "pollinator apocalypse" and protecting pollinators. Furthermore, the public lacks an accurate understanding of related agriculture and food systems issues. Educating people about pollinators is an opportunity for Extension to provide science-based information on a wider array of topics including the economic contributions and ecosystem services of agricultural lands and producers. Objectives: 1) Increase participant knowledge of pollinators and agriculture 2) Encourage participant adoption of Pollinator Protection Practices, participation in citizen science projects and actions that support Florida agriculture. **Methods:** The Agent created a Florida Pollinators presentation aimed at general adult audiences, covering pollinating species, creating pollinator habitats, Florida agricultural crops, the beekeeping industry, and responsible pesticide use. While highlighting pollinator threats, the presentation introduces larger issues like climate change, food security, and preservation of agricultural and conservation lands. The Agent also developed an accompanying "Plants for Pollinators" list and a "Pollination Station" exhibit featuring an interactive trivia game to educate the public at community events. **Results:** The Agent taught pollinator awareness to 243 (two-hundred-forty-three) people at seven events (2019-2020). Over 100 people were educated at the pollinator exhibit. Participants in pollinator awareness classes reported taking action as a result of what they learned, including planting pollinator gardens and reducing pesticide use. Formalized evaluation tools were subsequently developed to capture program impacts: 1) A pre-post questionnaire to measure knowledge gain from attending a pollinator awareness presentation 2) A six-month follow-up questionnaire to track Pollinator Protection Practice adoption, citizen science participation, and actions supporting agriculture. **Conclusion:** Demand for pollinator education is high, presenting a unique chance to reach non-agriculture audiences on important agriculture issues. The public has a desire to learn about pollinators and is willing to take action to support them, whether it's planting pollinator habitats, working locally to protect conservation and ag lands that support pollinators, documenting pollinator sightings, or making purchasing decisions that support Florida agriculture.

RAPID DIAGNOSTICS FOR TCAA COMMERCIAL CLIENTELE

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In 2019, the Hastings Triage Laboratory was established at the Hastings Agricultural & Extension Center with support of the Tri-County Agricultural Area (St. Johns, Putnam and Flagler Counties, FL). The farmers were eager for rapid results in times of crop stress and were unhappy with the timeframe to submit and receive a diagnosis from campus.

This laboratory is centrally located within the core of the agricultural community of St. Johns County, and within 35 miles of the furthest farms in the TCAA. The services available include soil and water pH testing, along with electrical conductivity (EC) of irrigation water samples. Immunostrips are available for testing over 20 different viral strains, and 2 oomycete species. The laboratory is set up to culture fungal pathogens on agar media plates, along with a dissecting and compound microscopes that are paired with a camera. This allowed the extension agent to send photos of spores and hyphae to extension specialists when further assistance is needed. Bacterial streaming is the main method to identify if a significant number of bacterial spores are present.

The ultimate purpose of this laboratory is to inform growers if their situation is due to a fungal or bacterial pathogen, or viral if the kits are available for the diseases of concern. We also rule out environmental or abiotic stressors with the use of APS Disease Compendiums, and with assistance from the Plant Diagnostic Clinic on campus. Since the establishment of this laboratory in February of 2019, 78 plant samples were submitted for diagnostics, and 30 soil/water samples were submitted for pH/EC results for a cost savings of $3,420 in testing fees. This laboratory has prevented the unnecessary application of pesticides, reduced water inputs, and identified fungal vs bacterial pathogens and provided recommendations using the Vegetable Production Handbook of Florida to over

1,250 acres of commercial fruit and vegetable production in the TCAA. Crops ranged in value of $5,000 - $15,000 per acre. The farmers have given positive feedback to the timeliness of the diagnostics, and have requested seasonal irrigation water EC testing as we deal with local salt water intrusion.

SOUTH FLORIDA CATTLEWOMEN'S COLLEGE

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Womens' roles on cattle ranches, dairies, and small farms have expanded and evolved over the past several years. Women are emerging as decision makers on cattle operations that have traditionally been managed solely by males. While some women have the educational or experiential background to fill these roles and attend traditional trainings, others need a more tailored approach to match their level of knowledge and style of learning. The 1st Cattlewomen's College was offered in south central Florida after several agents interacted with women who were not comfortable participating in hands-on activities or asking questions with their more experienced male colleagues present. The workshop included hands-on training for cattle processing, beef quality assurance and health, dystocia and reproduction, nutrition and forages, financial management, and media training. Participants were divided into smaller group sizes that rotated through workshop stations to optimize hands-on participation. All classes were taught by women in the industry or extension and class size was limited to ensure participants were able to receive ample hands-on experience. Participants were asked to evaluate their knowledge gain and anticipated effect on their operation as a result of attending the workshop. 77% of participants indicated that this training would help them become more profitable, with 86% of participants planning to implement something new they learned at the training. Knowledge gains were realized across all subjects taught and reached apogee in the areas of beef quality assurance (+45%), nutrition (+44%), and dystocia (+44%). Knowledge increases in the areas of cattle processing (+37%), financial management (+31%) and media training (+23%) were also realized. Based on feedback from participants, the program will be repeated with more advanced training. 41% of participants indicated that the program exceeded their expectations and 55% stated that their expectations were met. Participant feedback will be used to determine how to improve the quality of the program for future workshops.

SPACE COAST GOLF AND SPORTS TURF PROFESSIONALS: SOARING INTO SUSTAINABILITY

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Implementing sustainable turfgrass management practices is a high priority for golf course superintendents and sports turf professionals in Brevard County, an area extending 72 miles along the Atlantic Ocean on Florida's Space Coast. Found here is the Indian River Lagoon (IRL), one of the most biodiverse estuaries on the planet with a diverse array of biota whose existence depends on the quality of the water. Protection of the IRL is a high-priority initiative of county government, and educational programs addressing this need are a high-priority of UF/IFAS Extension. The objective of this program was to educate Space Coast turfgrass management professionals on integrated strategies to stay profitable, sustainable and stewards of their unique landscape. In 2019, four workshops were held reaching a total of 190 participants covering diverse topics in integrated pest and nutrient management. In addition, 61 site visits were performed to support the implementation of strategies presented at workshops. Of the participants surveyed (n=182), 100% reported an increase in knowledge while 94% reported an intent to adopt a new sustainable production practice after attending one of the four workshops. The program will continue in 2020 to actively assist turfgrass growers with implementing the best nutrient, pest and irrigation management strategies that will increase the productivity and profitability of the turf industry in Brevard County while limiting the impact on the Space Coast's abundant natural resources such as the IRL.

STATEWIDE INTERAGENCY COLLABORATION RESPONDING TO THE NEEDS OF STAKEHOLDERS AND POLICYMAKERS

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As the population increases to over 22 million in Florida, and public perception of agriculture changes, agriculture producers are meeting never-ending challenges. Over the years Florida's landscape has changed to accommodate the numerous residents in the coastal areas. Some of these changes have led to environmental impacts and misperceptions about the role agriculture has played. That public issue combined with the lingering animal rights pressure has created a conflict between agriculturalists and consumers. The purpose of this task force was to create simple, easy to use graphics as a tool for cattlemen to educate policymakers and consumers. The ultimate goal is connecting consumers with Florida ranching agriculture and turn misinformation and misperceptions into a healthy and productive conversation about agricultural progress in food production and land management. Through a collaborative effort of multiple UF/IFAS livestock agents and state specialists, the Natural Resource Conservation Service (NRCS), Florida Fish and Wildlife Conservation Commission and the Florida Cattlemen's Association a series of infographics were designed that highlight the positive impacts ranching makes to the environment, how it influences the economy, how ranchers utilize best management practices and how they play a part in a safe food supply. These infographics have been distributed among national policy influencers (128 Senators and Congressmen), state policymakers (160 Senators and Florida Representatives), consumers and ranchers, and on many avenues of social media. It is impossible to gauge how these infographics have truly impacted the agricultural industry. The only statistic that can factually be used is the original post on the Florida Cattlemen's Facebook page which had 86 shares and 17,187 views. Through this effort, consumers and policymakers gain a better understanding of the progressive food system, an appreciation for the efforts made by producers, and clarification of misinformation about the health of our food supply. These infographics foster supportive policy regarding research, national and statewide conservation funding, and ranching advocacy.

THE SPEAKERS KEEP DRONING ON...

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Situation: Anyone operating a drone for commercial purposes must possess an Unmanned Aerial System (UAS) Certificate through the Federal Aviation Administration (FAA). The test that they must pass is called a Part 107 Exam. Our objective was to increase drone prep students' knowledge of Part 107 (drone) subject matter by 80% when measured via pre/posttest. In addition, the passing rate of the UAS certificate would be 80% when measured by a one-month follow-up survey. **Methods:** We designed a two-day course utilizing various instructional methods to teach participants required Part 107 Exam subject matter. Topics included FAA regulations, airspace classification, weather, radio communications, airport operations, aeronautical decision-making, and emergency procedures. **Results:** A total of 20 people completed the UF/IFAS Drone Exam Prep course held in Hernando and Osceola Counties. Pre/posttests showed class participants had a 102 % increase in knowledge (n=20). 100% of course participants who attempted the FAA Part 107 Exam successfully passed and now hold an UAS Certificate (n=17). Follow-up surveys of participants were conducted with 10 responding (50%). Of respondents, 90% felt adequately prepared to take the Part 107 Exam after the UF/IFAS Drone Prep course and 70% believed that the UAS Certificate will aid in a career or financial advancement. **Conclusion:** The FAA stated, "Non-model activities may require almost 350,000 RPs in 5 years, a three-fold increase, providing tremendous opportunities for growth in employment associated with commercial activities of (unmanned aerial systems) UAS". Some participants have furthered their business with the certificate, such as an established photographer that now utililzes drones for photographs. One youth participant started a new drone photography business for the Farmers Market. With this program, our programmatically diverse team has attracted an audience that is new to Extension.

UF/IFAS EXTENSION BOOTH AT THE FLORIDA CATTLEMEN'S ASSOCIATION TRADE SHOW

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To meet the needs of today's cattle and forage producers eighteen Extension agents and four Extension specialists from the University of Florida participated in the Florida Cattlemen's Trade Show at the 2019 Florida Cattlemen's Convention in Marco Island, Florida. The information and demonstrations presented to clientele at the trade show was designed to help producers increase herd production, performance, and profitability by exposing some of the potential risks occurring in cattle markets and presenting possible profit opportunities for the next year. Our extension outreach focused on the needs identified in the Florida Cattlemen's Association Research and Education Priority List. Key areas for the 2019 event were economics, agronomy, animal science, and soil fertility. Over the course of the two-day trade show our Extension professionals interacted with over 1,225 clientele contacts from around the state of Florida and the southeast. Topics that were discussed with producers included Long-Term Economic Trends in the Beef Cattle Industry, Beef Cattle Market Outlook, Marketing 2019 Feeder Calves, Impact that Shade has on Feeder Calf Performance, Drought Management, Weed Management and Identification, Reproductive Anatomy and Physiology, Dystocia, and Identifying the Factors Leading to Bahiagrass Decline in Florida's pastures. Our efforts are to continue to keep producers ahead of the challenging agricultural environment by providing timely production information to help them operate in this volatile marketplace. The continued success of this program has encouraged us to move forward with the planning and expansion of the 2020 UF/IFAS Trade Show Booth at the 2020 Florida Cattlemen's Annual Convention.

UNDERSTANDING EQUINE EXTENSION NEEDS AND PERCEPTIONS OF EXTENSION IN THE HORSE CAPITOL OF THE WORLD, MARION COUNTY, FLORIDA

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Marion County, Florida is arguably the horse capitol of the work and home to hundreds of equine breeds and disciplines. With such a high density of horses, horse owners, and horse farms combined with the environmental challenges face in Florida today, Marion County has unique needs for equine extension programming. To better understand these needs and provide extension programming that addresses the needs of horse owners and natural resource managers we conducted a needs assessment survey of horse farm owners in the Marion County equine community. We surveyed 77 farm owners using a Likert based survey on 30 equine topics combined with more pointed questions on equine Best Management Practices (BMPs) to address environmental concerns and general perceptions of extension assistance. We found in general horse farm management was identified as the most useful to farm owners with 8 of the 10 highest rated topics. Of these 8 topics a general theme was identified of pasture management while the other two topics in the top ten were selection of hay varieties and diseases/infection. In contrast the highest ranked environmental topic on our list was 22nd, with all other environmental specific topics ranking below that in the bottom third. When asked about BMPs specifically, 48% of farm owners were unaware of what BMPs were, 47% indicated they implement BMPs but are not formally enrolled in a program, and only 1% indicated their farm is formally enrolled in a BMP program. When asked if they would accept assistance from extension to implement and enroll in an Equine BMP program only 31% indicated they would accept this assistance. Our finding indicate that equine extension programming may have the highest interested when focused on topics related to pasture management but programs solely based on those topics might fall short in creating impacts and behavioral changes that will address environmental issues. Programming that focuses on changing the perception of horse farm owners to BMPs and being proactive about environmental issues are a necessary first step to obtaining behavioral change in horse farm owners.

VOLUNTEERING IS GOOD FOR YOU! HOW WELLNESS BENEFITS CAN BE SEEN AND REPORTED IN AN EXTENSION PROGRAM

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Extension volunteer programs not only benefit the communities they serve, they also benefit the volunteers themselves. The objective of this project was to demonstrate the health-related benefits seen by Extension volunteers and prove that volunteering is good for you. The many health-related benefits of volunteerism have been documented in various studies and can be realized in Extension volunteer programs such as 4H, Master Gardener Volunteers, and Master Food Volunteers. Benefits include reduced stress, improved nutrition, increased self-esteem, and improved mental and physical

health. Master Gardener Volunteer program coordinators in two Florida counties researched and reviewed health-related studies, created surveys for the volunteers, and compiled data to prove that the information in the studies did in fact prove that health-related benefits of volunteerism are present in the Master Gardener Volunteer program.

In the two Florida counties in this project, Master Gardener Volunteers indicated the following personal wellness benefits as a result of volunteerism..

70% Enabled them to help others

71% Increased ability to research information

63% Helped them meet and interact with other gardeners

57% Improved mental health

52% Helped them stay physically active

44% Gained confidence in using new technology (such as social media, the internet, webinars, email, mobile apps, etc.)

27% Helped recover from a loss or disappointment

73% Increased self-esteem

74% Reduced stress levels

37% Helped them make new contacts that might help with their business, career, and/or paid work.

The coordinators were then able to compile the outcomes and create program objectives, which can be use in state reporting.

The benefits that volunteers gain from volunteering are measured far beyond what we traditionally report but the opportunity is there for us to demonstrate the symbiotic relationship between Extension and volunteers.

YARD & GARDEN FOOD PRODUCTION FOR BEGINNERS

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Situation: Florida's climate and pests create a challenge for growing food crops. The target audience are Marion County residents with little or no experience who want to produce food in their yard or garden. **Objective/Purpose:** Participants will gain knowledge about how to provide for essential crop needs and about specific crops that are well-adapted for the North Central Florida region. They will adopt practices which will allow them to easily and sustainably produce their own food with fruits and vegetables. **Methods:** The program has been offered five times and consists of a two hour presentation that is followed by a tour of a demonstration garden. A step-by-step process was detailed about how to select the most productive and well-adapted crops for each participant's situation. Each fruit and vegetable crop was provided with a profile that covered the key crop production information. Locally produced fruit and vegetables were available for taste sampling. Fruit and vegetables featured in the program were available for purchase or free after the program. **Results:** Programs are well attended (n=90). Evaluations indicated that all participants gained knowledge and 72% specifically stated at least one aspect of the program they intended to implement. After the program more than half of program participants purchased or were given at least one plant. **Conclusion:** This program successfully helps participants who have little to no prior knowledge to begin fruit and vegetable production that will provide a reliable source of food. By having plants available immediately after each program it eliminates the barrier of locating the UF-recommended plants & varieties. Due to the high demand and enthusiastic feedback by participants, this program will help grow the local food system.

2019 CORN IRRIGATION TIMING

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Irrigation efficiency is a focus in Arkansas. Tools are being added annually. All irrigation scheduling tools have been proven by research. For this demonstration soil moisture sensors were chosen to meet this need.

The initial demonstration completed under this program was done using corn. The objective of this program was to increase irrigation efficiency, by making more informed decisions and using irrigation only when is needed by the crop. Water use measurements were used to determine both water and cost savings using moisture sensors.

The Corn Irrigation timing and termination demonstration was conducted utilizing Watermark Soil Moisture Sensors placed at depths of 6 in, 12 in, 18 in. and 30 in. The Moisture data was collected via an Agsense telemetry unit.

The data was interpreted to soil moisture balance using the Soil Moisture Sensor Calculator. The app allows quick assessment of the soil moisture, and with daily sensor readings

gives an indication of daily water usage. From this data, decisions about irrigation timing can be made. Using this data and a rain forecast, it is possible to delay irrigation events and therefore save dollars. Also, without the chance of rainfall, irrigation was used to replenish soil moisture. Decisions to start irrigation was based on a 70 centibar reading from the sensors in the rooting zone. With this reading, silt loam soil should still have small amounts of moisture available to the plant and not cause stress.

Irrigation termination was scheduled through the use previously mentioned technology as well as the University of Arkansas "Factsheet for irrigation termination". By targeting a full soil profile at maturity R5 growth stage, there was sufficient moisture to complete the crop.

By managing the irrigations against the season rainfall, irrigation events were limited to two times with 2" at each application. This is compared to an average year where there would be 5 irrigation events applying 3" each time. This translates into a $22.55/ac savings based on a cost of $2.05 an acre inch or water. With a field size of 66 acres, 19.7 million gallons of water was conserved during the growing season.

BERMUDAGRASS STEM MAGGOTS

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Bermudagrass in Perry County in 2019 showed signs of bermudagrass stem maggot damage. Adults lay eggs on stems near a node and the larvae migrate to the last node and will burrow in the shoot. There the maggot feeds on vascular tissue causing the top two to three leaves to die. As a result, it effects bermudagrass growth. Four insecticide treatments were actually applied for Fall Army Worms in this field. Inadvertently two of the insecticide treatments controlled the stem maggots and two did not. We had full control of the Fall Army Worms and all of the damage was a direct result of the stem maggots. The plots were replicated 3 times for a total of 12 plots in the field. Extension recommendations were followed treating 7-10 days post-harvest. We harvested the plots right before the producer harvested the rest of the field. The purpose of this was to determine yield loss and quality data as a direct result of the bermudagrass stem maggot. Results concluded in treated areas with dry matter in pounds per acre to be at 3,465, and 3,464 in treated plots and 2,603, and 1,730 pounds per acre in non-treated plots respectively. Plot data resulted in a yield difference of 1,735 pound per acre yield loss or approximately 50%. Perry County averages 3 tons per acre per year of hay production on 12,660 acres of bermudagrass. The average cost of bermudagrass hay in this area is $80 per ton which equals $240 per acre per year potentially. So $240 multiplied by 12,660 acres is $3,038,400 of potential hay revenue. If reduced 50% by stem maggot damage the result would be $1,519,200 of lost revenue. Treatment cost for stem maggots is around $24 per acre per year and would be $303,840. That could save Perry County hay producers $1,215,360 after treatment cost. Each treatment plot was sampled and sent to the University of Arkansas Agricultural Diagnostic Laboratory for quality analysis. There was no quality difference between all of the plots.

CULTIVATING COMMUNITY THROUGH GARDENING

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Prairie County, AR is located in what local health officials consider to be a food desert. For DeValls Bluff residents, the closest source of fresh produce is more than ten miles away. Including community gardens in public and low-income housing developments can promote community, increase access to healthy food and support engagement of residents. Arkansas Delta Counties, which includes Prairie County, have seen a decline in population which is directly related to the economic decline in these areas. Which have resulted in insufficient sources of fresh foods. Prairie County Extension partnered with Christopher Homes housing Authority in DeValls Bluff to aid in the providing a accessible garden, teach gardening practices, provide healthy cooking demonstrations, increase physical actives, and improve food security. Many successes came from this program with 53% of the residents were engaged in the gardening process, increasing daily physical activities. 75% increased knowledge of gardening, nutrition, and health awareness. Overall there was a cost saving of over $500 considering travel and cost of produce. This is a continuing project with plans to expand in 2020.

DEVELOPING FUTURE LEADERS - LONOKE COUNTY

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The need to educate our community about leadership is a tremendous responsibility of county agents. Leadership development programs provide benefits to both individuals and the entire community. Leadership programs can assist in identifying issues of community interest, support engagement,

build relationships between community-based organizations, and foster new and inspired leaders. Today's population is technology oriented and do not get the opportunity to experience more traditional leadership roles. Tremendous educational opportunities are always present at county, district and state activities. These avenues give the leaders an opportunity to exhibit their leadership skills. One example is the Lonoke County Leadership program, which provides leaders with the opportunity to improve their leadership skills. It is through educational programs that they acquire the knowledge needed to showcase knowledge gained in a community setting in Lonoke County each year. Educational impact of this program is measured through various means; some of which are leadership in 4-H, EHC and Master Gardeners, specifically leadership related projects and assumed leadership roles. Evaluations will continue throughout the life of this program and we would like to share this information with other agents in the NACAA.

ENLIST HERBICIDE DEMONSTRATION

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Faulkner County is located in the central part of Arkansas and is on the eastern part of the Arkansas River Valley, which consists of row crop land on both sides of the Arkansas River from Fort Smith in western Arkansas to Little Rock in Central Arkansas. The River Valley area has seen an increase in herbicide resistant weeds like pigweed. The Liberty Link system is used by the majority of River Valley producers with good results, but the introduction of Enlist E3 Soybeans has given producers in the area another good tool to help with the fight against resistant weeds. In order to help producers get the most out of a new technology that they weren't familiar with, the County Extension Agent in Faulkner County established a non-replicated demonstration in the Lollie Bottoms area of Faulkner County. Ten treatments were applied on July 13, 2019 and follow up treatments were applied to four of the plots on August 2, 2019. Plots were rated and percent control on several different weeds was determined. The data was distributed through social media and publications summarizing demonstrations from the year. A field day was held on August 13, 2019 to allow producers to see the demonstration first hand. Participants were surveyed and 95% of the participants reported they would use Enlist in the future to help with the battle against resistant weeds.

A HANDS-ON WORKSHOP TO INCREASE GRAZING MANAGEMENT PRACTICES IN ALABAMA

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The Alabama Grazing Academy is a hands-on workshop focused on assisting livestock producers with intensive grassland management. From November 2018 to September 2019, three workshops were conducted at various locations throughout Alabama. These included the Tennessee Valley Research and Extension Center (North Alabama), the Chilton Research and Education Center (Central Alabama), and a producer farm in Escambia County (South Alabama). A total of 65 producers attended the workshops, 77% of participants being male and 23% being female. Participants returned 62% of workshop evaluations (40 evaluations were returned). The workshops were 1.5 days (North Alabama) or 1 day (Central and South Alabama). The program was shortened after participants in the first field day (North Alabama) indicated they preferred a 1-day class. Topics of the workshops included: forage species and diversity, grazing management, soil structure and fertility, temporary fencing, and forage utilization and efficiency. A total of 5,946 acres were managed by participants and the average farm size was 149 acres (n = 40). Participants also managed 2,245 head of livestock, with 100% of livestock being beef cattle. The average herd size was 56, larger than the average herd in Alabama (approximately 25 head/farm). Participant knowledge increased by 28, 29, and 36% for forage species and diversity, grazing management, and soil structure and fertility, respectively (n = 25; $P < 0.0001$). After the workshop, 78% of participants indicated they were going to adopt new grazing management methods within the next 12 months. Participants reported a total of average of $3,805/acre economic impact. The total economic impact of this series of workshops was $22,624,530 for cattle producers in Alabama.

ALABAMA EXTENSION | RUSSELL COUNTY PROVIDES STUDENT LOCAL FOODS TOUR

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The importance of locally sourcing foods has become an important factor for consumers in recent years. According to USDA 2017 Census of Ag, direct to consumer food sales increased annually for over 10 years. Students studying culinary arts in high school now will be the next generation of food consumer and procurer, whether personally or professionally. While a large portion of Russell Counties agricultural output if in the forestry and timber industry, our communities sustains multigenerational cow-calf operations, poultry houses and processors as well as several organic dairy producers. The purpose of this annual educational tour for the students enrolled in the culinary arts programs of Russell County High School and Central High school is to expose them to the rich agricultural resources of our county and for them to become more educated regarding locally sourced foods for their future. The students participate in pre and post tour evaluations.

Questions about Russell County included: 1. Name a food product that we produce? 2. What is the most common process of producing beef cattle? 3. What is our top agricultural commodity?

Most pre-tour answers were incorrect or "don't know" and post-tour answers were 87% to 100% correct. Therefore, we have met our goal of introducing the students to local agriculture.

ALL BUGS GOOD AND BAD WEBINAR SERIES

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The All Bugs Good and Bad Webinar Series (ABGB) was developed as a community effort through the Urban IPM and Ant Pests eXtension Communities of Practice (CoP), Alabama Cooperative Extension System, the University of Georgia Extension, Texas A&M AgriLife Extension, and Clemson Cooperative Extension in 2012. For the last three years, the hour long ABGB webinars have been conducted and delivered to the public via Zoom Video Conferencing, a free video conferencing available to the public. ABGB's target audience often lacks fundamental knowledge of pest biology and pest management. This lack of knowledge often leads to the overuse of pesticides, the use of unnecessarily dangerous pesticides and do-it-yourself remedies, and the over expenditure of time, energy, and money to manage pests. Ten webinars per calendar year on topics of general interest to homeowners, extension agents, and specialists are delivered by speakers considered experts in their field. The webinars not only give the target audience a better understanding of pest biology and available effective research-based Integrated Pest Management (IPM) practices, but also the opportunity to pose questions directly to an expert. ABGB provided continuing education units/credits (CEC/CEUs) for Master Gardeners and commercial pesticide applicators. All webinars are archived on the ABGB YouTube channel (https://www.youtube.com/user/eXFireAnts/featured). The average number of live viewers per webinar in the last three years was 147. Average views of recorded webinar in its entirety after 12 months was 1,379. Surveys are posed at the end of each webinar to live participants and at the end of the year to all viewers. Seventy-two percent of viewers learned a lot from the webinars, 23 percent of viewers learned a little, and 5 percent learned some. Ninety-two percent of viewers planned to implement an IPM measure they had learned. After all webinars, 66 percent reported they had implemented something they had learned from a webinar. The top 3 management practices implemented was proper identification of an insect pest before applying pesticides, proper use of fire ant baits for the effective management of fire ants, and habitat modification for pest management.

BEEF CATTLE RECORD KEEPING UTILIZATION AND APPLICATION: A PARTNERSHIP OF THE ALABAMA BEEF CATTLE IMPROVEMENT ASSOCIATION AND THE ALABAMA COOPERATIVE EXTENSION SYSTEM

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Beef cattle producers engaged in the Alabama Beef Cattle Improvement Association (BCIA) Commercial Record Keeping Program were surveyed to assess application of record keeping to operational management. The Alabama BCIA is a non-profit organization formally engaged with the Alabama Cooperative Extension System in providing education to beef cattle producers. In 2014, the specialized record keeping system utilized by Alabama BCIA transitioned from software-based, centralized processing to an internet-

based system to allow for hands-on use. The application of this new system and its hands-on use was evaluated. A brief, online survey of 14 multiple-choice questions was developed. Question topics included basic demographics, value level, length of use, frequency of use, devices used, record areas, management decisions and meeting needs. The Qualtrics®XM web-based survey tool was used to evaluate results. A response rate of 44.64% was reached from 56 total beef producers surveyed. Respondents represented cattlemen in business for 30+ years 44%, 20+ years 32%, 10+ years 12%, 5 to 10 years 4%, 3 to 5 years 4% and less than 3 years 4%. Cow inventory reflected 50 to 100 cows 24%, 100 to 200 cows 24%, 20 to 50 cows 20%, 200 to 300 cows 16%, 300 to 400 cows 8% and 500+ cows 8%. Longevity of BCIA record keeping reached 20 to 30 years 24%, 1 to 5 years 24%, 5 to 10 years 20%, 10 to 15 years 16%, 15 to 20 years 12% and beginning 4%. Value of performance records rated extremely valuable 72%, and hands-on access rated very valuable 92%. A majority indicated accessing the system weekly 40%, monthly 20% or daily 8%. The most common device was combination of computer and smartphone 36%. The most active record keeping areas were calving records 21.57%, weaning data 19.64% and culling cows based on performance 17.86%. Planned expansion was yearling data for replacement heifers 22.58% and collecting mature cow weights at calf weaning 20.97%. Overall, 88% of the responding cattle producers indicated the internet-based system is definitely meeting their needs.

CRAPE MYRTLE BARK SCALE TASK FORCE HEADED BY THE MASTER GARDENERS OF NORTH ALABAMA (MGNA)

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Alabama has a new insect called Crape Myrtle Bark Scale (CMBS). The beautiful crape myrtles in the city of Huntsville and other areas of Madison County, Alabama are one of the worst infestations in the state. Infested trees have darkened shoots and trunks from sooty mold. The MGNA developed a task force of Master Gardener (MG) representatives from Madison and surrounding counties (Limestone, Morgan, Jackson, and Marshall). The CMBS Task Force is working with Rhonda Britton (Madison Co. Extension Agent), Dr. David Held, and his entomology team at Auburn University for updates on the biology and controls. The CMBS Task Force strategy is to get word out about the insect, how to scout, and to develop a map pinpointing infected trees, as well as other additional handouts. They are engaging the public at community events to inform about the insect. The main objective is to help educate people on the insect and symptoms of infestation as well as urging people to report infested trees. Since they started, at least one county has been recorded and many new locations documented.

DEVELOPING AN INDUSTRIAL HEMP OUTREACH PROGRAM IN ALABAMA

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With the passage of the 2018 Farm Bill and the legalization of commercial industrial hemp production, many Extension systems, including Alabama, were unprepared to provide production and risk management guidance for producers in the state. To meet the needs of producers in the state until research could be established, a group of Extension personnel were assigned to the Hemp Action Team in 2019. The team was tasked with developing general resources through collaboration with experienced growers and Extension across the country that had been involved with hemp under the 2014 pilot project. In November 2019, a series of hemp meetings were conducted across the state to inform growers of what had been learned throughout the year. While no state specific information was available, the team was able to provide risk management strategies, general production practices, financial considerations, and resources available to growers from other universities in the region. Survey responses from attendees provided major challenges for 2019 crop production, particularly production and financial risks, which will be used to develop research trials in 2020. Surveys also reported that a substantial number of growers in attendance (65%) did not utilize or were unaware of services available through Extension. In addition to establishing research within Alabama to identify best pest management practices and variety selection, Extension must also focus on effective methods to reach a grower audience that has had little or no interaction with Extension services prior to hemp legalization.

HARVEST FOR HEALTH PROGRAM

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Harvest for Health (H4H) is an at-home gardening intervention for older Alabama cancer survivors who have completed their primary cancer treatment. H4H aimed to provide participants the means to grow an at-home vegetable garden during a 2-year program. The rationale of the study was that gardening interventions could improve diet and exercise behaviors of cancer survivors who are at greater risk of other disease and poor diets. H4 intended to identify physical and behavioral responses a cancer survivor might have to gardening. Effects measured included diet, physical activity, physical function, quality of life and healthy eating measured by periodic medical assessments.

Methods

The program consisted of 8, 2-year cohorts, beginning with a spring or fall vegetable garden. Cohort survivors (eligible only if they had no prior gardening experience) were divided into two groups – 1st year participants and controls, who would participate in the 2nd year. Resources for the participants included Extension publications related to growing practices and disease and insect management and a garden kit with raised bed or gardening boxes and soil, vegetable plants and seeds, fertilizer, and gardening accessories. Master Gardener mentors met on-site monthly with their survivors.

Results

A survey of the H4H participants showed:

- 92% indicated that they would "most definitely" continue gardening in the future.
- 89% were "most definitely" going to expand their garden size.
- Effects of the intervention on motivating behavior change on 1 to 10 scale: eat a healthier diet (8.9); eat more vegetables (8.1); be more physically active (6.8).

Impacts

H4H has initiated 8 cohorts across 29 of Alabama counties with 91% (387/426) completion. A year later 85% continued their new habits. Fresh produce consumption increased by 1 serving per day. Average BMI change was negative 5.63. Physical function improved for 70% of the survivors. Statewide impact includes media coverage on the success of H4H, which was featured on Alabama Public Television's "Spotlight on Agriculture".

Conclusions

The home vegetable gardening intervention among older cancer survivors was feasible, could be easily replicated and demonstrated improvement in health, behaviors, and well-being of older cancer survivors.

PEER-TO-PEER LEARNING GROUPS AND THEIR IMPACT ON ADOPTION AND CHANGE IN KNOWLEDGE OF BEST MANAGEMENT PRACTICES FOR ALABAMA BEEF PRODUCERS

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During the previous five years, the Alabama Cooperative Extension System Animal Science and Forages Extension team developed an educational program for advanced beef producers called the Systems 360° program. This program was designed to facilitate peer-to-peer learning, and highlighted best management practices in beef operations through hands-on education at Auburn research centers and private farms. In north Alabama, the Tennessee Valley Systems 360° Working Group was offered in 2016-2017 and again in 2018-2019 to producers to highlight practices related to grazing management, facilities, watering systems, value-added marketing of feeder calves, etc. A follow-up survey was conducted using Qualtrics with participants from the program (n = 25 participants; 60% response rate) in winter 2020 to determine level of adoption and relative change in knowledge about practices shared in the program. Survey participants were asked to answer 'Yes or No' to changes in management, rank their relative preference (1, most preferred choice to 4, least preferred; Likert-type scale), or provide open-ended responses regarding various aspects of the program. Producers reported that they benefited most from visiting farms showcasing a given management concept (rank 1 ± 0.07 SE) and getting to know other producers in the group (rank 2 ± 0.08 SE). Program participants reported an

increase in the use of cool-season annuals as part of their farm management, and a 10% improvement in grazing management practices used on their farms. There was a 28% increase in the use of watering systems in forage-livestock operations as a result of participation in this program. Over 70% of the respondents reported that they had made improvements to animal handling facilities or fencing infrastructure on their farms after completing the program. Finally, up to 26% of the respondents noted that they had made changes to their feeder calf management or marketing, which resulted in added value to their calf crop. These observations suggest that peer-to-peer learning groups are a successful model for providing an engaging learning environment for producers while providing management information to effect change on Alabama beef operations.

PROVIDING BEEF TOUR IN-FIELD EDUCATION AT THE 127TH ANNUAL TUSKEGEE FARMERS CONFERENCE

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In-field learning affords an incredible opportunity to engage individuals in ways that cannot be readily reproduced in a classroom setting. Beef cattle producers attending the 127th Annual Tuskegee Farmers Conference had the opportunity to tour a local stockyard and observe behind the scenes of a sale barn before, during and after sale day. The program was designed to provide attendees a better understanding of the cattle business while focusing on the following topics: Cattle Sales and Marketing, Record Keeping, Bull Selection and Beef Quality Assurance. The Alabama Beef Handbook was introduced as an educational resource and as a reference guide for future programs. A survey was conducted with the participants using an audience response system to determine change in knowledge, behavior, and application. Eighteen participants responded to the survey. Sixty four percent of the attendees indicated just beginning or planning to begin in the cattle business. Twenty-one percent of the respondents indicated having 5 to 10 years of experience and 14% having more than 10 years of experience. When asked to indicate their cattle herd size, 86% of attendees owned less than 50 animals, 7% owning 50-100 animals and 7% owning more than 200 animals. When asked the acreage own or leased, 63% of respondents owned/leased less than 50 acres, 13% owned/leased 50-100 acres, 19% owned/leased 100-200 acres and 6% owned/leased more than 200 acres. Participants indicated they were 63% very likely, 6% likely, 13% somewhat likely to adopt the information presented in the next 12 months. Results indicate a continued need for educational materials and educational learning opportunities for new and beginning farmers.

REACHING NEW AND BEGINNING BEEF CATTLE FARMERS THROUGH THE DELIVERY OF THE ALABAMA BEEF SYSTEMS SHORT COURSE

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The Beef Systems Short Course was developed as an introductory program for stakeholders interested in learning more about the basics of beef cattle management systems in Alabama. This program was developed to introduce producers to best management practices/opportunities offered through the Alabama Extension System and targeted

new and beginning farmers and ranchers. There were seven Beef Systems Short Courses offered in fall 2019 throughout the state in the following counties: Chilton, DeKalb, Blount, Franklin, Henry, Tallapoosa, and Colbert. 120 participants enrolled in the program statewide, which represents approximately 16,000 acres and 7,580 cattle reached by this program. 8 topics were taught lecture style over 4 different nights where 2 topics (45 minutes each) were taught each during each meeting. Topics included: Forages; Nutrition; Herd Health; Reproduction; Animal Identification, Genetics, and Records; Environmental Stewardship; Economics; Meat Science. Participants indicated that they heard about the program largely from online advertisement resources (65% from email from Extension, Alabama Cattlemen's Association, Alabama Farmers Federation, a website, or Facebook). 55% of the participants reported that this was their first time attending an Extension program, demonstrating a great level of effectiveness in this program at reaching new clientele. Overall, producers were highly satisfied with the program with an overall rating of 4.7 out of 5 across program topics, and 81% of participants planned to adopt one or more of the management practices shared at the program in the next 12 months. Specific practices included establishing a calving season, proper identification of livestock, and improved forage management strategies (rotational grazing, soil and forage testing). Participants reported significant knowledge gain across topics presented ranging from 49 to 76% increase in awareness and understanding. The total economic impact of the program was $457,150, with an estimated return on investment of 7:1.

NORTHEAST REGION ENTRIES

BENEFICIAL SOIL MICROBES MAY INCREASE SOIL HEALTH IN VINEYARDS

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Farmers operating a vineyard and winery in Southern New Jersey adopted a unique cultivation system for weed control and eliminated all herbicides in the vineyard. As a result their observations showed increased vine health, increased grape fruit quality and anecdotally reported improved wine quality. The growers also observed, an increase in earthworm populations in field soils, improved soil health and better overall plant health. They attributed soil and plant improvements to an increase in beneficial soil microbes. Soil fungi and bacterium are both part of the soil environment. Farming practices can either harm or accentuate populations of soil microbes. Farming practices that reduce or eliminate all fungi and bacterium in soil may make plants more susceptible to soil pathogens and other diseases. Beneficial microbes have many functions to aid in plant growth and help maintain a beneficial soil environment. Soil fungi and soil bacterium not only act as decomposers, but also influence water dynamics, act as nutrient stabilizers, and can be plant disease suppressors; all of which are functions essential to keeping plants healthy. Of course, there are harmful fungi and bacterium, but typically all fungi and bacterium are reduced or eliminated with some production practices, and without much after though of what is happening in the soil environment. Beneficial soil fungi and beneficial bacterium currently have not become widely cultured for crop production in agricultural soils. Farmers using mainly synthetic chemicals for crop production and pest control have not yet broadly realized the impacts on soil microbes or the ability of beneficial soil microbes to naturally control some plant pests. More research is needed to determine if adoption of alternative weed control strategies, void of synthetic herbicides, can improve soil and plant health by encouraging microbial populations to flourish in crop soils.

INDUSTRIAL HEMP PRODUCTION: FREQUENTLY ASKED QUESTIONS

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On December 27, 2019, New Jersey was approved by the USDA to have its industrial hemp program approved. The program is being administered through the New Jersey Department of Agriculture. Rutgers Cooperative Extension and the New Jersey Agricultural Experiment Station established a Hemp Working Group consisting of faculty with topic area expertise. County Extension personnel were inundated with clientele inquiries regarding production of industrial hemp. In order to facilitate questions, an Extension fact sheet titled, "Industrial Hemp Production: Frequently Asked Questions" was written, peer reviewed and published. It is available at https://njaes.rutgers.edu/fs1302/. This information was also distributed at 3 state-wide conferences: New Jersey Farm Bureau Annual Convention, November 18-19, 2019; Northeast Organic Farming Association of New Jersey Annual Conference, February 1, 2020; and the New Jersey Agricultural Convention, February 4, 2020. In addition, a campus-based Rutgers University Hemp Symposium was held on March 4, 2020 to educate students and academic faculty about industrial hemp. In total, 665 people were educated at

face-to-face presentations to answer frequently asked questions about industrial hemp. The Extension fact sheet, "Industrial Hemp Production: Frequently Asked Questions", has had 9,687 downloads since publishing and posting in April 2019. By providing on-line and written information on the topic of industrial hemp production, clientele questions were efficiently addressed and Extension agents throughout the state were able to provide answers instead of passing inquiries on to Rutgers Hemp Working Group members.

SAVE WATER, EVERY DROP COUNTS: DEFINING SUCCESS FOR EXTENSION DISPLAYS

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With a population close to 9 million residents, New Jersey places a high demand on its limited water resources. The current need is for water conservation outreach targeted at residents to reduce their daily consumption of water and ensure plentiful supplies in the future. The 'Save Water, Every Drop Counts' program was started in 2018 with a series of free standing displays that are exhibited throughout towns in Ocean and Atlantic Counties. Objectives of this project are to increase the awareness of residents on water consumption and educate them on practices they can use to conserve water. The displays consist of a presentation playing on a digital picture frame mounted onto a 55-gallon rain barrel. The presentation provides information outlining what people can do every day to save water at home. A flyer accompanies the display so that people who view it can take the information and start work at saving water at home. Between June 2018 and November 2019, the displays have been exhibited at 18 towns and/or events throughout New Jersey with over 80,000 people estimated to have seen the displays. Using these water conservation educational displays, 1,157 flyers have been distributed to residents in the municipalities and at the events where exhibited. This poster covers the practical aspects of developing and constructing the displays, and how we measure impact from remote educational programs. Since the displays provide a form of passive education, impact is difficult to measure but outcome metrics are presented for other Extension educators to use if they wish to develop their own displays.

USING DEMOGRAPHIC INFORMATION TO IDENTIFY SPECIALTY CROP MARKETS

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An educational program and on-line resources were developed by a team at Rutgers Cooperative Extension to identify demographic areas in the State of New Jersey where demands of specialty produce would be in high demand due to ethnic food preferences. The target audience for this program was agricultural service providers and Extension personnel. The goal was to teach how to use population demographics information and market analysis strategies to improve education for farmers. Often, traditional agricultural service providers and Extension personnel have been trained in production methods to assist farmers in growing successful crops. However, training is also needed on marketing and more specifically, on how to help farmers find new markets. The target audience learned how to couple demographic information with ethnic and high value crops in demand from diverse populations so they can better help farmers answer the question, "What can I produce to make money?" Communities with ethnic-centric populations have demands for unique farm products, which are not easily accessible, can be produced from a local source, and farmers are willing to sell to unique markets if the potential exists. Twenty-one agricultural service providers and Extension personnel were trained to utilize resources from this program found at http://sare.rutgers.edu/market-research.html. Of the 21 trainees, 4 adopted the tools learned to provide outreach to extension clientele. Education for this program continues, since resources were completed and released in spring 2019.

ASSESSMENT OF THE EDUCATIONAL NEEDS OF MARYLAND DAIRY PRODUCERS

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Maryland's dairy industry, comprised of 330 farms and 42,000 cows, is valued at $150 million and makes up 7% of all agricultural income in the state. In addition to recent economic hardships, Maryland dairy producers also face a host of additional challenges relative to producers located in other regions of the country, including high land prices, urban development, and strict environmental regulations. The objective of this project was to formally document the educational preferences and major challenges of Maryland dairy producers to help direct future extension programing. To accomplish this, a needs assessment was conducted during the last quarter of 2019. The survey period began on November 15 and ended on December 23. Surveys were mailed to all licensed dairy herds in the state of Maryland (n=337) and consisted of 44 questions designed to collect information regarding educational preferences, production methods, challenges, and future goals of dairy producers. Participants had the option to respond online or by mail. A total of 89 responses were received (26% response rate), with 97% of responses submitted by mail. Most responses were provided by males (77%), and over 48% of respondents were age 55 or older. Rank-type questions were analyzed on a scale of 1 to 4, with 1 indicating no value/interest and 4 indicating a high value/interest. When asked about preferred sources of dairy-related information, the herd veterinarian received the highest rating (3.2), while state dairy associations (1.6) and social media (1.7) received the lowest ratings. Respondents indicated that they were most interested in obtaining dairy-related information from extension in the form of newsletters (2.9) and least interested in online courses (1.5), social media (1.6), and webinars (1.6). Respondents indicated most interest in learning about topics related to soil fertility and forage production (mean scores of 2.9 and 2.6, respectively). When asked to identify limitations to growing or improving their dairy business, respondents indicated that low profits (3.3), land costs (3.0), and government regulations (2.9) were the most limiting. These results indicate that extension should focus our programming efforts on helping Maryland dairy producers improve profitability and maximize land productivity.

COMMERCIAL POULTRY ON-FARM FIELD DAY

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Poultry production is the leading industry on Delmarva (Delaware, and the eastern shores of Maryland and Virginia) accounting for $3.5 billion in total output and 20,391 jobs. This accounts for approximately 70% of the total economic value of agriculture from the area. Additionally, grain and soybean farmers rely on the poultry industry to purchase their products and utilize the manure as fertilizer. The success of contract broiler farm production is directly related to the success of the poultry companies and grain farmers located on Delmarva. In order to help poultry farmers be more competitive, efficient, environmentally safe, and comply with current government regulations, a team made up of University of Maryland Extension, University of Delaware Cooperative Extension, University of Maryland Eastern Shore Extension and members of the Delmarva Poultry Industry, Inc. conducted an On-Farm Field Day for commercial poultry growers. The Field Day was attended by approximately 425 people consisting of poultry farmers, personnel from poultry companies, government agencies and allied industries. In addition, 66 vendors sponsored the event and provided demonstrations of their products. A short survey after the event found that all participants (that responded) reported that it benefited their farm or business, with 98% reporting a knowledge increase. Additionally, 93% reported that they would likely participate in future Field Days. The survey also found the greatest concern for the future of their farms was "government and regulations" followed by "input costs" and "environmentalists."

CONDUCTING NEEDS ASSESSMENTS TO DIRECT EXTENSION PROGRAMMING EFFORTS

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Needs assessments are an important tool for Extension Educators in order to develop programs, allocate resources, and professional development. The University of Maryland Extension (UME) has conducted a number of agricultural needs assessments over the past five years. These assessments were designed to assist UME in three areas which include: understanding issues concerning farmers, identifying educational needs and focusing UME agricultural training resources.

The research was conducted between 2015 and 2019 and include four separate commodity and geographic locations intentionally selected by Extension Educators. Each survey included four sections 1) agricultural priorities, concerns and viability, 2) research and education needs, 3) education and training preferences and 4) demographic and farm information. Results were received from over 500 farmers through paper or online surveys.

Results have been used by educators and administration to direct Extension programming. This poster will highlight the needs assessment tools and process than could be adopted and replicated.

OPPORTUNITIES AND BARRIERS TO ENERGY EXTENSION IN MARYLAND

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While energy use remains a high economic, legislative and environmental priority in Maryland, over 500,000 Maryland households still face an unaffordable home energy burden while 15% of agricultural production costs are expended on energy use. A needs assessment was conducted to better understand the opportunities, benefits and barriers for implementing energy-related programming and outreach through the University of Maryland Extension (UME) to help farmers and residents reduce their energy use and minimize associated expenses. An online survey was first administered to all UME Educators and Specialists (n=98, 33%) in 2018 to assess the educational opportunities, perceived barriers and client-driven needs for programming associated with energy conservation and clean energy technology. Specific programming needs were further addressed and evaluated through in-service training delivered to 32 participants with impacts identified using follow-up evaluations issued after 24 hours (n=14) and 6 months (n=20).

Current UME engagements in energy conservation (16%) and clean energy technology (14%) were attributed to the growing number of questions received from the public associated with energy efficient landscaping (20%), economics (14%), heating (14%), solar PV (15%) and solar leasing (#10%). In-service evaluations further indicated intentions to help others implement energy measures (n=11; 32%), educate others (n=13; 46%), and incorporate energy into UME programming (n=9; 33%). While farmers represent the greatest portion of those clientele currently seeking energy-related information from UME (27%); interest from rural (26%) and urban (16%) residents is also growing. The greatest concerns for UME clientele were perceived to be the high investment costs (M=2.21), lack of financial resources (M=2.12), and lack of technological understanding (M=2.09); particularly considering that 42% of UME clientele were perceived to be '*not at all informed*' on credible sources of energy information (M=0.65).

'*In-service training*' (M=2.48) was identified as the preferred method for disseminating energy-related information; with '*technology demos and site visits*' (20%) and '*workshops/seminars*' (n=11, 29%) as preferred programming formats. While energy-related expertise, training and programming may help to expand UME's role and relevancy in addressing Maryland's energy challenges, these programmatic priorities may have broader applications for Extension professionals delivering unbiased and research-based information throughout the US.

GROWING HEMP IN MAINE

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Hemp can be grown to produce grain, fiber, and medicinal products. Interest in growing hemp in Maine has increased significantly since the 2018 Farm Bill legalized hemp. UMaine Extension planned a one day program to address production, research, licensing, processing, marketing and financial feasibility for farmers currently growing hemp and for others interested in starting to grow hemp. 67 farmers, potential farmers, and agriculture service providers attended the program. In a post program evaluation completed by 40%

of the participants, 44% plan to add hemp or value-added hemp products to their farm. Hemp production, processing, and development of value-added hemp products might be a viable option for some Maine producers, but there are a number of obstacles to overcome. Producers are tasked with finding hemp varieties that can meet the state and federal THC levels while having a high yield of CBD. There isn't a vibrant infrastructure to support testing, processing and marketing of hemp products so individual farmers will need to be able to develop field to customer products for direct sales.

NORTH CENTRAL REGION ENTRIES

MINERAL NUTRITION FOR BEEF CATTLE - EXTENSION PROGRAM

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Participants in the South Dakota Grazing School shared a desire for more training and education related to cattle mineral nutrition. In 2017, this program was developed to assist producers in understanding mineral composition of their forages, water and other feedstuffs and how to develop a mineral program that would improve cattle health and performance. The first class was held in 2017 at the SDSU Cottonwood Field Station. In 2018, the program expanded to include North Dakota with classes held in Dickinson, ND and Selby, SD. In 2019, locations included Mandan, ND and Hot Springs, SD. To date, at total of 48 beef cattle operations and 27 Extension and Industry professionals have participated in the program.

Each year, the program begins in May with a 1 day face-to-face workshop focusing on general mineral nutrition, tools to monitor consumption and tips for collecting forage and water samples for laboratory analysis. Throughout the summer, individual ranch visits are conducted to gain insight into current management of the mineral program and address specific challenges/questions participants may have. All participants are encouraged to submit samples of standing forage, additional feedstuffs or supplements, and water for laboratory analysis. A second workshop is held in the fall to discuss the applied components of how to interpret results from their analyses, reading mineral tags, and determining the best mineral supplement for their operations.

Impacts from the program range from gaining a better understanding of an operation's mineral program to seeing a significant improvement in herd health when as specific deficiency or interaction was identified and corrected by selecting a different mineral supplement.

This program will continue in 2020 with multiple county locations in North Dakota and a location in western South Dakota. Forage and water sample data is being collected for future analysis and mapping of forage mineral content in the Dakotas to further assist in mineral program development.

BUILDING A TEAM TO CONDUCT FARM BILL EDUCATION PROGRAMS FOR OHIO FARMERS

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The Agricultural Adjustment Act of 2018, also known as the 2018 Farm Bill, provided farmers the opportunity to choose from various federal risk management programs. Dairy producers could enroll in different coverage levels under the Dairy Margin (DMC) program and crop producers could select between the Price Loss Coverage (PLC) or two versions of the Agricultural Revenue Coverage (ARC) program. While similar to the 2014 Farm Bill in structure, producer elections under the 2018 Farm Bill required more analysis, time and consideration due to factors such as: relative historical revenue benchmarks, anticipated US production in 2019 and 2020, future expected prices, and continued demand uncertainty. To help farmers understand program options, Ohio State University Extension secured grant funding from the Extension Risk Management Education Center to develop curriculum, resources, and tools creating easier analysis of 2018 Farm Bill programs while providing training opportunities for county-based Extension Educators. These trained Educators then implemented Farm Bill education to Ohio dairy and crop producers. More than 7,000 farmers attended 150 DMC, ARC, and PLC trainings provided by Ohio State University Extension in partnership with the Ohio Farm Service Agency from June 2019 to March 2020. Core components of trainings included: understanding performance of 2014 Farm Bill programs, differentiating when PLC and ARC triggered payments, analyzing DMC premiums vs expected payouts, considerations for both the individual option of ARC and the Supplemental Coverage Option, and key decision deadlines.

This poster will describe how the OSU Farm Bill team formed, examples of curriculum and tools developed for both farm-level analysis and education purposes, results of programming, and lessons learned along the way for consideration in future program development. Starting in 2021, 2018 Farm Bill program elections will be made annually, increasing the importance of delivering annual support to producers, agribusinesses and industry partners. When asked "How can OSU Extension serve you better in future Farm Bill programs" with an interest at looking toward future program delivery, the majority of responses expressed continued programing similar to those provided in 2019-2020 implying that OSU Extension was successful in providing risk management training to Ohio producers.

CULTIVATING CHANGE IN SCHOOL GARDENS

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Many grand challenges have been a long-time concern for school gardens in Greene County, Ohio. The county is situated near a metropolitan area; yet maintains a strong balance between urban and rural interests. For many years there has been interest in collaboration among schools and agencies to create a school garden with an educational component that would allow students to earn high school credit as a class. In the first few attempts at implementing the project, there were many failures and missed opportunities. Some of these failures and missed opportunities included: inclusion of students in the planning process, multiple transitions in county agriculture and natural resources educators, and lack of gardening educational curriculum. To overcome these challenges and educate the school staff and students, first a successful partnership had to be developed. Program Assistants found that relationships are built on trust, commitment, and communication. The Fairborn Digital Academy Garden project's success depended collaboration and fundamental educational components to achieve a school garden program that would be accredited for its students. This program could not have been accomplished without the incorporation of Master Gardener Volunteers in aiding with online curriculum development and weekly in class educational sessions. Over the last two years, curriculum has been established, a school garden built, Master Gardener Volunteers engaged in educational programs and more. This is not to mention the countless success stories of the thus far more than twenty-five students that have completed the program. The results of this project have been two-fold for OSU Extension by opening doors to collaborations such as this with other agencies across the county.

EDUCATING OHIO WOODLAND OWNERS HOW TO MANAGE TIMBER SALES

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Nearly eight-five percent of Ohio's 8 million acres of forestland is held by over 335,000 private landowners. These woodlands provide many benefits to the landowners including

being a potential form of income. The sale of timber, however, can be very risky. Some woodland owners sell their timber for only a fraction of its value. Oftentimes, the bids from competing logging companies can differ by thousands of dollars. To help landowners overcome the risks associated with marketing timber, OSU Extension offered regional workshops to teach the best management practices for selling timber. During the past year, four workshops were held with 115 landowners owning 5,550 acres of woodlands attending. During the workshops, participants were encouraged to work with a professional forester to develop a forest management plan and to support the timber sale process. This included determining how and when to cut, the importance of marking trees for sale, the process of marketing and selling timber, and best practices for timber contracts. Additionally, discussion was held on the tax treatment of timber sales. Typical evaluation results showed a 2-point average knowledge gain on a 5-point Likert Scale for each of the timber marketing topics taught. Furthermore, 97.8% reported being very satisfied about the timber marking skills they learned. This presentation will share the details on the curriculum taught as well as the evaluation methods. Due to the success of the programs already offered, the team will continue to offer these workshops in targeted communities in Ohio.

EDUCATION, COMMUNITY INVOLVEMENT AND TECHNOLOGY ARE KEY TO SLOWING THE SPREAD OF NEW INVASIVE WEEDS

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Two new invasive and devastating herbicide resistant weeds; Palmer Amaranth (*Amaranthus palmeri*) and Waterhemp (*Amaranthus tuberculatus*) have been identified in Central Ohio. These dioecious species, capable of producing 1,000,000 seeds per female plant have been added to the Ohio Noxious Weed list which necessitates control. Our objective was to create educational programs and materials to meet all clientele learning preferences. The age of our farming population varies from low 20's to upper 70's. Each age group exhibits different learning styles. As Educators, we must adopt our teaching methods to meet our clientele's differing educational needs and desires. Multiple educational programs were conducted in a three county area in Central Ohio. Classes, workshops, field days, newsletters and media releases were used to reach our traditional learners. These activities were supplemented with social media posts, new blogs, email blasts and on-line videos to meet the needs of our more progressive learners. Live weed species at various growth stages were used to teach identification and control options. Pre and post meeting evaluations show that farmers ability to identify these plants improved by 127% due to knowledge gained from participating in these trainings. Behavior and management approaches have changed. Scouting frequency has increased and farmers are encouraging their neighbors to check suspicious weed populations. Neighbors in each community are assisting each other by walking fields and removing these devastating weeds. Educational videos were created to enhance clientele learning experiences. These videos were shared through many social media sites and are accessible via Quick Response (QR) codes embedded in all educational materials. Many of these videos have been shown in various educational meetings since 2017. Survey results indicate that 27.2% of the respondents reported learning best using video, 2.6% of the respondents reported learning best using fact sheets, and 70.2% of the respondents reported learning best when both forms were used in the programing. 86% of respondents reported that they are more likely to seek out OSU Extension as a resource after viewing the videos.

HELPING OHIO FARMERS MANAGE RISK WITH GRAIN MARKETING EDUCATION

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Grain marketing education was an expressed need from farmers in Ohio, especially younger and beginning farmers. OSU Educators modified existing curriculum to provide curriculum targeting younger producers and delivered programming both in person and webinar based. The curriculum consisted of activities, both in class and homework, readings and lectures. There were five three-session courses offered in 2019. Additionally, local grain originators were invited to discuss the variety of products offered locally. Immediately following the program, participants responded to learning objectives using a retrospective pre/posttest with a 5-point Likert scale. Knowledge was gained on all eighteen indicators. Indicators with the greatest knowledge gain were on the topics of option fences (+2.17), difference between put and call (+1.54), writing grain marketing plans (+1.18) and using a pricing decision chart (+1.11). Eighty percent of the participants were using crop budgets to set marketing targets, but only eleven percent and twenty-six percent had brokerage accounts and written grain marketing plans respectively. Participants were asked what they

would change in the next six months. Fifty-seven percent said they would, and forty-three percent said they might create a written grain marketing plan. Compared to only twenty-six percent currently having a written plan, this could be impactful. Additionally, sixty-eight percent indicated they would try a new grain marketing tool in 2019. Participants indicated they were better prepared to manage grain marketing risk through knowledge of their cost of production, knowing their farm's financial risk capacity, having a written grain marketing plan, and knowing when to use certain marketing strategies.

INCORPORATING SPECIAL NEEDS AUDIENCES INTO CAMPING PROGRAMS

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"4-H is for everyone," but sometimes accessibility issues prevent youth with multiple handicaps the opportunity to attend camp. In Ohio, a statewide 4-H camp is held at Canter's Cave 4-H Camp for multiple handicapped youth and their caregivers. Special needs youth need the availability of a camp which can accommodate their varying medical, physical and emotional needs. The State Special Needs Camp is designed with these youth in mind and is tailored to their needs. The Camp strives to put a spin on traditional activities so that campers can be engaged, including: environmental science, crafts, music therapy, outdoor education, aquatic skills, and increased team-building and self-reliability skills. The youth, along with their caregivers, enjoy 2 nights and 2 days of a camping experience that would have not been available otherwise through 4-H. This program allows youth to participate in a traditional/ non-traditional camping experiences, as Ohio State University Extension and 4-H embraces diversity in all populations. In 2015, the Camp accommodated youth who are aging out of 4-H, but who still value the experiences they have at Camp to continue to attend. These caregivers are also valuable resources for the caregivers of younger children as they learn to navigate the various education, health care and other systems that their children need. Camp Staff strive to keep these young adults, and their families, involved in the event by hosting an Alumni Camp during the same weekend as Special Needs Camp. Meals and some events are planned together, but Alumni and their families have a separate program schedule that allows them some additional freedom. This poster will focus on how the Camp is conducted, including basic scheduling, differences from traditional Camps, additional staff training involved and volunteer management. It is hoped that it will allow other Extension Professionals an opportunity to gauge interest and feasibility in reaching out or expanding programming to this population of youth.

LET'S GET GROWING! PARTNERING TO ENCOURAGE BACKYARD FOOD PRODUCTION

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Interest in backyard and community gardening continues to grow. Extension services, Master Gardener Volunteers, non-profit organizations and many others encourage growing produce for health, community development and food security reasons. However, gardening is not a practice that everyone has experience with and there is a recognized need to offer support and technical training to help interested persons develop self-sufficiency skills. The Ohio State University Extension (ANR) and Summit County Master Gardener Volunteers (SCMGV) have partnered with Let's Grow Akron (LGA) for five years to host a day-long gardening season kick-off event called "Let's Get Growing". Each partner brings unique skills and talents to the table to offer this event to the public.

The goals of this event are to:

- Provide gardening education on basic and advanced horticulture topics
- Introduce community members to other community groups in the region that support gardening
- Provide networking opportunities for those seeking more engagement in the local food system

This free event is typically held in February/March. The SCMGV Community Gardening Committee, the ANR Extension Educator and LGA plan the event. Evaluation results from previous events provide guidance for workshop topics. The event is held at an easy to reach, central location. Community partners such as the Summit County Soil and Water District also participate. A seed swap is included in the event activities. A survey is used the conclusion of the event to evaluate effectiveness. Over the past five years over 400 persons have participated in this highly anticipated event, highlighting the value of partnering to reach common goals.

MAKING EGG EMBRYOLOGY AN INTERACTIVE COMMUNITY LEARNING EVENT

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Ohio is one of the largest egg farming states in the nation. Egg Embryology has historically been an in-school educational program designed for primary school students in a "classroom" environment. This method has been a successful learning tool for many years. OSU Extension has been working with the local library on educational programs and the topic of an Egg Embryology class was discussed. In 2018, an interactive program was provided at the county library. Youth and adults were provided a presentation on the basics of Egg Embryology and development, then youth participated in "hands on" activities to better under the parts of an egg. To generate interest, the incubator with eggs was placed on the main counter of the library so the public could monitor the progress. Community interest started to grow and a "countdown" to hatching became a topic of interest. People started to visit the library on a more frequent basis and more books were checked out, particularly on this and related agricultural topics. When the chicks started to hatch, adults brought in children to see the chicks and learn more. After a request for another community learning event in 2019, the 4-H Educator obtained new teaching curriculum to enhance the program through a partnership with GrowNextGen, a career exploration organization and the Ohio Soybean Association. The 4-H and Ag Educator will work with the library staff to develop a more in-depth and interactive program for 2020. As a result, there has been more community interest for the program, and new and strengthened partnerships with local organizations. There has also been increased utilization of the local library, Extension working with the library for additional community programs, and a renewed interest from local schools.

PRODUCER BENCHMARKING FOR DEVELOPMENT OF ENTERPRISE BUDGETS FOR MALTING BARLEY IN OHIO.

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In 2011, there were 470 operational craft breweries in the North Central Region. By 2017 that number had increased to 1,490. Craft breweries want to source local ingredients including malting barley grain. Furthermore, a malting facility is slated for construction in Ohio that will directly contract grain from producers in Ohio, Indiana, and Michigan.

In 2017, a survey was distributed to current and future malting barley producers. Malting barley production is risky, as it requires careful management to maximize yield while maintaining quality. Contracts, insurance, and financial planning help minimize marketing and financial risks. 62% of the respondents indicated that there were insufficient resources available to minimize the risks associated with malting barley production.

In order to reduce financial risk, OSU Extension educators worked with local barley producers to benchmark actual production costs. In a series of face-to-face meetings, growers shared their yields and costs to develop the following budgets:

- enterprise budget for malting barley production.
- enterprise budget for double crop soybeans following barley.

Enterprise budgets were developed by the following methodology:

- Adaptation of OSU Extension Wheat Production and Double Crop Soybean Budgets
- Reviewed nearby states malting barley budgets
- Gathered current growers' barley cost of production and yield data
- Met with producers face to face meeting to analyze budgets and benchmark costs.

Impact- Enterprise budgets were developed and shared with current and potential growers. Budgets published online at https://farmoffice.osu.edu/home website. Producers can utilize the malting barley and double crop soybean enterprise

budgets to implement sound financial planning for their farming operation to increase profitability.

USING ONLINE SURVEY TECHNOLOGY TO EVALUATE STATEWIDE BEEF CATTLE PROGRAMMING

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The Extension Beef Team is one of the longest standing program area teams within Ohio State University Extension. Recently the team has experienced turnover and losses of county Extension Educators and state level personnel who specialize in beef cattle production. These staffing changes made 2019 an opportune time to gather feedback from stakeholders and producers to evaluate team outputs and future programming needs. The outputs evaluated include the weekly produced Ohio Beef Letter, annual Ohio Beef School webinars, and the initial offerings of in-person Beef Quality Assurance (BQA®). In April of 2019, an online survey was developed and distributed via Qualtrics to 4,904 subscribers to the Ohio Beef Letter. Of those who received the survey, 567 respondents completed it.To gauge impact of the Ohio Beef Letter, respondents were asked to self-identify with the segment of the beef industry they best represent, how many head of cattle they market annually, and to estimate a dollar value of the Ohio Beef Letter to their beef cattle enterprise on an annual basis. In addition to the Ohio Beef Letter, survey participants also evaluated the overall value of the Ohio Beef Schools and BQA® Trainings that they attended using a 5-point Likert Scale. Respondents rated the Beef Letter 62.6% and Ohio Beef Schools at 77.4% Very/Extremely Valuable. BQA® trainings were rated at 83.3% Good/Excellent. Lastly, in order to evaluate future programming needs participants were also asked to rank seven production content areas: Genetics, Reproduction, Nutrition, Health, Marketing, Forage Production, and Economics from most to least important with regards to their beef cattle enterprises. Content areas were then ranked by mean score. This survey provided valuable insight to the diversity of Ohio beef producers, how they currently value beef cattle programming, and their educational needs. As a result, educators who are part of the Ohio State University Extension Beef Team can build upon past success and tailor future programming toward the betterment of the state's beef industry.

ENHANCING WATERSHED MANAGEMENT THROUGH EXTENSION PARTNERSHIP

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Effective restoration and protection of water resources occurs only when changes in human behavior and social norms make water quality improvements sustainable. Effective education, outreach and communication, therefore, is critical to initiate and facilitate changes in behaviors of land managers that lead to adoption and maintenance of water quality management practices to improve and conserve water resources.

Extension has been at the forefront of educating agricultural producers across disciplines, including water quality, for decades. In recent years, broad partnerships between producers, Extension, local and state organizations, agencies, and government have resulted in an ever-evolving outreach and education model for watershed management in Nebraska.

The objective of *Emphasizing Outreach & Education in Watershed Management through Partnerships* programming is to enhance the weight of outreach and education in watershed management planning efforts across Nebraska. This has been accomplished through 1) revising the Nebraska Non-Point Source Management Plan 2) enhancing outreach and education in 319 watershed management plans and associated projects 3) partnering with local watershed groups to implement watershed projects 4) developing outreach methods with producer groups for the USDA National Water Quality Initiative (NWQI) and Source Water Protection Initiative and 5) encouraging faculty and staff partnerships with the Nebraska Department of Environment and Energy (NDEE), local Natural Resources Districts (NRDs), USDA Natural Resources Conservation Service (NRCS) and others as appropriate.

This program has resulted in state planning guidance that emphasizes partner collaboration in watershed management programs, watershed management plans with robust outreach & education plans, several local partnerships, and a stream delisted for Atrazine after 20+ years of outreach & education.

BUG BINGO

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Bug Bingo was created for Conservation Field Day for third and fourth graders in 2010 and has been taught every year since. The challenge was creating a lesson that could be repeated eight times in one day in 25-minutes sessions with each remaining consistent. Bug Bingo eliminates that problem. I have laminated pictures of 30 different the insects, with basic information about each insect written on the back. The bingo cards are also laminated and dried beans are used to cover the squares. The youth guess the insect identification then we talk about beneficial insects versus pests. They love playing until it is time to switch sessions. Conservation Field Day is for third and fourth graders so I can observe impact when they return the next year and remember the insect identification and if they are beneficial or a pest. Other specialists can use the game with little knowledge of insects and it has become popular with specialists around the state for youth activities. Program impacts include increased knowledge of common insects, beneficial and pests, problem solving skills, and helping eliminate fear of insects that might bite or sting.

FARM, FAMILY, & ME - SUMMIT FOR WOMEN

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Farm, Family, and ME – Summit for Women is a statewide conference held in Missouri. The main goal of the two-day conference is to increase participants' skills, understanding, and knowledge of farm risk management. Risk management topics include crop insurance 101, rainfall index insurance: pasture, rangeland, and forage (PRF), livestock insurance, crop and livestock marketing, retirement planning, estate planning, farm bill update, and farm financial management. Additionally, the conference includes opportunities for networking and personal development. Conference speakers include nationally known agriculture speakers, Extension specialists, agriculture industry professionals, and farm women. The conference evaluation data captured participants' opinions of the general & keynote sessions, understanding of concurrent breakout session topics prior to the presentation and after, actions planned with information learned at the conference, and knowledge gain as a result of attending the conference. By attending Farm, Family, & ME - Summit for Women, women are becoming better decision makers, business partners, and leaders through educational activities and networking. As a result, this empowers them to respond to the challenges of farming.

HORTICULTURE AND TURFGRASS: A COMMITTEE OF THE PROFESSIONAL IMPROVEMENT COUNCIL

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The NACAA Horticulture and Turfgrass Professional Improvement Committee is a part of the NACAA Professional Improvement Council, and is dedicated to professional development and recognition opportunities for NACAA members conducting extension education and applied research in horticulture. The Horticulture and Turfgrass Committee actively engages members with a diversity of horticultural interests, including general horticulture, commercial vegetable and fruit production, ornamentals and nursery crops, greenhouse management, turf care and green industry, home horticulture, and volunteer driven organizations such as Master Gardeners and Master Naturalists. The Horticulture and Turfgrass Committee emphasizes extension outreach to both rural and urban communities; topics and issues include crop production, plant diagnostics, specialty crops, water management, pesticide use, pest problems, landscaping and online education. The Horticulture and Turfgrass Committee organizes an annual NACAA AM/PIC horticulture pre-tour, coordinates the horticulture oral sessions at the AM/PIC, and provides a program of ongoing professional development and member support opportunities throughout the year.

KIDS IN THE GARDEN

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An increasing number of children in elementary school have limited access to knowledge and experience growing vegetables in the garden. A series of classes were offered during the spring growing season to allow children to learn in an outdoor classroom with raised bed gardens to gain hands-on experience. Topics presented were planning and preparing the garden, planting seeds and transplants in the garden, soils, plant parts, what plants need to grow, bugs in the garden, composting and harvesting. Classes consisted of 20 minutes of education time and 25 minutes of hands-on gardening. Children had the opportunity to cultivate, measure, plant, water, weed, check for insects, compost plants, examine soil life, harvest vegetables and taste the plants they grew. This program reached over 95 students. In the evaluations, all participants indicated practice changes. These changes included being able to plant seeds and plants, take care of plants, and harvesting. When asked about the program, 100% indicated they could sow seeds and plant transplants, 100% said they could water and take care of plants, 94% indicated they could identify at least 10 insects found in the garden, and 78% of children indicated they would be asking their parents to help plant gardens at home.

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PRIVATE APPLICATOR TRAINING WITHIN THE AG UPDATE FORMAT ALLOWS FOR SPECIALISTS TO DELIVER SUBJECT MATTER TO NEW CLIENTS

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Since 2005, the University of Missouri Agricultural Extension Specialists in the Northwest Region have used a meeting format which combines private pesticide applicator training (PAT) with subject matter technical updates. The current format is one and one-half hours of PAT and twenty minute technical updates in agronomy, livestock, agricultural engineering, agriculture business and horticulture. Private pesticide applicators are required to be recertified every five years either through viewing a CD or in-person training. County Extension offices encourage those who need to be recertified to attend an in-person training session as this provides an opportunity for specialist to provide teaching. We include fresh material into the recertification process to make the training valuable to the clients. After the recertification training, we encourage producers to stay and each specialist provides a 20-minute update in his or her subject matter expertise. The specialist's subject matter are agronomy, livestock, horticulture, agricultural business and agricultural engineering. This provides an excellent opportunity for specialists to obtain new clients from those who have stayed after the training. Our evaluation data indicates over the years, with a scale from 1.0 being poor to 5.0 being excellent, the overall value of these meetings are between 4.0 to 5.0 which is good to excellent. We also measure knowledge gained with the same scale. Clients are asked to rate their knowledge levels before the specialist presentation and after. Knowledge gained typically ranges from 0.8 to 1.1 point increase. This format continues to be an effective format to create new relationships with clients and present effective, high quality meetings.

DEALING IPM EDUCATION: ONE CARD AT A TIME

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The Kansas State University Integrated Pest Management team is dealing IPM education one playing card at a time by developing a unique tool to teach about integrated pest management control strategies. The purpose is to increase the user's knowledge of where and how integrated pest management is used. This was accomplished by developing a traditional 52 card playing deck. These cards featured images of pest control measures representing the four control options for the "suites" (cultural control, biological control, physical/mechanical control, and chemical control). This innovative resource allows participants to achieve specific learning outcomes by playing traditional card games. The learners are exposed to the information on the cards or can be used in combination with dice featuring pests to help develop a better understanding on pest management strategies.

The development of this card deck required new ways of thinking about educational content creation and design as nothing like this had been done within our K-State Research and Extension system (KSRE). To prepare the playing cards, team members developed the content by writing the text (45 words/285 characters), and they obtained the required images to complement each subject. Following this, the K-State Communications Department created a template with appropriate size and graphic guidelines for the playing cards. Once edited and formatted, the cards were professionally printed by a company specialized in printing plastic coated playing cards. The whole process took about 11 months to complete. A total of 600 decks of cards were purchased and

distributed. The team encountered various challenges while navigating through the development of this educational tool.

A link to an evaluation survey was printed on the back of the instruction booklet, but we did not gain much feedback, so a revised survey was sent to everyone who purchased a deck of cards. Articles promoting the cards were featured in Pest Management Professionals blog and magazine, the McPherson Sentinel, the Kansas Better Blog and the Kansas State Turfgrass Blog. Cards were distributed to County Extension professionals, pesticide safety educators, teachers, and pest management professionals all over the United States and even in Canada.

INTERSTATE PARTNERSHIPS: IMPACTS OF THE 2020 TRI-STATE GREEN INDUSTRY CONFERENCE

Hawley, J.[1]; Crook, J[2]; Boggs, J[3]; Neal, N[4]; Benitez, JT[5]; Stanton, M[6]; Augustine, H[7]; Beuerlein, S[8]; Bonham, B[9]; Burns, R[10]; Deacon, M[11]; Emley, G[12]; Gressley, D[13]; Gulick, J[14]; Heinz, B[15]; Jorg, B[16]; Martini, K[17]; Palmieri, J[18]; Simmons, P[19]

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[2]Program Coordinator, Ohio State Extension, Cincinnati, OH, 45223

[3]Assistant Professor, Ohio State Extension, Cincinnati, OH, 45223

[4]Extension Educator, OSU Extension, Owensville, OH, 45160

[5]Extension Educator, Ohio State Extension, Hamilton, OH, 45011

[6]Extension Agent, Kentucky Extension, Covington, KY, 41015

[7]Advisor/Committee Member, Cincinnati State College, Cincinnati, OH, 45223

[8]Manager, Cincinnati Zoo & Botanical Gardens, Cincinnati, OH, 45220

[9]Committee Member, Arborist, Cincinnati, OH, 45223

[10]Committee Member, Hyde Park Landscaping, Cincinnati, OH, 45226

[11]Program Chair, Cincinnati State College, Cincinnati, OH, 45223

[12]Committee Member, Certified Arborist, Cincinnati, OH, 45223

[13]Director of Horticulture, Spring Grove Cemetery & Arboretum, Cincinnati, OH, 45232

[14]Principal, Urbancanopy Works, Union, KY, 41091

[15]Supervisor of Horticulture, Supervisor of Horticulture, Cincinnati, OH, 45232

[16]Manager of Native Plant Programs, Cincinnati Zoo & Botanical Gardens, Cincinnati, OH, 45220

[17]Committee Member, OSU Extension, Cincinnati, OH, 45246

[18]Committee Member, Target Specialty Products, Cincinnati, OH, 45246

[19]Committee Member, Turpin Farms, Cincinnati, OH, 45250

The purpose of the annual Tri-State Green Industry Conference (GIC) is to provide training that is both relevant and timely. For over eighty years, professionals in the green industry, including arborists, tree-care specialists, greenhouse and garden center managers, turf experts, and many others have flocked to the GIC for the latest industry research and professional recommendations. The 2020 GIC featured 8 training tracks with 33 speakers making 35 teaching presentations.

Survey results from the 2020 GIC demonstrated continued knowledge gain and behavior change among participants. On a scale of 1 (*strongly disagree*) to 5 (*strongly agree*), participants strongly agreed with a rating of 4.61 that the 2020 Tri-State GIC ranks at the top of educational programs they have attended. Additionally, participants agreed with a rating of 4.31 that they will change some of their horticultural practices based on new knowledge gained from the Tri-State GIC.

The program celebrated record attendance in 2020, with 871 total participants. This represents a fifteen percent (15%) growth from 2019. Additionally, the GIC's Trade Show featured 37 for-profit exhibitors and 10 non-profit display tables, reflecting the importance of the event to commercial entities, non-profits, bulk suppliers, and hiring managers.

Professional credits and continuing education units (CEUs) support the advancement and economic health of green industry businesses. Pesticide applicators are required by law to be licensed and valid licenses are maintained through earning recertification credits. The 2020 Tri-State GIC provided pesticide recertification credits for Ohio, Kentucky, and Indiana. This multi-state collaborative effort includes contributions from extension professionals representing Ohio State Extension, Kentucky Extension, Purdue Extension and four other non-extension partners.

WASHINGTON STATE UNIVERSITY: ADDRESSING TOTAL FARMER HEALTH

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[2]Grant Coordinator, WSU Skagit County Extension, Burlington, WA, 98233
[3]Marketing and Communications, WSU Skagit County Extension, Burlington, WA, 98233
[4]ANR Program Support, WSU Skagit County Extension, Burlington, WA, 98233

Agriculture is known to be both a difficult and dangerous occupation. Washington State University (WSU) Skagit County Extension seeks to address various dimensions of Total Farmer Health®, including physical, mental, emotional, and social, through three programs. Funded by USDA NIFA under the National AgrAbility Project, the Washington State AgrAbility Project (WSAP) supports farmers and farmworkers with injuries and ailments in adopting tools, techniques, and equipment to return to work safely and enhance overall quality of life. WSAP provides worksite assessments for injured farmers and farmworkers, builds assistive technology Lending Library Kits for distribution throughout the state, offers low-interest loans and financial training through partner Northwest Access Fund, and will establish a web-based Pathway to Services network. Additionally, WSU Skagit County Extension is the lead agency in the Western Regional Agricultural Stress Assistance Program (WRASAP) with partners Oregon State University Extension and Volunteers of America of Western Washington. WRASAP is establishing a region-specific clearinghouse of resources available to farmers and farmworkers which address various stressors in agriculture. The program will also offer suicide prevention trainings and seek to support agriculture-specific suicide prevention crisis lines. Furthermore, the WSU Agricultural Suicide Prevention Pilot Program funded by the WA State Department of Health under House Bill 2671 provides education on the farmer health crisis, suicide risk factors and warning signs, and evidence-based suicide prevention approaches. In its pilot year the program created and distributed model marketing materials and leveraged Extension platforms to provide suicide prevention training and messaging through presentations, agricultural events, and Extension programs. A priority of the three programs is to ensure resources are accessible to all farmers, including Spanish-speaking farmers and farmworkers.

IMPACT: Combined, these programs reached over 60,000 people in less than one year through presence at agricultural events across the state. Additionally, television, radio, and newspaper coverage has reached over a million people across the state.

BEAVER RIVER WATERSHED DAYS

Nelson, R M.[1]
[1]USU Extension Professor, UTAH STATE UNIVERSITY, BEAVER, UT, 84713

The purpose of this educational program was to let people know that there were water quality problems in the Beaver River and to involve youth and the public in addressing these concerns. The Beaver River is the life blood of Beaver County. It is used as a fishery, a recreation area and provides irrigation water for homes, gardens and farms throughout the county. Monitoring of the Beaver River in the early 1990's identified a variety of problems ranging from high rates of sediment movement to high amounts of phosphorus. We have worked with many different agencies, schools and private organizations to increase public awareness of the importance of taking care of the Beaver River and surrounding watershed. One method to accomplish this has been to create an annual Beaver River Watershed day. For 18 years more than 2900 volunteers have participated in this conservation activity. High school students, 4-H & FFA members, dedicated hunters, state and federal agency people and anyone who cares about the environment has all joined together to complete hands on projects that have improved the watershed. Projects that we have worked on for 18 years include: planting willows along the Beaver River, planting windbreaks, chopping thistles, planting browse for deer and cutting down small juniper trees. The Beaver Soil Conservation District has provided lunch for all the participants each year. The success of this program has been two fold. The obvious value of the watershed days is the improvement of the riparian areas in the watershed. Possibly a greater value is making the students and adults that participate, aware of the importance of improving and protecting the Beaver River Watershed.

NATURE JOURNALING AS A YOUTH EDUCATION PROGRAM

Zwahlen, R. K.[1]
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Objective

Examine nature journaling as a youth education program that allows for development of a wide range of skills and incorporates a variety of topics. These include:

Art – Students learn basic sketching, perspective, form, scale, and color.

Language – Students practice methods of describing what they see, hear, and feel.

Math – There are opportunities to use skills like counting, measuring, and estimating.

Healthy living – Students spend time moving and exercising outdoors. Observation of nature can also develop mindfulness.

Science – There are opportunities to discuss several of the natural sciences as well as developing scientific skills of observation, questioning, and theorizing.

Methods

We began a nature journaling program with approximately 50 students. The program ran roughly twice a month for 4 months. Students were encouraged to spend time observing nature and recording observations in a combination of sketching and written description. We spent the first of each session giving instruction and providing a prompt. Students then spent 30 minutes in the school yard and adjacent city park. Finally, the children were given time to share their observations and discuss.

The program required minimal monetary inputs. Students used their own pencils and pens and we were able to use a small grant to purchase sketch books.

Results

Students in the program had a 7% increase in math and science scores in contrast to other schools in the district whose scores stayed almost flat. We also observed an increase in art skills. Both students and teachers gave the program positive feedback. Teachers observed an increase in students' interest and enthusiasm for learning. Teachers also reported students who struggled in a traditional classroom setting were thriving using the nature journal model. We are currently expanding the program to 4 other schools in the district.

Conclusions

Nature journaling is a method of learning that can be simply and inexpensively adapted to youth education programs with positive improvements in test results and student engagement.

YOUTH LIVESTOCK AND HORSE WASTE MANAGEMENT AND WATER QUALITY EDUCATION

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With 4,604 different livestock projects enrolled in Utah 4-H and increased urban participation and growth, it is essential that our youth and adults understand the potential risks of livestock pollution and contamination of water sources. To address this need, Utah State University Extension targeted 10 Utah counties with large amounts of youth livestock participation. In each of these counties, faculty provided waste management and water quality workshops to both youth and adults. Workshops provided education on the need for waste management, how waste run off can affect water quality, keeping animals away from clean water sources, monitoring livestock waste, composting, and how to apply these educational principles on a farm. After a formal presentation, a hands-on activity helped engage participants further. Worksheets were administered to each participant and they were invited to draw their own pastures and facilities. Participants were then asked to apply what they had learned in finding the locations on their individual farms where potential risks of contaminating water sources existed. After the workshop each participant was provided an evaluation. A total of 316 participants with 67 adults and 249 youth, participated in these workshops. It was found through these workshops that 82% of participants gained knowledge, 64% said that their views on waste management and water quality had changed, but only 33% said that they would apply the practices they learned on their private operations. While knowledge and perspectives were changed, participants indicated they were unwilling to change their current practices. A lack of understanding the importance of the issue, or participants feeling like their options are limited due to geographic factors could be some of the reasons behind the unwillingness to act. The completion of this program helped us see that both youth and adults were lacking in basic knowledge regarding waste management and water quality. Although we achieved our goal of increasing knowledge, further investigation into tools and programs to help participants feel empowered to make positive changes may be necessary.

YOUTH FOR THE QUALITY CARE OF ANIMALS (YQCA): IMPACTFUL FEDERAL AND STATE REPORTING

Chichester, L. M.[1]; Kuber, Paul[2]; Share, Elizabeth[3]; O'Rourke, Bernadette[4]; Peebles, Dinah[5]
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[2]Regional Extension Specialist, NE Livestock, Washington State University, Davenport, WA, 99122
[3]Extension Specialist, Livestock/Food Animal Programs, Ohio State University, Department of Animal Sciences, Columbus, OH, 43210
[4]Extension Youth Livestock Specialist, University of Wisconsin - Madison Animal Sciences, Madison, WI, 53706
[5]Director-National Certification Programs, National Pork Board, Des Moines, IA, 50325

Youth for the Quality Care of Animals (YQCA)was developed as a comprehensive curriculum, focusing on food safety, animal well-being, and life-skill development. This national effort was initiated and championed (2013) by producer groups, university educators, and livestock show leaders. In addition to the need for a comprehensive program for youth food animal producers, it was paramount to have a science based peer reviewed curricula. The curricula could then mirror across counties and states in a unified national programming effort and could be implemented and used with little input. It is YQCA's mission to offer a learning environment, supporting a learner engaged experience, while providing tools (such as data) to our partners to better the program and to validate its use. Learn how combining science (food safety and animal well-being) with lifeskill development makes YQCA a well-rounded youth based curriculum piece offering a data set to support thoughtful impact reporting.

Award Winners

2020 NACAA
105th
Annual Meeting
and
Professional Improvement Conference

Virtual

Agriculture Awareness and Appreciation Award

National Winner

Emelie Swackhamer
Horticulture Educator
Penn State Extension
Montgomery County

Swackhamer, E.*[1], , Korman, A.[2], , Walsh, B.[3], , Leach, H.[4],
[1] Horticulture Educator, Penn State Extension, Colllegeville, PA, 19426
[2] Horticulture Educator, Penn State Extension, Nazareth, PA, 18064
[3] Horticulture Educator, Penn State Extension, Leesport, PA, 19533
[4] Extension Associate, Penn State Department of Entomology, University Park, PA, 16802

An invasive insect, Lycorma delicatula, commonly known as the spotted lanternfly (SLF), was first discovered in southeastern Pennsylvania in September 2014. SLF has a wide host range and is a pest of trees, grapes, and other plants. Pennsylvania ranks first nationally for hardwood production, and fifth for grape production. The nursery and landscape industry in Pennsylvania is valued at $944 million annually. Penn State is working in partnership with the Pennsylvania Department of Agriculture (PDA) and the United States Department of Agriculture (USDA) to contain and suppress the SLF and to conduct research to develop additional control practices. Extension's objectives include teaching the public about SLF, inspiring people to teach others, encouraging people to protect agriculture and natural resources by suppressing SLF, urging people to report sightings of SLF, securing research sites, and helping people comply with regulations. As of March 1, 2020, 14 counties in southeastern Pennsylvania were under a quarantine order issued by the PDA enacted to protect agriculture by prohibiting movement of any living SLF life stage to other areas. To comply with the quarantine, businesses must get a SLF permit and remove SLF from vehicles and objects before they are moved. The authors contributed to the development of the training for businesses to obtain the SLF permit. Between January 1, 2019 and March 1, 2020, the authors made 120 presentations, provided interviews for 103 news pieces, offered five up-to-date fact sheets online and in print, trained Master Gardener volunteers and youth groups and responded to 898 personal inquiries for more information. A total of 17,055 people attended educational presentations given by the authors and the volunteers, 1,043,863 SLF permits have been issued, and 16 cooperators donated land and crop plots for research projects.

National Finalists

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

Halbritter, A.*[1], , Lamborn, A.*[2], , Spann, S.*[3],
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[2] Horticulture Agent & County Extension Director, UF/IFAS Extension Baker County, Macclenny, FL, 32063
[3] Youth Development Agent, UF/IFAS Baker County Extension, Macclenny, FL, 32063

Although a primarily rural community, with a county population of just over 28,000, only a small portion of Baker county residents are involved in commercial agricultural production. Opportunities to engage with local residents are greatest at family friendly community events therefore these were targeted for agricultural awareness programming. A sensory station was created to fulfill the need for sharing the importance of agricultural industries in Baker County and in Florida, such as timber production or cattle ranching. The learning environment was designed to be fun, interactive, and appealing to people of all ages, and to accommodate different learning styles in order to reach a broader audience. Presentations and educational posters were used to raise awareness of the types of agricultural production in Florida and the variety of everyday products produced from those industries. At least 2,540 individuals were exposed to content related to agricultural industries important to Florida, the products produced from those industries, and their economic impact. Informal surveys using agent observations and conversations, indicate at least 60% gained knowledge and/or improved awareness of the importance of Florida's agricultural industries. The sensory station concept has been adopted by at least one other extension office as agents recognize its effectiveness in keeping participants engaged while learning.

Teresa T. Dean
Livestock/4-H Agent
New Mexico State University
Dona Ana County

Allen, J. R.*[1], , **Blandford, J*[2], , Dean, T.T.*[3], , Gordon, S*[4],**
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[3] Livestock/4-H Agent, New Mexico State University, Las Cruces, NM, 88001
[4] Ag Agent, New Mexico State Univeristy, Alamogordo, NM, 88310

NM Agricultural Agents traveled across the state, and provided a Large Animal Emergency Rescue awareness courses to over 150 individuals in thirteen counties and two states. These individuals took the time to be nationally certified to provide an outstanding program designed for first responders. This is not the traditional agricultural clientele but they have found a niche in providing a much-needed training for individuals not use to handling livestock in an emergency situation.

This endeavor began in 2015 when the Socorro County Cooperative Extension Service in collaboration with the Socorro County Office of Emergency Management (Socorro OEM) began collecting specialized large animal emergency rescue equipment, a horse rescue mannequin and adapted teaching materials for trainings around New Mexico.

Capitalizing on the strengths of the Cooperative Extension Service's extensive knowledge of large animal behavior and handling practices, a team was assembled, in collaboration with the Southwest Border Food Protection and Emergency Preparedness Center, Dr. Rebecca Gimenez (TLAER Inc) and the Socorro OEM, to offer trainings throughout New Mexico. The trainings provide practical consideration, animal behavioral understanding, specialty equipment techniques, methodologies and tactics behind the safe extraction of a live, large animal from entrapment in an emergency.

These training courses bring together people from all disciplines and introduce the latest concepts, techniques, procedures and equipment used to teach them to work together on a scene and build a great incident action plan, then extricate the animal safely for both the animal and responders.

Participants of these trainings also learn how to function within the incident command system when responding to incidents. They learn safety procedures when handling emergencies involving large animals and the unique challenges rescue crews face when handling stressed animals.

Utilizing kinesthetic learning the participants get to practice handling various large animals ranging from horses to cattle and llamas. They master the practical application of large animal rescue equipment such as slings, rescue harnesses, glides, and learn how to build simple enclosure facilities. These trainings aim at first responders yet are open to anyone who has an interest in the proper handling of large animals in emergency response situations.

James Humphrey
Field Specialist in Livestock
UNIVERSITY OF MISSOURI

Deering, S.*[1], , **Humphrey, J.*[2],**
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[2] Field Specialist in Livestock, UNIVERSITY OF MISSOURI, Savannah, MO, 64485

Buchanan County Missouri has a population of over 89,000 people (87% urban, 13% rural). St. Joseph, Missouri the county seat has a very long-standing history of active livestock markets and harvest facilities for beef, sheep, swine and goats. The local livestock auction facility markets in excess of 100,000 head of beef cattle, plus 25,000 head of sheep and goats each year. The St. Joseph Area Children's Fair for youth ages birth to six-years old, is an annual one-day event on the second Tuesday of April. Several organizations have worked collaboratively to hold this fair over the past ten years. With over 9,317 youth and 7,162 adults participating during this time span. Since the average American is at least three generations removed from the farm. University of Missouri Extension Agriculture Specialists were asked to focus on providing young livestock animals for youth and adults to observe, pet and ask questions about. University of Missouri Extension Agriculture Specialists goal was to increase awareness and knowledge of the livestock on farms throughout the area that provide food and fiber for consumers. Over the past ten years at least a new born calf, sheep or goat has been provided for participants throughout the fair. This has been a very enlightening and rewarding program to say the least. Especially when the youth get a chance to see and handle these young animals up close: seeing their faces glow, positive facial expressions and smiles is priceless. One of the very enlightening experiences was, about eight years ago, when we had two different sets of adults approach the animals (30-day old bottle lamb and two-week old kid goat) and say the bottle lamb was the mommy and the kid goat was the baby, we were shocked and speechless. Taken back by these comments and wondering how many others, were thinking and telling their kids the same thing but did not say anything. We immediately took a much more proactive educational approach, educating participants both youth and adults on what species of animals we have and also let them know about the care these animals get.

State Winners

State Winner	
Southern Region	
Alabama	M. Landon Marks
Arkansas	Allison Howell
North Carolina	Steve Pettis
Texas	Michael R. Hiller
Virginia	Amber A Anderson

Search For Excellence in 4-H Programming

National Winner

David P. Hoffman
LIVESTOCK SPECIALIST

Hoffman, D. P.*[1], , Shannon, M. C.[2],
[1] LIVESTOCK SPECIALIST, University of Missouri Extension, Harrisonville, MO, 64701
[2] State Swine Extension Specialist, University of MIssouri Extension, Columbia, MO, 65211

The University of Missouri Animal Sciences Youth Leadership Academy is an intensive four-day educational experience for high school students designed to enhance leadership skills, increase animal science knowledge, and encourage pursuit of a career in the agricultural sciences. The objective is to develop young leaders within the livestock industry and broaden their horizons to the far-reaching spectrum of careers offered in the animal sciences. Each class consists of twenty high school students, selected based on their educational accomplishments, community involvement and agricultural interest. During the academy, the students focus on leadership development, communication skills and team building. Students tour the University of Missouri research farms and other leading Missouri agribusiness and organizations, networking with industry professionals. Production and management practices of all species (beef, dairy, pork, sheep, goat, equine, and poultry), along with societal concerns facing the livestock industries are covered. Five-student teams work with a MU faculty mentor, discussing a current livestock industry issue and culminates with a team presentation. The students give their presentations to a panel of judges and their parents, competing for scholarships to the University of Missouri. During the past three years, fifty-nine (59) students from Missouri and one from Texas have participated in the program. One hundred percent of the students indicated they would recommend the experience to other students, increased their knowledge of the animal sciences, and improved their leadership skills through communications, teamwork and networking with professionals in the livestock industry. One hundred percent of the parents indicated their child benefited from their participation in the academy and increased their interest in pursuing a career in animal sciences. Once in college, the students indicated their experience had an impact on their college major, career choice and growth as a student. The University of Missouri Animal Sciences Youth Leadership Academy is a conduit of future leaders for the livestock industry.

National Finalists

Jodi Richmond
EXTENSION AGENT

Richmond, J. M.*[1], , Brandy, B. E.[2], , McCartney, K[3],
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[2] Extension Agent, WVU Extension Service, Spencer, WV, 25276
[3] Extension Specialist, WVU Extension Service, Charleston, WV, 25301

West Virginia ranks 2nd highest in the US for inadequate fruit and vegetable intake; 9 out of 10 West Virginia adults (1,240,143) suffer increased health risks due to limited produce consumption (WV BRFSS Report 2017). Children rely on adults to model healthy eating behaviors and provide access to healthy food. With limited access to fresh fruits and vegetables it's unlikely children will develop preferences for these foods putting them at risk for obesity and associated chronic diseases. The kids' farmers market program, implemented by the WVU Extension Service, increases access to a variety of fresh produce for elementary students. It also supports locally-sourced foods by purchasing all produce from West Virginia farmers. This program has reached over 51,000 kids across all 55 West Virginia counties and purchased over $174,000 in produce from WV farmers since 2014.

The Kids Farmers Market Program is a collaborative program across program units that was originally developed as the Kids Koupon project in McDowell County WV, one of the most economically disadvantaged areas in the state from a grant by the Conservation Fund/CSX. It's now implemented statewide through grants from TC Energy, Sisters Health Foundation and other funding. Farmers Markets are set up at schools and other events and children are given "kids koupons" to choose which produce they would like to purchase. ANR agents discuss the variety of produce available that day, farmers markets and their locations, ripe and unripe produce, and what produce might be in season. FNP Educators also provide information on nutrition, recipes, and provide taste tests of a recipe highlight a fruit or vegetable they may not be familiar with. The goal of the program is to improve children's attitudes and behaviors related to fruits, vegetables and local foods. In order to evaluate this impact, a parent evaluation is sent home with the children in a sampling of participating schools. Approx. 980 surveys were completed between 2019 and 2019 reporting that 91% of the children ate the vegetables they purchased, 80% of children were more excited about produce and 37% visited a farmers market since the activity.

Dee Heimgartner
Crittenden Co. ANR
Universtiy of Kentucky
Crittenden

HEIMGARTNER, Dee*[1], , Barnes, Leslea[2], , Tramble, Janeen[3],
[1] Crittenden Co. ANR, Universtiy of Kentucky, Marion, KY, 42064
[2] Crittenden Co. 4H/ Youth Development, University of Kentucky, Marion, KY, 42064
[3] Crittenden Co. FCS, University of Kentucky, Marion, KY, 42064

The Crittenden County Windowsill gardening program is in it's fourth year. Through the collaboration of the Crittenden County Extension Service ANR, 4-H and FCS agents, students have been receiving education about better nutrition, how to make healthier food choices, and lessons in how seeds sprout and grow. They planted their own seeds to begin a Window Sill Garden in their classroom. The idea got started 4 years ago when one of the teachers contacted our extension office because she wanted hands on enrichment education to teach kids how seeds sprout and grow and then provide hands on learning by actually planting a salad garden in their classroom window sill. Over the last 4 years, students have planted leaf lettuce, beets, radishes, celery, tomatoes, cucumbers and carrots in recycled containers. The second grade teachers were delighted that not only were kids able to learn about plants, but they were also able to apply math skills by measuring the plants growth each day. After the seeds had time to grown in to plants and the lettuce was harvestable, we held a salad tasting for all of the students so they could taste what they had been growing. We threw a big Garden Party where many youth tried salad and many other healthy vegetables for the first time. Students get excited and more eager to try new things when they have been growing them in their classroom. Over the past 4 years, we have grown from one second grade classroom participating the first year to incorporating the entire second grade. We now reach over 200+ students annually trying healthy vegetables and better understanding how plants grow through this project. Youth better understand that it's easy to grow a garden and that you do not need a lot of space and can in fact, use recycled containers. This program has been a great success for CCES and something that the teachers look forward to each year. It has made a powerful impact in the healthy choices our students make.

Teresa T. Dean
Livestock/4-H Agent
New Mexico State University
Dona Ana County

Dean, T.T.*[1],
[1] Livestock/4-H Agent, New Mexico State University, Las Cruces, NM, 88001

In order to better provide youth with skills related to the dairy industry and a positive youth development experience, the Dona Ana County 4-H Livestock Agent created a three-day camp designed to provide hands-on traing to 4-H members raising a replacement dairy heifer for exhibition. Members learned about showmanship, selection of dairy heifers, feeding and nutrition, clipping, and preparation for show, with the opportunity to tour the F & A Dairy Products plant as well as the Big Sky Dairy, learning about the various aspects of the dairy industry. At the end of the camp, 4-H members show off their skills with a showmanship contest. Through collaborations and sponsorships, the cost to the youth was minimal, while the educational value was priceless.

State Winners

State Winner	
North Central Region	
Iowa	Dennis A. Johnson
Minnesota	Abby Schuft
Nebraska	Sarah A Sivits
Ohio	Trevor Corboy
Northeast Region	
Maryland	Ashley Travis
Pennsylvania	Skylar Peters
Southern Region	
Alabama	Jennifer W. Davidson
Arkansas	Sherri Sanders
Florida	Wayne Hobbs
Georgia	D. Shane Curry
Mississippi	James Shannon
North Carolina	Morgan Watts
South Carolina	T. Ashley Burns
Tennessee	Laurie Mobley
Texas	Robert Scott
Virginia	Matthew I Miller
West Region	
Montana	Adriane Good

Search For Excellence in Environmental Quality, Forestry and Natural Resources

National Winner

Amy Tallent
CEA-Agriculture
UofA Division of Agriculture Research & Extension
Prairie

Tallent, A.[1], , Yingling, Jan[2], , Griffin, Brent[3],
[1] CEA-Agriculture, UofA Division of Agriculture Research & Extension, Devalls Bluff, AR, 72041
[2] CEA-Agriculture, UofA Division of Agriculture Research & Extension, Searcy, AR, 72143
[3] CEA-Agriculture, UofA Division of Agriculture Research & Extension, De Valls Bluff, AR, 72041

Prairie County and White County, Arkansas include over 305,000 acres of tillable, crop land producing rice, soybean, cotton, and corn. Eighty percent of these acres are irrigated. Row crop producer's in these counties experience water shortages due to lack of rain fall during the summer months, the large amount of irrigation water needed, and to the Mississippi River Valley Alluvial Aquifer depletion, over time. The limited availability and extreme depths to groundwater have a significant impact on yield and increase the cost of production in these counties. Producers looked to the University of Arkansas for ways to be more efficient with the irrigation water on their farms.

- To assist producers in assessing their current farming success and begin planning for their next growing season
- To educate and encourage water conservation practices among row crop producers
- To increase irrigation technology adoption rates among White & Prairie County producers by establishing an irrigation design that will allow the greatest return on their cropping system

The End of Season Grower Discussion and Irrigation tour, multi-county program, was designed and established for row-crop producers to be able to ask questions about the previous season, receive updates for the next growing season, and provide them hands-on learning opportunities with new irrigation technologies available. UAEX irrigation specialists and NRCS irrigation water management specialists were at the tour stops giving hands-on techniques of how to use the technology. An End of Season Grower Discussion wrapped up the day, where UAEX Agronomists gave crop updates to the producers, NRCS specialists presented a cover crop update, and ANRC representatives presented on state tax credits available to producers using irrigation water management technologies. Producers were encouraged to walk through the irrigation demonstration trailer that showcased new technologies.

Evaluation methods used were post-meeting surveys, producer interviews, and one on one consultations.The survey results from these programs represented a total of 38,669 acres with 24,446 acres of soybeans, 6,953 acres of rice, and 7,270 acres of corn.Surveys showed that 27% of producers planned to incorporate information gained through this programming into their daily farming operations.

National Finalists

Ashley Kulhanek
County Extension Educator - Agriculture and Natural Resources
OSU Extension
Medina County

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

Medina County is the "Pond Capital of Ohio" with over 8,000 ponds over ¼ acre in size. As a result, pond management is a priority need within the county, with the Extension office fielding questions from homeowners and pond managers throughout the year. Kulhanek developed Pond School to meet the pond management needs within her community. The 3-track, conference-style program began with topics covering the most common questions at the office: core water and algae management, fish management, repairs and pond weeds. As water quality concerns grew regionally due to concerns over harmful algae blooms (HABs) and runoff, so too has Pond School expanded to address these issues and water quality overall for not only pond owners but also the general public. Pond School has reached 182 attendees and engaged 5 agency partners to educate the public on fish management, controlling algae and pond weeds, reducing runoff, and other aquatic management themes.

Madeline Flahive Dinardo
COUNTY AGENT

Flahive DiNardo, M.[1], , Bakacs, M.[2], , Nichnadowicz, N.[3],
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[2] County Agent, Rutgers Cooperative Extension of Union and Middlesex County, Westfield, NJ, 07090
[3] 4-H Agent, Rutgers Cooperative Extension of Union County, Westfield, NJ, 07090

Union County, NJ was in need of a plan to protect and manage Ash trees in 6,200 acres of public park land including 37 parks and a 2,200 acre reservation. Emerald Ash Borer was first reported in the state in 2014, and in 2017 the county manager looked to Rutgers Cooperative Extension for support. Extension faculty created a training program for 33 parks employees on Ash Tree and Emerald Ash Borer identification. The county requested an inventory of Ash Trees in high public use areas of the parks. Extension trained 14 volunteer Rutgers 4-H Tree Stewards, Environmental Stewards and Master Gardeners to conduct the survey using a Cartegraph™ Inventory Management system. During the 2018 and 2019 growing seasons, the volunteers surveyed 17 county parks and high public use areas of the 2,200 acre Watchung Reservation including picnic areas, playgrounds, camp sites, nature center, horse stables and trail entrances. The team identified, evaluated the health, recorded exact GPS location, and took photographs of 1,238 Ash Trees. The Agents analyzed the survey data using Excel™ to create lists of trees for priority and secondary treatment or removal. Using the Perdue Cost Calculator, estimates of costs for removal and treatment options were presented to the county Shade Tree Advisory Board. The county has applied for a grant to replace trees in a park that has the presence of Emerald Ash Borer that was confirmed by the NJ Department of Agriculture and is applying for a USDA beneficial insect release in the reservation for the 2021 growing season.

Paul Mckenzie
Agricultural Extension Agent
NC Cooperative Extension
Vance

Mckenzie, P.*[1], , Coley, J.*[2],
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Beginning in 2017, Extension Agents Johnny Coley and Paul McKenzie, representing Vance, Warren, Granville and Person Counties, began a multi-year collaborative project to disseminate sound management information to woodland owners. Information was disseminated on a broad range of topics relevant to woodland owners. Specific topics included forest management practices, conducting timber sales, understanding trespass laws, chainsaw safety, estate planning and many others. Thanks to strong support from the local offices of the NC Forest Service, as well as input from highly respected local landowners, an educational program was designed using multiple teaching methods including traditional classroom sessions, hands-on demonstrations, educational video production, a lumber mill tour and field tours. Presenters were recruited from a wide variety of sectors related to the forest industry, including forest rangers, a consulting forester, a surveyor, law enforcement personnel, representatives of wood products companies, conservation officers, and NCSU Extension Specialists. The program reached approximately 200 woodland owners who collectively manage an estimated 5000 acres. Participant evaluations demonstrated a high rate of knowledge gain and practice adoption. These far-reaching impacts also accrue to the community at large in the form of well-managed woodlands that offer high quality wildlife habitat, water quality protection and soil conservation.

State Winners

State Winner		
Southern Region		
Florida	Lauren Butler	-
South Carolina	Ryan Bean	-

Search For Excellence in Consumer or Commercial Horticulture

National Winner

Lucy E. Edwards
REGIONAL EXTENSION AGENT - HOME HORTICULTURE
ALABAMA COOPERATIVE EXTENSION SYSTEM
Hamilton

Edwards, Lucy E.*[1], , Kelley, Mallory J.[2], , **O'Rear, Bethany A.[3],** , **Smith, Kerry P.[4],** , Thompson, Renee W.[5],
[1] Regional Extension Agent - Home Horticulture, Alabama Cooperative Extension System, Ozark, AL, 36360
[2] Regional Extension Agent - Home Horticulture, Alabama Cooperative Extension System, Autaugaville, AL, 36033
[3] Regional Extension Agent - Home Horticulture, Alabama Cooperative Extension System, Birmingham, AL, 35223
[4] Team Coordinator - Home Horticulture & State Master Gardener Program Coordinator, Alabama Cooperative Extension System, Auburn, AL, 36849
[5] Outreach Coordinator - Harvest for Health, Auburn University, Auburn, AL, 36849

Harvest for Health (H4H) is an at-home gardening intervention for older Alabama cancer survivors who have completed their primary cancer treatment. H4H aimed to provide participants the means to grow an at-home vegetable garden during a 2-year program. The rationale of the study was that gardening interventions could improve diet and exercise behaviors of

cancer survivors who are at greater risk of other disease and poor diets. H4H intended to identify physical and behavioral responses a cancer survivor might have to gardening. Effects measured included diet, physical activity, physical function, quality of life and healthy eating measured by periodic medical assessments. The program consisted of 8, 2-year cohorts, beginning with a spring or fall vegetable garden. Cohort survivors (eligible only if they had no prior gardening experience) were divided into two groups – 1st year participants and controls, who would participate in the 2nd year. Resources for the participants included Extension publications related to growing practices and disease and insect management and a garden kit with raised bed or gardening boxes and soil, vegetable plants and seeds, fertilizer, and gardening accessories. Master Gardener mentors met on-site monthly with their survivors. Initial H4H study participants results: 92% indicated that they would "most definitely" continue gardening in the future; 89% were "most definitely" going to expand their garden size; Effects of the intervention on motivating behavior change on 1 to 10 scale: eat a healthier diet (8.9); eat more vegetables (8.1); be more physically active (6.8). H4H has initiated 8 cohorts across 29 of Alabama counties with 91% (387/426) completion. A year later 85% continued their new habits. Fresh produce consumption increased by 1 serving per day. Average BMI change was negative 5.63. Physical function improved for 70% of the survivors. Statewide impact includes media coverage on the success of H4H, which was featured on Alabama Public Television's "Spotlight on Agriculture". In concludsion, home vegetable gardening intervention among older cancer survivors was feasible, could be easily replicated and demonstrated improvement in health, behaviors, and well-being of older cancer survivors.

National Finalists

Jennifer Schutter
HORTICULTURE SPECIALIST

Byers, P.L.*[1], , Schutter, J.L.*[2],
[1] Field Specialist in Horticulture, University of Missouri Extension, Marshfield, MO, 65706
[2] Field Specialist in Horticulture, University of Missouri Extension, Kirksville, MO, 63501

A series of "Missouri Grown" programs over the past three years has given producers and market gardeners the information they need to add new crops and increase profits for their operations. Since 2016, several workshops for producers, market gardeners and home gardeners were held in northeast region of Missouri. The objective was to teach and provide information on alternative horticulture crops, new varieties, improved production methods and ways to increase farm profits with value-added products. Multiple teaching methods were used because this particular audience is quite diverse. Over the past three years, 414 individuals attended Missouri Grown workshops and tours in northeast Missouri, with 15-40 people in attendance at each workshop, held in various locations. The workshops and tours addressed edible mushroom production, small fruit crops like elderberry, blackberry, raspberry, fruit tree grafting, garlic production, and produce safety. Vegetable farm tours were held during the summer where participants could see how produce was grown in the field and in high tunnels, and how it was harvested, sorted, and marketed. They also saw how a wholesale auction operated. Producers learned and incorporated into their operations concepts about better and more efficient planting methods and irrigation systems, variety selection for higher yields, use of grafted tomatoes, vegetable sorting methods, more efficient packaging and labeling, and better marketing strategies.

In the evaluations, all participants indicated practice changes. Follow-up visits were made to producers on their farms and at the farmers' markets to see what changes they made and to determine if on-farm profits were increasing. In 2019, two producers sold to a Hy-Vee grocery store, 21 producers were selling to local farmers' markets, 1 operated on farm produce stand, and 1 operated a u-pick blueberry operation. In the past three years, 80% of the producers who had attended a workshop or tour indicated on evaluations that they added new products to their operations, which helped increase their overall sales. New products included honey, honey-based products, edible mushrooms, hydroponic lettuce, microgreens, Asian vegetables, cut flower bouquets, dried flower arrangements, dried spices, specialty melons and more. Growers indicated an increase in sales between $1,000-5,000.

Amanda Bennett
Ext. Educ., ANR
Ohio State University Extension
Miami County Ext. Office

Bennett, A.*[1],
[1] Ext. Educ., ANR, Ohio State University Extension, Troy, OH, 45373

Coffee with the Master Gardeners is a horticulture educational series occurring the first Friday of each month in one county. The sessions are offered at various locations throughout the county to reach as many residents as possible. Over the last three years, 690 residents have attended the monthly sessions.

While most sessions were lecture based, there was a strong effort to incorporate either hands-on activities or displays of equipment, plants, or other items as appropriate to the topic. Hands-on activities included "make and take" sessions on topics such as succulent plantings and utilizing items around the landscape to create holiday arrangements.

One goal of this series was to build the presentation confidence level of current Master Gardeners. Three years ago, only a

handful of volunteers regularly presented information to the public. To date, nearly one-half of active members (44%) in the county have volunteered to serve as the presenter for one or more of the topics for the series. Future plans for the program are to continue to build the confidence level of Master Gardener Volunteers by inviting more to serve as speakers monthly. Plans for specific presentation trainings for current volunteers are underway for mid-2020.

Participants are asked to fill out a survey at the conclusion of each month's session. The survey consisted of three questions and participants could chose responses on a Likert scale. A summary of the last three years revealed that participants indicated they gained knowledge by attending the session (4.7) and planned to utilize tips shared in the session (4.66). One participant wrote, "I have attended several sessions over the past six months. All were excellent!" and another wrote, "Thank you, very helpful reinforcing prior info [and] providing new." Other comments from participants helped shape future sessions.

Lisa Sanderson
Residential Extension Agent
UF/IFAS Extension Sumter County
Sumter

Sanderson, L.*[1], , Davis, JE[2],
[1] Residential Extension Agent, UF/IFAS Extension Sumter County, Bushnell, FL, 33513
[2] Multi-County Extension Director-Sumter and Hernando Counties, UF/IFAS Extension Sumter County, Bushnell, FL, 33513

The purpose of this workshop is designed to educate new residents in The Villages to adopt practices which lead reduced water use through efficient irrigation, follow appropriate fertilization practices to eliminate leaching of nutrients into water bodies, and implement responsible pesticide practices which reduce pesticide use. These goals were accomplished through the Florida-Friendly™ Landscaping Workshop for New Residents in The Villages. New residents attended workshops offered at two locations in The Villages each month. These workshops were promoted through other programs, through flyers, and in The Villages Daily Sun weekly calendar. The workshop reached 9,566 The Villages residents and included a presentation and demonstrations on irrigation and calibration of irrigation systems. Through participation in the program, 241 participants who installed or replaced a faulty rain sensor demonstrated a combined water savings of 2,694,476 gallons. This amount of water savings was nearly enough water to supply 31 homes with water. A resident noted that what they liked about the workshop was that it was "informative, especially being new to Florida, learning about care and maintaining a balance between the human impact and the natural environment in Florida."

State Winners

State Winner	
Northeast Region	
Maine	Donna Coffin
Southern Region	
Arkansas	Sherri Sanders
Georgia	Timothy Daly
North Carolina	Steve Pettis
Texas	Michael R. Hiller
West Region	
New Mexico	Bonnie Hopkins Byers

Search For Excellence Crop Production

National Winner

Albert Orgeron
Area IPM Specialist
LSU AgCenter

Orgeron, A.*[1],
[1] Area IPM Specialist, LSU AgCenter, Thibodaux, LA, 70301

Sugarcane is Louisiana's most valuable row crop commodity. In 2019, over 460,000 acres of sugarcane were produced in 24 of Louisiana's 64 parishes. Weeds are problematic and can cause significant reduction in sugarcane biomass if left unmanaged. Unlike most other row cropping systems in Louisiana, sugarcane is harvested for several years from a single planting. Weed management decisions are complicated by the presence of multiple problematic weeds in most fields and by the number of treatments available. The primary purpose of this educational program was to increase stakeholder knowledge of common and new weed pests of sugarcane, weed control options and strategies, and provide stakeholders with tools to manage new weed pests in order to ensure economic sustainability. This has been accomplished through oral presentations at producer meetings and field days, farm visits, Sugar Bulletin columns, newsletters, extension publications, and lectures. Additionally, I have successfully gained a Section 18 Emergency Exemption for the use of Trycera® (triclopyr) to control divine nightshade in sugarcane. Divine nightshade is a non-native perennial broadleaf plant which has recently become problematic in sugarcane fields. Labeled herbicide tools have performed poorly and inconsistently, thus exacerbating the problem. A Quarantine Section 18 was granted for Trycera® herbicide for a 3-year period (February 10, 2017 to May 31, 2020). Approximately 23,968 acres of sugarcane have been treated

with Trycera® herbicide to manage divine nightshade from 2017-19, thus preserving an estimated $11.8 million of sugar production.

National Finalists

Aaron J.H. Nygren
Extension Educator
University of Nebraska

Nygren, A.J.*[1], , **Taylor, M.[2],** , Mueller, N.[3], , **Wilson, J.[4],** , **Ohnesorg, W.[5],** , Mamo, M[6],
[1] Extension Educator, University of Nebraska, Schuyler, NE, 68661
[2] Extension Educator, University of Nebraska, Columbus, NE, 68601
[3] Extension Educator, University of Nebraska, Wilber, NE, 68465
[4] Extension Educator, University of Nebraska, Tekemah, NE, 68061
[5] Extension Educator, University of Nebraska, Norfolk, NE, 68701
[6] Extension Educator, University of Nebraska, Concord, NE, 68728

The Confronting Cropping Challenges program, or CCC, was developed by a team of three Nebraska Extension Educators in 2016 and has expanded in the years since to a team of six. The primary goal of the program is to better serve the local agronomic needs of Northeast Nebraska by offering educational opportunities at locations that not only require less travel for producers, but that also may have been underserved in relation to agronomic programming in the past. Secondly, the program was designed to incorporate private pesticide applicator training certification to give participants an incentive to attend and allow applicators a chance to get training done earlier in the year than normal. To accomplish these goals, our group developed a three-hour program that was offered at four to five locations across Northeast Nebraska each year. Topics included updates on recent agronomic issues such as soybean gall midge, frogeye leaf spot, and corn ear loss, as well as more general topics such as cover crop use, seed selection, herbicide resistance, and pesticide safety. Delivery methods included interactive worksheets for participants, group discussion, TurningPoint clickers, and presentations. The program was marketed through direct mailings, radio spots, website and newspaper articles, and social media. In the three years, a total of 837 participants were reached at 13 sessions held across Northeast Nebraska. Nine-month follow-up surveys of participants indicated that changes in knowledge and management were made as a result of the program. For instance, 89.2% of participants increased their general knowledge of crop management (n=130), 54.5% changed their management of resistant weeds (n=121), and 20.8% encouraged others to make changes in their management (n=120). Survey respondents represented a total of 131,800 acres (n=115). When asked about the estimated value of the knowledge and/or practice changes, participants indicated a value of $6.71 per acre, leading to an estimated value of the program of $884,286. When asked to identify one change they made as a result of attending the program, respondents replied with the following quotes: "I did use more modes of action on weeds when spraying," and "Helped me identify palmer vs waterhemp."

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

Sweet corn comprises nearly 38% of the vegetable acreage dedicated to fresh vegetable production in New Hampshire. The number one market outlet is direct sales at farm stands and farmers markets due to the high popularity among consumers who frequent them. Most New Hampshire (NH) sweet corn is grown on small, diversified retail farms. It is a challenging crop for this situation because it strains land resources and is expensive to grow, especially in terms of pesticide use. Customers want corn free of caterpillars ("worms"), but are very concerned about the amount of insecticides that have been typically applied to control them. Growers would also like to reduce pesticide use to reduce safety risks and to bring down costs. The University of New Hampshire Sweet Corn Integrated Pest Management (IPM) program was initiated to address the concerns of both farmers and consumers regarding pesticide use on this crop. The program has introduced pest monitoring strategies and economic action thresholds for major sweet corn pests, and utilizes applied research in cooperation with local farmers to evaluate alternative methods of managing sweet corn pests. An average of 23 farms participated in the IPM program over three years. Growers using the IPM program sprayed 2.23 fewer sprays on average from 2017 to 2019 than they did prior to the current IPM program, with an average savings of $21,288 for pesticides and $29,567 for labor and equipment costs. The reduction in sweet corn cull rate (throwing away insect-damaged ears) due to the IPM program as reported by the participating growers resulted in an average increased sales value of $188,772. The three year grand total of sweet corn financial impact was $718,880. At the end of each season, all growers but one grower completed an end of year summary of this IPM program. All sweet corn growers in each year stated they were confident in the spray recommendations based on the IPM trapping program.

Ethan T Carter
RSA Agriculture/Pest Management
Jackson County Extension
Jackson

Carter, E.T.*[1], , Mauldin, M.D.[2], , Waters, K. M.[3], , Eubanks, S.D.[4], , Leonard, D.J.[5],
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[3] CED/Agriculture and Natural Resources Agent, Holmes County Extension, Bonifay, FL, 32425
[4] CED/Agriculture and Natural Resources Agent, Gadsden County Extension, Quincy, FL, 32351
[5] CED/Agriculture and Natural Resources Agent, Calhoun County Extension, Blountstown, FL, 32424

The purpose of this annual regional program is for row crop producers in the central Florida panhandle to expand their current level of production knowledge and ensure that they are using the most current and accurate information possible when making production decisions. As a result, producers will incorporate best management practices and research data into their farm management programs to achieve the most efficient use of inputs and maximize returns. Specific program objectives include 1) participant knowledge gain; 2) anticipated management change; 3) actual management change; and 4) the realization of both anticipated and actual cost reductions from implementing new management changes. This program is managed by a planning committee comprised of the regional agent, four other county agriculture agents, and four extension specialists. During the four-year span of 2017 to 2020, a total of 417 producers have attended this program and the evaluation data is quite promising.

State Winners

State Winner	
North Central Region	
Minnesota	Angie Peltier
Nebraska	Sarah A Sivits
Ohio	Mary Griffith
Northeast Region	
Maryland	Andrew Kness
Southern Region	
Arkansas	Stewart Runsick
Georgia	D. Shane Curry
Kentucky	Lorin Macy Fawns
North Carolina	William Terry Kelley
Tennessee	Jason de Koff
Texas	Michael R. Hiller
West Region	
Idaho	Joseph Sagers

Search For Excellence in Farm and Ranch Business Management

National Winner

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

Brown, B.*[1], , Griffith, M.*[2], , Zoller, C.*[3], , Bruynis, C.[4], , Chanon, A.[5], , Custer, S.[6], , Douridas, A.[7], , Estadt, M.[8], , Gastier, M.[9], , Gelley, C.[10], , Hartschuh, J.[11], , Holden, A.[12], , Leeds, R.[13], , Lewandowski, R.[14], , Lima, D.[15], , Marrison, D.[16], , Meyer, G.[17], , Morris, J.[18], , Noggle, S.[19], , Nye, L.[20], , Richer, E.[21], , Shoemaker, D.[22], , Williams, H.[23],
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[2] Extension Educator, ANR, OSU Extension, Madison County, London, OH, 43140
[3] Associate Professor & Extension Educator, ANR, OSU Extension, Tuscarawas County, New Philadelphia, OH, 44663
[4] Associate Professor & Extension Educator, ANR, OSU Extension, Ross County, Chillicothe, OH, 45601
[5] Extension Educator, ANR, OSU Extension, Loraine County, Elyria, OH, 44035
[6] Extension Educator, ANR, OSU Extension, Darke County, Greenville, OH, 45331
[7] Extension Educator, ANR, OSU Extension, Champaign County, Urbana, OH, 43078
[8] Extension Educator, ANR, OSU Extension, Pickaway County, Circleville, OH, 43113
[9] Extension Educator, ANR, OSU Extension, Huron County, Norwalk, OH, 44857
[10] Extension Educator, ANR, OSU Extension, Noble County, Caldwell, OH, 43724
[11] Extension Educator, ANR, OSU Extension, Crawford County, Bucyrus, OH, 44820
[12] Extension Educator, ANR, OSU Extension, Ashtabula County, Jefferson, OH, 44047
[13] Extension Educator, ANR, OSU Extension, Delaware County, Delaware, OH, 43015
[14] Extension Educator, ANR, OSU Extension, Wayne County, Wooster, OH, 44691
[15] Extension Educator, ANR, OSU Extension, Belmont County, Saint Clairsville, OH, 43950
[16] Associate Professor & Extension Educator, ANR, OSU Extension, Coshocton County, Coshocton, OH, 43812
[17] Extension Educator, ANR, OSU Extension, Warren County, Lebanon, OH, 45036
[18] Extension Educator, ANR/CD, OSU Extension, Brown

County, Georgetown, OH, 45121
[19] Extension Educator, ANR, OSU Extension, Paulding County, Paulding, OH, 45879
[20] Extension Educator, ANR, OSU Extension, Clinton County, Wilmington, OH, 45177
[21] Assistant Professor & Extension Educator, ANR, OSU Extension, Fulton County, Wauseon, OH, 43567
[22] Field Specialist, Dairy Production Economics, OSU Extension, Canfield, OH, 44406
[23] Extension Educator, ANR, OSU Extension, Seneca County, Tiffin, OH, 44883

Following the passage of The Agricultural Improvement Act of 2018 (The 2018 Farm Bill), multiple decisions relating to commodity programs and crop insurance faced Ohio's 231,274 registered Farm Service Agency Farms. Dairy producers could enroll in different coverage levels under the Dairy Margin (DMC) program and crop producers could select between the Price Loss Coverage (PLC) or two versions of the Agricultural Revenue Coverage (ARC) program. A thorough understanding of the programs was needed for producers to make wise business decisions and effectively mitigate production and financial risks associated with their operations.

Over the course of a nine-month period, curriculum was developed, Extension professionals were trained to teach the curriculum, and over 170 Farm Bill Education programs were delivered by OSU Extension reaching over 6000 participants throughout the state of Ohio. 2141 participants completed a voluntary program evaluation. 98% of respondents reported that the information presented will help develop a plan to utilize Farm Bill Programs to mitigate risk on their farms.

National Finalists

Sandra Stuttgen
Agriculture Educator
University of Wisconsin Madison Division of Extension
Taylor / Area 3

Stuttgen, S.*[1], , **Schlesser, H.N.[2],** , **Vanderlin, J.[3],** , Splett, N.[4], , Jette-Nantel, S.[5],
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[2] Agriculture Educator, University of Wisconsin Madison Division of Extension, Wausau, WI, 54403
[3] Associate Director, University of Wisconsin Madison Center for Dairy Profitibility, Madison, WI, 53706
[4] Professor Emeritus, University of Wisconsin Madison Center for Dairy Profitability, Madison, WI, 53706
[5] Assistant Professor and Extension Specialist, University of Wisconsin River Falls, River Falls, WI, 54022

The University of Wisconsin-Madison Division of Extension Farming Your Finances program is a farm financial management workshop series for dairy and/or beef producers to aid in their understanding of financial record-keeping and analyzing financial statements. The program was created in 2017 by two county-based University of Wisconsin Extension educators, Sandy Stuttgen and Heather Schlesser with University of Wisconsin Center for Dairy Profitability specialists Jenny Vanderlin, Nate Splett and Simon Jette-Nantel.

Farming Your Finances specifically addresses the farm balance sheet and income statement. Beginning with teaching farmers about the financial model, the curriculum continues by using a dairy or beef case farm for discussing farm business records and financial statements. The program ends with teaching participants how to make decisions based on the business records they have created. Participants apply the concepts learned to their own personal business situation. Covered concepts apply to all businesses, making this module beneficial to any entrepreneur.

Twenty-eight farmers participated in Farming Your Finances. Through evaluations, the value of the topics covered and the knowledge they gained from their participation was indicated. In addition, follow-up conservations with the participants revealed how they were using what they had learned from the workshops for financial decision making on their farms. Twenty-eight farmers improving their financial decision-making ability represents a huge economic impact in rural Wisconsin.

Stuttgen and Schlesser facilitated the workshop in 2017, 2018 and 2019. Two other University of Wisconsin Division of Extension educators (Katie Wantoch and Ryan Sterry) facilitated the workshop in 2019. Stuttgen presented the program at the annual Extension Risk Management Education (ERME) National Conference (2018, 2019) and invited agricultural educators outside of Wisconsin to use the curriculum with their audiences. The facilitator's manual is available online at the University of Wisconsin-Extension Heart of the Farm, https://fyi.uwex.edu/heartofthefarm/educational-resources/for-women-in-ag/. Farming Your Finances was the 2018 National Finalist for the National Association of County Agricultural Agents' Communications Award for a Learning Module or Notebook.

Shannon Dill
Extension Educator - AGNR
University of Maryland Extension
TALBOT

Dill, S.P.*[1], , **Little, N.G,[2],** , **Rhodes, J[3],**
[1] Extension Educator - AGNR, University of Maryland Extension, Easton, MD, 21601
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[3] Extension Educator - AGNR, University of Maryland Extension, Centreville, MD, 21601

The Women in Agriculture Wednesday Webinars were created to provide year round, accessible information to a network of farmers and agriculture professionals. Webinars are offered twice a month at noon time on a variety of topics in farm management. They are organized by the USDA five areas of risk management. Since 2014 there have been 127 webinars with 3,660 unique registrants. All webinars are recorded and posted on a YouTube channel. Annual evaluations are conducted to determine knowledge gain, demographics and plans for the next year's topics.

Xiurui Iris Cui
Extension Area Specialist

Montgomery

Cui, X.*[1],
[1] Extension Area Specialist, UT Extension, Clarksville, TN, 37040

The two-year farm management *webinar series* include the 2019 '*7 Habits for Effective Farmers' and 2020 '7 $ecrets of Effective Farmers'. Each webinar series include* 7-month 7 sessions covering a variety of topics on farm management including financial, marketing and risk management. The webinar series aims to provide educational opportunities for participants to increase knowledge of farm management principles. The goal is to provide resources to help participants manage financial risk by evaluating current farm business and applying economic principles in future decision making. The webinar has reached a diverse audience from all over the world. At least 220 participants have gained and expanded knowledge of farm management principles and learned about different tools to make informed decisions. Out of those responded to the follow-up survey, 87.5% set goals to implement improved management practices; 75% implemented the improved practices; 75% indicated the webinar had improve their profitability, with 67% reported $1,000 to $5,000 increase in revenue. 9 participants increased their net profitability by a total of $33,150.

State Winners

State Winner	
North Central Region	
Kansas	Anastasia L. Johnson
Southern Region	
Alabama	Robert L. Page

Search For Excellence Livestock Production

National Winner

Denise Schwab
Extension Beef Specialist
Iowa State University

Schwab, Denise[1], , Arora, Kapil[2], , Euken, Russ[3], , Lundy, Erika[4],
[1] Extension Beef Specialist, Iowa State University, Vinton, IA, 52349
[2] Extension Engineer, Iowa State University, Winterset, IA, 50273
[3] Extension Beef Specialist, Iowa State University, Garner, IA, 50438
[4] Extension Beef Specialist, Iowa State University, Greenfield, IA, 50849

The purpose of this project was to assess emerging beef cow management technologies, detail benchmarks, summarize production and environmental data, and develop decision tools. Ultimately, the goal of the project was to assist Iowa cow-calf producers across all production systems and improve sustainability of the cow-calf segment in Iowa. This project included five beef field specialists working with 28 cooperators to document cost of production and management practices to create benchmark production costs, grazing and other best management practices, and then disseminate this data to other beef producers in Iowa. Results of this project were published in "Iowa Cow-calf Production - Exploring Different Management Systems", and disseminated through three bus tours, four regional conference presentations, and four meetings across the state. The team also created short video presentations of each section to provide for additional learning opportunities. In total, almost 300 producers attended at least one or more of the programs. The videos have been viewed more than 500 times. Follow up evaluations showed that 60% of respondents improved their pasture management to extend the grazing season, 43% added cover crops to extend the grazing season, 33% started grazing hay fields to extend the grazing season, 26% plan to implement a new cow system, and 40% plan to expand cow numbers. The average economic impact to participating was $16.46/cow, for a total economic impact for the program based on the number of respondents of $158,674.

National Finalists

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

Canal, L.*[1], , **Cant, J.*[2],** , **Cooper, C.*[3],** , **Dacey, J.*[4],** , **Darling, C.*[5],** , **Dossin, C.*[6],** , **Fenneman, D.*[7],** , **Halbritter, A.*[8],** , **Harlow, L.*[9],** , **Jennings, E.*[10],** , **Korus, K.*[11],** , **Sanders, C.*[12],** , **Toledo, I.*[13],** , **Tomlinson, A. P.*[14],** , **Wallau, M.*[15],** , **Wynn, K.*[16],**
[1] Livestock & Forages Agent, UF/IFAS Extension Bradford County, Gainesville, Fl, 32603
[2] Former Agriculture & Small Farms Agent, UF/IFAS Extension Duval County, Gainesville, Fl, 32603
[3] Agriculture & Natural Resources Agent, UF/IFAS Extension Citrus County, Gainesville, Fl, 32603
[4] Agriculture & Natural Resources Agent, UF/IFAS Extension Nassau County, Gainesville, Fl, 32063
[5] Livestock Agent, UF/IFAS Extension Suwannee County, Gainesville, Fl, 32603
[6] Agriculture & Natural Resources Agent, UF/IFAS Extension Clay County, Gainesville, Fl, 32603
[7] Agriculture & Livestock Agent, UF/IFAS Extension Madison County, Gainesville, FL, 32603
[8] Agriculture & Natural Resources Agent, UF/IFAS Baker County Extension, Macclenny, FL, 32063
[9] Agriculture & Natural Resources Agent & County Extension Director, UF/IFAS Extension Union County, Gainesville, FL, 32063
[10] Livestock Agent & County Extension Director, UF/IFAS Extension Levy County, Gainesville, FL, 32603
[11] Agriculture & Natural Resources Agent, UF/IFAS Extension Alachua County, Gainesville, Fl, 32603
[12] Livestock Agent & County Extension Director, UF/IFAS Extension Alachua County, Gainesville, Fl, 32063
[13] Regional Dairy Sciences Agent, University of Florida, Gainesville, FL, 32603
[14] Livestock & Natural Resources Agent, UF/IFAS Extension Columbia County, Gainesville, Fl, 32603
[15] State Forage Specialist, University of Florida, Gainesville, FL, 32603
[16] Agriculture & Livestock Agent, UF/IFAS Extension Hamilton County, Gainesville, FL, 32603

Small ruminant producers in Florida lack opportunities for research-based information related to small ruminant management. To assist small ruminant producers in improving production, the UF/IFAS North Florida Livestock Agents Group (NFLAG) offered the Small Ruminant Workshop from 2017-2019. **Objectives:** The objective of this program was to increase knowledge of small ruminant producers in improving production techniques related to pasture management, animal health and business improvement. **Program Activities:** A total of three workshops were offered yearly at the UF/IFAS South Beef Teaching Unit in Central Florida. **Teaching Methods:** Workshops began with one or two expert keynote speaker(s) from other University/Extension systems, allied industry, or producer groups. Following keynote speakers, participants selected various breakout sessions and hands on demonstrations taught by UF/IFAS County Extension faculty. Packets were developed for each attendee which included copies of presentations, supplemental material, and contact lists for local extension agents. **Results:** A total of 149 regional small ruminant operators attended the three workshops. These producers represented an estimated total of greater than 1,200 small ruminants and manage approximately 2,500 acres of grazing land. **Evaluation:** A post-survey assessed knowledge gain and follow-up surveys were conducted six to nine months after via email to determine if producers adopted any of the recommended practices taught. Survey results indicated that participants increased knowledge by 75% on animal health related topics, 80% on small ruminant business improvement and 90% on forage quality or pasture management. Follow-up surveys indicated that 87% of participants implemented the recommended practice changes taught in 2018 and 2019. **Impacts:** Workshop participants over the past three years expected to see a total economic impact of $102,362. This is an average economic impact of $687 for each of the 149 producers who have attended the program. Profitable small ruminant producers improve sustainability of their livestock operation that contributes to the stability of the regional economy and food supply.

Betsy Greene
Extension Equine Specialist

Arizona

Greene, E.A.*[1], , **Wright, A.D.[2],**
[1] Extension Horse Specialist, University of Arizona, Tucson, AZ, 85721
[2] Area Livestock Assistant Agent, University of Arizona, Willcox, AZ, 85743

The recent completion of a very successful 4th Annual Southern Arizona Equine Health Symposium provides clear documentation of impact, increased learning, and intention by owners and caretakers to change/improve the health management of horses in southern Arizona. Participants demonstrated an increase in knowledge and many planned to make changes to their horses' care based on what they learned at the event. The partnership between the University of Arizona Cooperative Extension and the Southern Arizona Equine Health Council has extended the reach of all organizations involved and benefited the horse owners of southern Arizona. This is an excellent example of university and industry professionals combining resources to reach stakeholders with

science based, pertinent information to improve the quality of care, management, safety, and welfare of their animals and themselves.

Kevin Heaton
Agriculture/4-H Youth Agent
UTAH STATE UNIVERSITY
Garfield County

Heaton, K.*[1], , **Brischke, A.[2],** , **Scow, B.[3],** , Ward C.A.[4],
[1] Agriculture/4-H Youth Agent, UTAH STATE UNIVERSITY, Panguitch, UT, 84759
[2] Agriculture Extension Agent/County Director, University of Arizona, Kingman, AZ, 86401
[3] Agriculture Extension Agent, Utah State University Extension, Hurricane, UT, 84737
[4] Family Consumer Science Extension Agent, Utah State University Extension, Panguitch, UT, 84759

Over 30,000 beef cattle reside in the rural counties of southern Utah and northern Arizona. Unfortunately in this large ranch county, there is limited veterinarian service dedicated to help beef producers with reproduction issues. Out of necessity beef producers must learn basic veterinary skills to manage their livestock appropriately. In 2008, ranchers requested Utah State University (USU) Extension to provide a pregnancy diagnosis workshop to help beef producers manage their livestock more effectively. In 2008, USU, in collaboration with University of Arizona (UArizona) and Southern Utah University (SUU) hosted a two day pregnancy diagnosis workshop with over 45 participants attending from Utah, Arizona and Nevada. Shortly after the workshop, the Utah Veterinarian Association protested the workshop claiming that Extension had over-reached its mission and had violated the Utah Veterinary Practice Act. Recognizing the need for continued reproduction education, Extension agreed to follow the current laws and regulations, and continue hosting reproduction workshops. The name of the workshop was changed from "The Cowmans' Pregnancy Diagnosis Workshop" to "The Annual Cowmans' Reproduction Workshop (CRW)". This grassroots educational effort has continued each year since 2008 and has reached 705 participants. Additionally, the CRW influences the management on an average of 5,622 head of livestock annually. In the last 3 years, 69% of surveyed participants have implemented reproduction management changes in their herds and 62% have observed improvements in herd reproduction due to the knowledge and skills gained at the CRW.

State Winners

State Winner	
North Central Region	
Nebraska	Randy D Saner
Ohio	Timothy McDermott
Northeast Region	
Pennsylvania	Cassie Yost
Southern Region	
Alabama	M. Kent Stanford
Arkansas	Olivia Foster
Georgia	Caitlin B. Jackson
North Carolina	Martha L. Mobley
Texas	Michael R. Hiller
Virginia	Jennifer Ligon
West Region	
Oregon	Scott J. Duggan

Search For Excellence in Sustainable Agriculture

National Winner

Sherri Sanders
CEA-AGRI

WHITE

Sanders, Sherri*[1],
[1] CEA-AGRI, University of Arkansas System Division of Agriculture, Searcy, AR, 72143

Approximately 2.3 million people in the US live in food deserts. The USDA defines a food desert as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food." Instead of grocery stores, these communities may have no food access or be dependent on fast food restaurants and convenience stores. The goal of this comprehensive program is to help turn food deserts into locations with access to reliable, affordable and healthy food options like fresh fruits and vegetables.

Experiential learning is the process of learning through experience. Hands-on learning can be a form of experiential learning and has proven to be successful in retention of subject matter. Gleaning information from others, with proven experience, can be invaluable to our clientele. Likewise, our seasoned audience have learned from the younger generation too. That is our goal through this program – to create a reciprocal learning environment for the public.

Intensive programmatic efforts were conducted/coordinated for the last three years in the following areas: 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. Demonstrations conducted:

2 Tomato Demonstrations (2018 pruning – 2019 Variety); Blackberry Demonstration – Primocane and Traditional Blackberries (2017 – 2020 multiyear project); 5 Brown Bag Lecture Series (2017 -2019); 4 Fruit Tree Pruning/Thinning Workshops; and 2 Edamame Demonstration Gardens for adults and youth (2019).

Since 2017 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 1,324,456 indirect contacts and 543,332 direct contacts in Sustainable Agriculture programming.

National Finalists

Glen J. Arnold
Field Specislist
Ohio State University Extension

Arnold, G.*[1], , Hartschuh J.M.[2], , Custer, S.[3], , Richer, E.[4], , Noggle, S.[5], , Ruff, G[6],
[1] Field Specislist, Ohio State University Extension, Findlay, OH, 45840
[2] Extension Educator, Ohio State Universty Extension, Bucyrus, OH, 44820
[3] Extension Educator, Ohio State Universty Extension, Greenville, OH, 45331
[4] Asistant Professor, Ohio State Universty Extension, Wauseon, OH, 43567
[5] County educator, Ohio State Universty Extension, Paulding, OH, 45879
[6] County educator, Ohio State Universty Extension, Napoleon, OH, 43545

Harmful algal blooms in the Western Lake Erie Basin (WLEB) have focused Ohio legislators, environmental groups, and farmers on the need to better utilize agricultural nutrients; especially the nutrients in livestock manure. The loss of phosphorus from farm fields is believed to impact the size of the algal blooms in Lake Erie and the amount of nitrogen reaching the lake influences the toxicity of the blooms. As wheat acreage has declined in the past decade, the manure application window has shifted to the fall when crops are rarely growing to utilize manure nutrients. Much of the nitrogen in fall-applied manure is lost from farm fields. The application of livestock manure to farm fields has traditionally been an expense for producers. Ohio State University Extension Educators raised funds to purchase equipment and completed on-farm research trials with livestock producers on using livestock manure as a side-dress nitrogen source to emerged corn. More than 1,200 acres has been side-dressed and 10 million gallons of livestock manure has been sub-surface applied to corn fields in the WLEB in the past three years. Yield results indicate liquid swine manure generally produces higher yields when compared to 28% urea ammonium nitrate fertilizer when applied at similar nitrogen levels. The cost savings of not purchasing side-dress nitrogen for corn, combined with the increased yields, makes applying liquid manure to corn a positive economic result. The use of liquid manure to side-dress corn can provide a new window of time for manure application in Ohio and apply manure when the nutrients can be utilized by a growing crop.

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

Bauder, S.[1], , Anthony Bly[2],
[1] SDSU Extension Agronomy Field Specialist, SDSU Extension, Tyndall, SD, 57066
[2] SDSU Extension Soils Field Specialist, SDSU Extension, Sioux Falls, SD, 57106

The Managing Soil: Maximizing Profit program objectives are to influence the way farmers and agriculture professionals view conservation agriculture and encourage conservation practice adoption. South Dakota's five principles of soil health: keep soils covered, limit disturbance, use plant diversity, keep a living root in the soil, and livestock/cropping systems integration are highlighted at several points throughout the meeting. Insights and tools provided at this program empower attendees to develop a connection between sustainable conservation agriculture techniques and economic efficiencies that can help farming operations to remain economically and environmentally sustainable. The program is held annually, during the winter (since 2016) near Sioux Falls, SD. Sustainable conservation farming practices are connected to profitability during educational presentations by hosting discussions and speakers that include bankers, economics/business management professionals, livestock extension specialists, crop consultants, soils research experts, and local farmers. Information is disseminated through PowerPoint presentations, fact sheets, direct discussions, and question/answer sessions. In 2017 we hosted 70 people, 2018 increased to 88, and 2019 attendance dropped to 63 (likely due to low farmer morale following an extremely challenging farming year). Over 50% of surveyed attendees in either 2017, 2018, or 2019 indicated that they intended to make changes on their operation as a result of

the program, such as: no-till conversion, planting cover crops, integrating livestock, and more. As each meeting passes and the soil health movement gains acceptance, more producers are adopting no-till practices and increased planting of cover crops is happening. Increased attendance of producers new to sustainable conservation is also occurring from year to year. The insights and tools provided at this program empower attendees to connect sustainable conservation agriculture techniques to economic efficiencies that save producer dollars, slow soil erosion, improve soil water management, reduce cropping inputs, break pest cycles, integrate livestock onto cropland and improve water quality. In addition, attendees spread new and improved farming techniques across eastern/southeastern South Dakota, which is often the most successful way to make changes within the agriculture community. Surveys were conducted at the conclusion of each program. The program is organized and hosted by Sara Bauder and Anthony Bly.

Mark Nelson
Agricultural Agent
UTAH STATE UNIVERSITY
Beaver County

Nelson, M.*[1], , Nicky Frey[2],
[1] Agricultural Agent, UTAH STATE UNIVERSITY, Beaver, UT, 84713
[2] Wildlife Resources Specialists, Utah State University Extension, Cedar City, UT, 84720

The Piute Ground Squirrel, (*Urocitellus mollis*, previously known as a subspecies of Townsends ground squirrel) 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 16,362 views. In 2019 the number of grounds squirrels found feeding in the crop ground was reduced by over 25%.

State Winners

State Winner	
North Central Region	
Missouri	Patricia Barrett
Southern Region	
Florida	De Broughton
Oklahoma	David Nowlin
Texas	Michael R. Hiller
West Region	
Montana	Tracy Mosley

Search For Excellence Young, Beginning or Small Farmers/ Ranchers

National Winner

Zachary A Davis
CEA AG/NR
TEXAS A&M AGRILIFE EXTENSION
Denton

Davis, Z.A.*[1],
[1] CEA AG/NR, TEXAS A&M AGRILIFE EXTENSION, Denton, TX, 76201

As bigger more traditional farms are being broke up to be further developing for the growing population smaller farmers and rancher that could be new to agriculture need education. The ag census data reflects a larger number of small acreage farms in Denton county. Small-scale agricultural operators and landowners increase their knowledge of traditional and organic production, as well as management education alternatives to improve quality of life, sustainability, and environmental practices. A 3 day tour was schedule for the summer of 2019 with dates in April, May, and June. Tours focused on a wide variety of agriculture enterprises to allow new producers to find a niche for them in their operation. 4 Sponsorships were solicited to hire a charter bus for participant travel during each day of touring. 45 registered participants signed up

for the tour. During the day 1 tour participants had a 46.3% change in the time commitment dedicated to each enterprise. Participants had a 39.9% change in knowledge related to the general management of honey bees and a 36.3% change in marketing and selling of honey. 39% of participants said they "definitely would" start a process for some ag production. Day 2 participants had a 43% change in understanding of grazing acres needed per cow. They had a 55% change in the understanding of Pierces disease in Texas, and had a 47.7 percent change in a designed vineyard business model. 100% said they would recommend this activity to other individuals. Day 3 participants had a 40% change in the understanding of the equine industry. They had a 33.3.% change in understanding of sheep production in North Texas, and a 30% change in understand of equine daily care. 90% of participants said they would attend another extension program.

National Finalists

Colleen C Larson
Dairy Regional Specialized Agent

Larson, C.C.*[1], , Bennett, L. H.[2], , Butler, L.D.[3], , Crawford, S.C.[4], , Davis, T.P.[5], , Kirby, C.L.[6], , Stice, B.C.[7], , Wiggins, L.F.[8],
[1] Dairy Regional Specialized Agent, , Okeechobee, FL, 34972
[2] Multi-County Livestock Extension Agent, UF IFAS, Dade City, FL, 33525
[3] Livestock Extension Agent, UF IFAS, Okeechobee, FL, 34972
[4] 4-H and Livestock Extension Agent, UF IFAS, Labelle, FL, 33975
[5] Livestock and Natural Resources Extension Agent, UF IFAS, Highlands, FL, 33875
[6] Livestock Extension Agent, UF IFAS, Palmetto, FL, 34221
[7] Livestock Extension Agent, UF IFAS, Bartow, FL, 33831
[8] Multi-County Livestock Extension Agent, UF IFAS, Labelle, FL, 33975

Women's roles on cattle ranches, dairies, and small farms have expanded and evolved over the past several years. Women are emerging as decision makers on cattle operations that have traditionally been managed solely by males. While some women have the educational or experiential background to fill these roles and attend traditional trainings, others need a more tailored approach to match their level of knowledge and style of learning. The 1st Cattlewomen's College was offered in south central Florida after several agents interacted with women who were not comfortable participating in hands-on activities or asking questions with their more experienced male colleagues present. The workshop included hands-on training for cattle processing, beef quality assurance and health, dystocia and reproduction, nutrition and forages, financial management, and media training. All classes were taught by women in the industry or extension and class size was limited to ensure participants were able to receive ample hands-on experience. Participants were asked to evaluate their knowledge gain and anticipated effect on their operation as a result of attending the workshop. 77% of participants indicated that this training would help them become more profitable, with 86% of participants planning to implement something new they learned at the training. Knowledge gains were realized across all subjects taught and reached apogee in the areas of beef quality assurance (+45%), nutrition (+44%), and dystocia (+44%). Knowledge increases in the areas of cattle processing (+37%), financial management (+31%) and media training (+23%) were also realized. Based on feedback from participants, the program will be repeated with more advanced training. 41% of participants indicated that the program exceeded their expectations and 55% stated that their expectations were met. Participant feedback will continue to be used to determine how to improve the quality of the program.

Nelson Brownlee
Farm Management Agent
NC Cooperative Extension
Robeson & Bladen Counties

Brownlee, N.[1],
[1] Area Small Farms Agent, NC Cooperative Extension, Lumberton, NC, 28359

Many small farmers face challenges in searching for alternative enterprises and opportunities to help diversify their farm operations. Due to the lack of formal education, many small and limited-resource farm families do not know what federal agricultural programs are available or don't understand some of the eligibility requirements. They are also constantly searching for farm programs to keep their land valuable, sustainable, and profitable. The goal of this educational program was to assist small farmers in Southeastern North Carolina Underserved Counties in linking them with federal and state resources. Outreach workshops were conducted in 2016 and 2019 with a total of 67 farmers attending. Evaluations conducted after each workshop showed that over three-fourths of the participants said that they improved their knowledge of United States Department of Agriculture Programs and they were going to apply for at least one USDA program. Follow-up evaluations showed that 10 attendees received NRCS-EQIP cost share grants for high tunnel greenhouses and an irrigation system totaling $74,800. Small and limited-resource farm families also benefited from receiving information on disaster assistance programs being offered by the Farm Service Agency to help recover from losses caused by Hurricanes Matthew and Florence. Information was disseminated through newsletters, news articles, informational fliers, and one-on-one visits. Many of them were able to receive financial assistance that helped recover some of the losses from the storms. With this

knowledge of agriculture programs provided by USDA, these farm families have a new opportunity to make their farms more profitable and sustainable.

Xiurui Iris Cui
Extension Area Specialist

Montgomery

Cui, X.*[1], , Karla K Kean*[2],
[1] Extension Area Specialist, , Clarksville, TN, 37040
[2] Extension Agent III, Tennessee State University, Clarksville, TN, 37040

The Slow Your Roll workshop series is offered through the Tennessee Beginning Farmers Outreach Program. The purpose of this program is to provide the educational resources to help participants understand and practice farm management and production fundamentals, and introduce the funding opportunities provided by USDA and other agencies. Tennessee new and beginning farmers, veterans, active military and seasoned farmers are the intended audience.

The 7-month 'lunch and learn' program includes presentations covering a variety of topics on farm financial planning and good agricultural practices. The program also includes hands-on sessions, field tours, and on-farm demonstrations to help participants better understand the topics.

A total of 220 participants have gained and expanded knowledge of production techniques and farm management. Of these, 143 have increased understanding of business planning and marketing, 28 producers have implemented good agricultural practices, 6 participants received the certificates of training from the Tennessee Beginning Farmers Outreach Program, and 6 participants have started new farm enterprises with a total increased income at around $50,000. Over 142 copies of books have been distributed to participants.

State Winners

State Winner	
Southern Region	
Arkansas	Sherry Beaty-Sullivan
Virginia	Rachel Henley

2020 Service to American/World Agriculture Award Winner - Deborah Johnson

When one think of exemplary service and making a difference in agriculture across the country, one immediately thinks of Deborah Johnson. Deborah has, time and again, been an inspiration to me as an Extension Agent and has been a mentor to countless others who serve and are served through agriculture.

Deborah cares deeply about agriculture, the farmers she works with, and her community. She makes a personal connection to anyone who gets an opportunity to be welcomed by her warmth and honesty. Deborah serves the pork industry at the local, state, and national levels. She started her service to agriculture in Johnston County, NC on a tobacco farm where she first began to appreciate agriculture. Her family began to grow turkeys for Carroll's Foods in 1980 and her knowledge continued to expand as she served as Public Relations Coordinator with Prestage Farms. She continued her career with the North Carolina State Ports, Premium Standard Farms, and Cape Fear Farm Credit. Deborah was appointed for and served three terms as a board member with the National Pork Board (NPB). She served on the NC Agriculture Biotech Advisory Council, was appointed to the NC Agriculture Trade Mission to China in 2015, and was appointed by Sen. Marc Basnight for the NC Agricultural Finance Authority. She served for 11 years as the Executive Director of the North Carolina Pork Council (NCPC) then returned to Prestage Farms in 2017 as their Communications Director. Today, their fourth-generation family farm is still in production, growing wheat, corn and soybeans.

Deborah has a real gift – she can exchange policy ideas at Capitol Hill in the morning, and exchange handshakes with a farmer that afternoon, all while making the people she works with all day feel privileged to converse with her. Earning a degree from UNC-Chapel Hill in journalism and speech communication, she uses this knowledge to be a voice for agriculture. Her positions with the NPB, the NCPC, the NC Cooperative Extension State Advisory Council, the NC State Agricultural Foundation, the National Pork Producers Council (NPPC), and many others, have given her the opportunity to articulate the needs, strategies, policies, and relations that have been integral in the current successes of these organizations.

In addition to serving as Executive Director, Deborah is the former president and member of the Board of Directors of the NCPC, former director of both the NC FFA Foundation Advisory Board and the NC 4-H Development Fund. She has chaired numerous committees including the budget, nominating, and producer/public health and workplace safety committees for the National Pork Board. Deborah has served on NPB committees related to market demand, leadership searches, strategic planning, environment and trade. She has worked with the NC Poultry Federation in organizing their annual banquets and the NC Agribusiness Council as a Public Policy Committee member.

When looking at Deborah's record, not only do you see a clear-cut long history of supporting agriculture and her community, but you also see a founder and innovator. She is at the beginning of successes throughout her career. At the NCPC she had many achievements including increasing promotion of barbecue, serving as a founding sponsor of the award-winning PBS series "A Chef's Life", addressing childhood hunger in North Carolina, advocating for agriculture through policy, marketing and public relations on the state and national levels, and partnering to develop economic opportunities in rural areas. Deborah was a Founding Director of NC Farm Families and the NC Animal Agriculture Coalition, which preceded Feed the Dialogue NC, as well as a Founding Director of the Sampson County Friends of Agriculture.

Deborah Johnson
North Carolina

Deborah's work is not limited to statewide or national events. She has served her community as a Sampson County Extension Advisory Board member, Meals on Wheels volunteer, Mintz Baptist Church clerk and Bible study leader, serving as a starter for their successful school, the Mintz Christian Academy. Deborah serves on the Clinton-Sampson County Public Library Board of Trustees and is a former director of the Clinton Area Chamber of Commerce, United Way of Sampson County, and the Sampson County Work Force Preparedness Committee. She is Past President of the Sampson County Chapter of American Business Women's Association.

From winning the NCPC's Hall of Fame award in 2020 to earning a NC FFA Honorary State Degree in 2002, Deborah has earned years of recognition for her service. She has been a recipient of the NCPC Lois Britt Service to the Industry Award, the NC Farm Bureau Distinguished Service Award, the NC Soybean Producers Association Meritorious Service Award, and she was honored by the NC Association of Agricultural Agents with the Service to Agriculture Award. She was selected as a NCPC delegate to the National Pork Industry Forum.

Although her agricultural service started as a child on a tobacco farm, she did not stop there. Deborah continues to make lasting impressions on all she serves. She is a current member of the Labor Security Task Force at the NPPC, Communications Director at Prestage Farms, Member of the Development Committee and Secretary for the NC Foundation for Soil & Water Conservation, Budget Committee and Research and Extension Committee for the NC State Agricultural Foundation.

Deborah and her husband of 41 years, Von, who is a purchasing director with Prestage Farms, live in Sampson County, NC and have two children and one grandchild.

Deborah is supportive of everyone in agriculture and Cooperative Extension, she has an impeccable work ethic, and understands land grant institution and Cooperative Extension missions. Deborah is an excellent communicator, moderator and facilitator, and approaches her work with caring, compassion and passion for agriculture and the hands, minds and hearts of those who serve it.

2020 NACAA Achievement Award Winners

SOUTHERN REGION

ALABAMA
Rhonda C. Britton
9 years

ALABAMA
S. Leanne Dillard
3 years

ALABAMA
Jessica A. Kelton
4 years

ARKANSAS
Russell Parker
6 years

ARKANSAS
Michael Paskewitz
7 years

ARKANSAS
Jan Yingling
9 years

FLORIDA
E. Vanessa Campoverde
9 years

FLORIDA
Christopher Prevatt
6 years

FLORIDA
Keith Wynn
9 years

GEORGIA
Nathan Eason
6 years

GEORGIA
Raymond Fitzpatrick
5 years

GEORGIA
Caitlin B. Jackson
7 years

GEORGIA
Kim Toal
8 years

KENTUCKY
Keith Center
4 years

KENTUCKY
Matthew Chadwick
6 years

LOUISIANA
Justin Dufour
5 years

MISSISSIPPI
Brad Jones
8 years

MISSISSIPPI
Melissa Morgan
8 years

MISSISSIPPI
Amanda Stone
3 years

NORTH CAROLINA
Jared Dustin Adcock
7 years

NORTH CAROLINA
Shannon Brooks
5 years

NORTH CAROLINA
Paige Patterson
6 years

NORTH CAROLINA
Steve Pettis
3 years

OKLAHOMA
Cody Linker
9 years

SOUTH CAROLINA
Justin Ballew
5 years

SOUTH CAROLINA
Ryan Bean
7 years

TENNESSEE
Jacob Boone
4 years

TENNESSEE
Celeste Scott
5 years

TENNESSEE
Jessica Wilkinson Smith
4 years

TEXAS
Matt Garrett
4 years

TEXAS
James Boone Holladay
7 years

TEXAS
Floyd O. Ingram, IV
5 years

TEXAS
Caitlin Jackson
8 years

TEXAS
Candace Moeller
3 years

TEXAS
Elizabeth Everett-Rudd
5 years

VIRGINIA
Lindy Tucker Fimon
7 years

VIRGINIA
Rachel G. Henley
8 years

2020 NACAA Achievement Award Winners

WESTERN REGION

COLORADO
Sherie Caffey
4 years

HAWAII
Andrea M. Kawabata
8 years

IDAHO
Joseph Sagers
3 years

MONTANA
Ben Hauptman
7 years

NEW MEXICO
John Robert Garlisch
9 years

OREGON
Sara Runkel
4 years

UTAH
Sheriden Hansen
3 years

WASHINGTON
Hannah Brause
3 years

NORTH CENTRAL REGION

ILLINOIS
Ken Johnson
6 years

INDIANA
Ophelia Davis
4 years

INDIANA
Sarah Hanson
7 years

IOWA
Brooke Blessington
4 years

KANSAS
Jared R. Petersilie
8 years

MICHIGAN
Emily Pochubay
6 years

MINNESOTA
Abby Schuft
7 years

MISSOURI
Kelly McGowan
6 years

NEBRASKA
Kimberly Clark
4 years

NORTH DAKOTA
Katelyn Hain
6 years

OHIO
Elizabeth M. Hawkins
3 years

OHIO
Timothy McDermott
4 years

SOUTH DAKOTA
Patrick Wagner
3 years

NORTH EAST REGION

MAINE
Leilani B. Carlson
7 years

MARYLAND
Nate Richards
4 years

NEW HAMPSHIRE
Emma Erler
2 years

NEW JERSEY
Hemant Gohil
5 years

PENNSYLVANIA
Andrew Sandeen
5 years

WEST VIRGINIA
Joshua Peplowski
8 years

2020 NACAA Distinguished Service Award Winners

SOUTHERN REGION

ALABAMA
William C. Birdsong
28 years

ALABAMA
Dr. Ayanava Majumdar
12 years

ALABAMA
Gerald L. Thompson
19 years

ARKANSAS
Kevin Norton
18 years

ARKANSAS
Beth Phelps
26 years

ARKANSAS
Phillip M. Sims
26 years

FLORIDA
Dan Fenneman
11 years

FLORIDA
Christine KellyBegazo
15 years

FLORIDA
Dennis M. Mudge
40 years

GEORGIA
Paula J. Burke
26 years

GEORGIA
Shane Curry
13 years

GEORGIA
Timothy Daly
13 years

GEORGIA
Dr. Tim Davis
24 years

KENTUCKY
Shane Bogle
18 years

KENTUCKY
Chad Conway
19 years

LOUISIANA
Albert Orgeron
13 years

MISSISSIPPI
Rebecca B. Bates
12 years

MISSISSIPPI
Dean Jousan
13 years

MISSISSIPPI
Amanda Woods
12 years

NORTH CAROLINA
Aimee Colf
14 years

NORTH CAROLINA
Sara Drake
16 years

NORTH CAROLINA
Eve Honeycutt
17 years

NORTH CAROLINA
Paul Mckenzie
21 years

NORTH CAROLINA
Molly A. Sandfoss
20 years

OKLAHOMA
Brian C. Pugh
15 years

SOUTH CAROLINA
Amy Dabbs
12 years

SOUTH CAROLINA
Anthony J. Savereno
12 years

TENNESSEE
Calvin Bryant
26 years

TENNESSEE
Dave J. Mallard
13 years

TEXAS
David Graf
12 years

TEXAS
Pascual Hernandez
22 years

TEXAS
Michelle Mihalek
24 years

TEXAS
Michael A. Palmer
22 years

TEXAS
Marcel Valdez
23 years

TEXAS
Tommy L. Yeater
20 years

VIRGINIA
Melanie W. Barrow
19 years

VIRGINIA
Matthew I. Miller
20 years

2020 NACAA Distinguished Service Award Winners

WESTERN REGION

COLORADO
Eric McPhail
14 years

IDAHO
Ron Patterson
14 years

MONTANA
Tim Fine
19 years

NEW MEXICO
Teresa T. Dean
18 years

OREGON
Derek Godwin
25 years

UTAH
Linden Kay Greenhalgh
15 years

WASHINGTON
Dale Whaley
17 years

NORTH CENTRAL REGION

ILLINOIS
Teresa Steckler
12 years

INDIANA
Richard Beckort
33 years

INDIANA
Steve Engleking
25 years

IOWA
Kris Kohl
31 years

MICHIGAN
Ron Goldy
25 years

MINNESOTA
Jodi DeJong Hughes
23 years

NORTH EAST REGION

MARYLAND
Jackie Takacs
22 years

NEW HAMPSHIRE
Carl Majewski
17 years

NEW JERSEY
Mike Haberland
11 years

NEW YORK
Sharon Bachman
11 years

PENNSYLVANIA
David Messersmith
22 years

WEST VIRGINIA
Jennifer Ours Williams
27 years

MISSOURI
Patrick L. Byers
11 years

NEBRASKA
John Porter
11 years

NORTH DAKOTA
Ron Wiederholt
25 years

OHIO
Rob Leeds
28 years

OHIO
Ted Wiseman
18 years

WISCONSIN
Adam A. Hady
15 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

2020 Southern Region Hall of Fame Award
William A. Hogan, Jr.
Louisiana

In 1974, Allen Hogan's career began with an extension appointment as a 4-H Agent in Lincoln Parish, Louisiana. Nearly 5 decades later, Allen is still providing high quality extension programming and the latest research-based information to his clientele. During his tenure in extension, Allen's knowledge and versatility has allowed him to serve in many different job capacities. However, Allen most comfortably identifies as a County Agent in Southwest Louisiana- a role that he has filled for nearly 40 years.

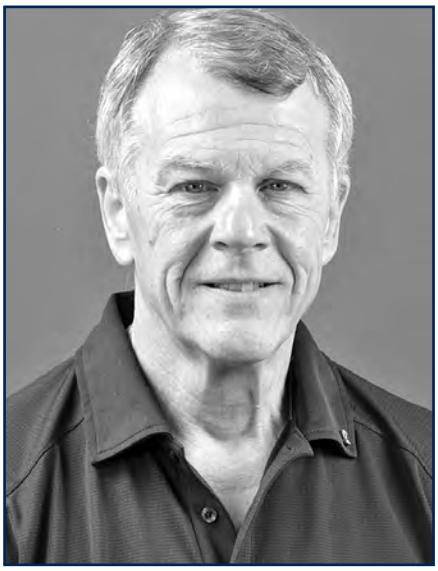
Throughout his career Allen has gained the respect and admiration of his peers and clientele thus allowing him to serve as the Southwest Region Agronomy Specialist from 2001-2012, and interim state soybean specialist 2001-2002. When Allen decided to retire in June of 2012 he was quickly rehired as a State Extension Agent in the Louisiana Master Farmer Program. In this role over the last 8 years he has trained nearly 200 Louisiana Farmer to be better stewards of the environment by incorporating best management sustainability and conservation practices into their growing operations.

Allen has put in over 250 result demonstrations on producer's farms demonstrating variety performance, cultural practices, pest management for crops ranging from soybeans to sweet potatoes. He has conducted over 50 productions schools and field tours. For 6 years he supervised the Louisiana Soybean Research Verification program and he was selected by the American Soybean Association to represent Louisiana in an on-site study of Asian Soybean Rust in Brazil.

Allen's mass media efforts have included a weekly newspaper, radio and semi-annual TV appearances.

His service to his employer has included serving as superintendent of parish, district and state dairy and beef shows and serving of the LSU Faculty Council for 9 years in addition to serving on numerous LSU Campus Committees.

For 35 years, Allen has been a member of the Louisiana Association of County Agricultural Agents and NACAA. During this time period he has attended 26 NACAA AM/PICS and 35 state LCAAA AM/PICS. His service to his state association includes serving as a state committee chairman and state president. On a National level he has served as a NACAA Regional Vice-Chair for Agronomy and Pest Management, and as a Nominating Committee member. Allen has presented nominating speeches for national candidates, presented papers in the Agronomy and Pest Management, and he served on the inaugural committee for establishing the County Agent's e-journal. This led to Allen serving as a referee and paper editor for the County Agent e-journal its first year.



2020
Southern Region
Hall of Fame Award
William A. Hogan, Jr.
Louisiana
44 Years - Retired

Allen's humanitarian efforts range from serving as a Red Cross First Aid/CPR instructor to his volunteering efforts at his local Our Lady Help of Christians Catholic Church. Allen donates annually to his alma maters Louisiana Tech and LSU College of Ag's scholarship funds and teaches a grooming and showmanship class for the LSU Dairy Science Department. He works to improve his local community's health by serving on the Jennings American Legion Hospital Advisory Board and assisting with their educational programing.

Year DSA Awarded: 1995

2020 North Central Region Hall of Fame Award

Steven E. Munk

South Dakota

Steven Munk began working for South Dakota State University Cooperative Extension Service as a County Agent in Minnehaha County in 1981. Throughout his 31 year Extension career, Steven served as a Generalist (7 years), a Horticulture Educator (18 years), and as a 4-H Coordinator (6 years).

Steven was born and raised on a farm near Dell Rapids, South Dakota where he developed a strong work ethic and an appreciation for the effort required to produce food and fiber. From early on Steven understood the value of professional improvement associations and became active in the opportunities and leadership they provided.

After attending a NACAA workshop, Steven was 1 of 6 County Agents who brought the Master Gardener Program to South Dakota. He was instrumental in establishing the Minnehaha County Master Gardener Program which then led to the creation of a regional Lawn and Garden Show, Local Garden Tours, and Community Garden locations in the city of Sioux Falls. Steven's ability to communicate and educate clientele shined as a panelist for a number of years and then as host (2 years) for the Public Television Program "Garden Line", a live garden call in Show. Steven was recognized and trusted by many who sought horticulture information and answers.

Determining program needs/concepts and developing concepts into reality is an area Steven enjoyed throughout his career. Some of his most notable ideas/programs include establishing the Minnehaha Water Coalition, working with the City of Sioux Falls to establish a Christmas tree recycling program, developing a composting program, and a lawn watering demonstration site at the Great Plains Zoo. Steven has a talent for connecting people and leading diverse teams of people from many different agencies. His ability to develop unique partnerships helped create and establish the Sioux Empire Safety Village, the Sioux Empire Water Festival, and the Washington Pavilion Ag Appreciation Day.

Steven has served NACAA in leadership roles on the national level for more than 19 years; serving as the North Central Vice-Director, North Central Director, Professional Improvement Council Chair, National Vice-President, President Elect, President and Past President. Steven has attended 32 NACAA AM/PICs, 4 Galaxy Conferences, 9 Public Issues Leadership Development Conferences, 10 North Central Officers Leadership Conferences, and 10 Joint Council of Extension Professionals sponsored Regional Leadership Development Workshops. In 2015, Steven served as the Sioux Falls, SD AM/PIC Chair.

Steven has an extensive background with humanitarian/public service work, serving in various leadership positions within the Sioux Empire Fair Association, Lutheran Church of Dell Rapids, Logan Township Treasurer, State Bond Board, Prairie Rose South Dakota Wind Farm Foundation, Dell Rapids School Board, Dell Rapids Hospital Advisory Board, Extension Partner Organization, and 4-H Citizenship Washington Focus Chaperone (for 15 years). Steven became President of the Sioux Empire Fair Association during a challenging time. Within his 2 year term as President, the Fair Association went from $200,000 in debt to $200,000 in the bank. Steven exemplifies the dedication of a public servant and leader not only in his Extension career, but beyond.

2020
North Central Region
Hall of Fame Award

Steven E. Munk
South Dakota
31 Years - Retired

Year DSA Awarded: 2005

2020 Northeast Region Hall of Fame Award

George W. Hamilton

New Hampshire

George Hamilton is responsible for developing many of UNH Extension's most impactful agricultural programs, including several pest monitoring and outreach programs, tree fruit production, and pesticide sprayer calibration programs.

2020
Northeast Region
Hall of Fame Award

George W. Hamilton
New Hampshire
31 Years

Hamilton leverages partnerships with grower associations to

comes beyond what he or his team could accomplish alone. He is an active member and leader in almost every state agricultural association including state technical committees.

Hamilton is exceedingly well respected across the entire region; sometimes it is difficult to keep him in the state, as the skills he offers are extremely unique and in such high demand. He has a propensity for offering some of our most popular grower meetings, no matter the topic. One grower stated: "Working with George is like praying with the Pope, it just doesn't get any better". Growers and associations provide direct funding for research and education to support the work Hamilton does; citing the impacts of his pest monitoring efforts, sprayer calibration education, and exceptional presentations. Hamilton's detailed impact reports enable him to consistently secure funding through the New Hampshire Department of Agriculture for his pest monitoring work. Hamilton has received more funding through the national IPM program for his work than any other staff member in UNH Extension's history. The combined work of his sprayer calibration and pest monitoring programs have not only saved hundreds of thousands of dollars in reduced pesticides, but have turned some farms from unprofitable to profitable.

George has continued to recognize the importance of the association throughout his career, as exemplified by his work in early 2014 to rejuvenate the state association after leadership had lapsed. After considerable budget cuts, staff layoffs and retirements in 2008, the New Hampshire chapter was inactive. Without George's leadership and commitment to the New Hampshire Agents, it is unlikely New Hampshire would have the robust group that is present today. George took initiative to call an organizational meeting and coached a new leadership team in to organizing a new chapter. He underlined the importance of engaging in the association at the national level, and provided administrative assistance to the new team. His leadership has directly resulted in a successful rebirth of the Association within our state.

In addition to the many roles Hamilton serves on through his Extension work, he has continued to remain active in his local community. He served for twelve years as a coach for the track and field throwing team, served for 21 years on the Alvirne High School Agriculture Education Program, Farm Committee and Vocational Committees and provided coaching to the Farm Business Management Teams, one of which went on to become a national winner. In 1996-2002 Hamilton assisted on a task force to review the Elementary Science Curriculum, and in 2008-2010 served as Vice-Chair of the School District Building project. Hamilton also spent four years on the board of directors for an environmental nonprofit, the Beaver Brook Association.

Year DSA Awarded: 2009

NACAA/JCEP Creative Excellence Award 2020 Recipient - Blair Griffin - University of Arkansas

In 1914 the Smith Lever Act created a Cooperative Extension Service associated with each land-grant institution to enable the dissemination of information on agricultural technologies and improved practices to farm families using a variety of communication methods and training programs. Never has the role of a county agent been more crucial to assist educating and raising the productive capacity of our farmers as it is today. It is through education and communication that agricultural agents can bring changes in farmers' knowledge, attitudes and skills thus helping farmers to adopt proven agricultural innovations. Our goal is to prepare our new, mid-career or struggling agents with skills which will allow them to assist our stakeholders and clientele with non-biased, research-based information that will increase farm productivity, farm revenue, reduce poverty and minimize food insecurity.

Encouraged by our administration, we implemented a training to educate our new and mid-career agricultural agents in three different disciplines – livestock/forages, row crop agriculture and horticulture through Peer-to-Peer training. Under the direction of our Area ANR Educators, seasoned agents were utilized to teach the participants about their experiences and what it takes to be successful in Extension in the state of Arkansas. Our agents are inundated with workshops and trainings conducted by specialists; however, we felt this was beneficial for our organization in retention of our new employees. This program has been ongoing for three years and has proven successful.

Program Activities

Arkansas Extension has seen a reduction in staff in the last 20 years. Many counties had more than one Ag agent in their office previously. This proved to be an adequate system for the older agent to mentor the younger agent and to help advise and provide guidance to the new hire. Due to budget restrictions, we only have one agent in those areas to serve clientele. Employee retention is of paramount importance for our organization. Losing employees can mean losing valuable institutional knowledge, lower morale in remaining staff and lost productivity. Oftentimes we are faced with

the reality that we lose our new agents because they received poor onboarding experiences, a lack of clarity surrounding job duties, they are overwhelmed with job responsibilities or their family situation has changed. Retention of exceptional new Ag agents is critical to our entire organization.

The purpose of this project is three-fold: to assist our new, mid-career or struggling agents in developing comprehensive county programming; to improve our retention rate of new hires by making them feel accepted and adequately prepared to properly handle situations in their specific counties as they occur; to encourage and promote a camaraderie based on mutual respect among new agents and seasoned agents.

Trainings held?

Some of our Cooperating Farmers and Industry Tours include:

Southland Gin
Lake City, AR 72437

Delta Peanut, LLC
Jonesboro, AR 72401

Ritter Farms
Judsonia, AR 72081

Ritter Agribusiness
Marked Tree, AR 72365

Sue Simpson, Cattle Producer
Scott, AR 72142

Steel Fletcher, Row crop/ livestock producer
Enola, AR 72047

Chris Schaefer, Livestock Producer
Conway, AR 72034

Teaching Methods

Experiential learning is the process of learning through experience. Hands-on learning can be a form of experiential learning and has proven to be successful in retention of subject matter. Gleaning information from others, with proven experience, can be invaluable to our inexperienced agents. Likewise, our seasoned agents have learned from the younger generation too. That is our goal through this program – to create a reciprocal learning environment for the agricultural agents in our state.

Under the ANR Educator's guidance, seasoned agents with specialization in row crop, livestock/forages and horticulture were be utilized to conduct trainings (1-2 days each) in each of these programmatic areas to teach the group the "nuts and bolts" of what it takes to be a successful agent with a comprehensive county program. The participants were taught through "hands-on training", field tours, and demonstrations in a low–key relaxed atmosphere. The participants leraned how to do their specific programmatic work, write news releases, social media outreach ideas, deal with difficult clientele, prepare promotion documents, time management skills, identify resources who are willing to assist them, etc. Our goal was to set them up for success as a county agent. If they are proficient at their job and their county programming is excellent it will benefit our entire organization and most importantly, our stakeholders and clientele.

Results

Peer-to-Peer training has several advantages, including: 1) potential of inexperienced agents to feel comfortable with seeking advice without being ashamed or embarrassed (there are no dumb questions); 2) since specialists sometimes teach at a higher level than our new hires can absorb, this will allow our seasoned agents to break down material for easier learning in a laid back atmosphere; 3) the potential to create a close-knit relationship with seasoned and inexperienced agents in different areas of the state; 4) reduction in employee turnover because the new agents will feel better equipped to handle the overwhelming job of being a county agent; 5) research shows that experiential learning has been proven to be the best way people learn; 6) learning is power, therefore our agents have learned they can call on others for help, they've become empowered and many are beginning to provide the same mentorship for others and will continue in the future.

Impact Statement

Often new or under experienced county agents are faced with situations in production agriculture that, quite often, can be trying. Many are trying to meet the needs of clientele that are using more experienced consultants that may or may not always be using the most economical production practices for their producers. There is a great need for hands-on training in Integrated Pest Management (IPM), in all crops to assist agents in making the most profitable recommendations for producers. This involves understanding growth stages of crops, identification of weeds, insects and diseases that affect these crops, and the recommended thresholds for controlling these pests as well as proper irrigation techniques. It takes time and a lot of experience to become competent in many of these areas and hands-on peer to peer trainings is one of the best tools that can be utilized to help get agents to the level of confidence they need to make sound recommendations.

Evaluation

Three years of evaluations revealed:

29 agents participated in trainings

85% stated that the trainings gave them considerable new information I could use in my county program
54% stated that the trainings provided them with resources needed to effectively answer crop specific calls
79% stated that they've improved their weed identification and pest control management skillset
73% learned new ideas for maximizing visibility of their county program through social and mass media
94% stated they felt more equipped to handle the calls and now know where/who to use as a resource

2020 ABSTRACTS OF THE NATIONAL WINNERS AND FINALISTS COMMUNICATIONS AWARDS CONTEST

Audio Recording

National Winner

Aaron J.H. Nygren
Extension Educator
University of Nebraska

Nygren, A.J.*[1],
[1] Extension Educator, University of Nebraska, Schuyler, NE, 68661

The purpose of this audio recording was to make listeners aware of the finding of frogeye leaf spot resistant to the QOI fungicides. This audio recording covered one of my monthly spots that I record for KTIC Radio to air during their Extension Corner series. This series exposes listeners to short two or three minute long radio spots covering Nebraska Extension information Monday through Friday every week, with each day having a different subject matter focus. Our team of four extension agronomists in Northeast Nebraska takes turns covering the Thursday radio spot. The objective of my radio spot for the fifth Thursday in the month of January was to provide listeners with information about some of characteristics of frogeye leaf spot, results of UNL testing in 2019 that found resistance to the QOI group fungicides, and management options going forward. I felt that this was an important topic to cover given that many farmers are still unaware of frogeye leaf spot in Nebraska and that recent research showed a problem that was going to impact how farmers should treat for the disease. I also felt like this was a good way to reinforce one of the key messages for resistance management of using multiple modes of action. I prepared this recording by typing my script ahead of time. I then used Audacity computer software and a USB microphone to record and edit the presentation in my office as an MP3 file. This file was then emailed to the radio station. This 2 minute and 22 second recording was aired on KTIC Radio on January 30th, 2020 at 11:17 a.m. on their 840 AM station which reaches listeners across eastern Nebraska, as well as the southeast corner of South Dakota and the western edge of Iowa.

National Finalists

Emily Krekelberg
Extension Educator
UMN Extension-Stearns County
Stearns

Wilmes, E.*[1],
[1] Extension Educator, UMN Extension-Stearns County, St Cloud, MN, 56301

The submitted clip is from the February 24, 2020 episode of the Something Greater Podcast. Something Greater is a podcast from Land O' Lakes, Inc. that explores the farmer-to-fork community through a wide range of topics and guests. The ultimate goal is for listeners to understand that a connection to the cooperative is a connection to something greater. The primary audience of the podcast is the 4,000 member-owners of Land O' Lakes, Inc.; the podcast is also shared with 10,000 employees and available on all public podcast platforms. The podcast has listeners in over 1,300 U.S. cities and 50 countries around the world.

I was asked to be one of the guests for the episode titled, "The Struggle: A mental health crisis in rural America." The goal of this episode was to open up an honest conversation about farmer mental health. The episode was not only on how to recognize loved ones who may need assistance but to put these issues in context. What farmers and rural communities are facing right now are intense challenges on many fronts.

It was an honor to sit down with host Kim Olson and Glenda Gehl, Senior Director of Member Relations at Land O'Lakes to chat about signs of stress, available support, and what "something greater" means to us. In August, I had the opportunity to present QPR, suicide prevention training, at Land O' Lakes Headquarters. We were able to discuss what QPR stands for, and what we can learn from it. Farm stress is a relevant topic, and I honestly hope it remains relevant. Taking care of our mental health is always important.

The podcast was recorded and edited at Land O' Lakes, Inc. Headquarters by their communications team.

Terasa M Lott
State Coordinator SC Master Gardener Program
Clemson University Extension Service
Statewide

Lott, T.M.*[1],
[1] State Coordinator SC Master Gardener Program, Clemson University Extension Service, Florence, SC, 29505

Making It Grow is a weekly television program that provides research-based gardening information in a format that is fun and easy to understand. The program is produced by South

Carolina ETV in partnership with Clemson University's Extension Service. *Making It Grow Extra* is a podcast in which the host of the show discusses various gardening related topics with experts in the field.This podcast, titled Turning Your Yard Into A Habitat, was recorded on June 25, 2019 at the ETV studio in Sumter, SC. On July 17, it was posted to the South Carolina Public Radio website and a link shared on the *Making It Grow* Facebook page. The Facebook post reached 2,689 people with 204 engagements.

An increased awareness in the importance of pollinators has resulted in a heightened interest in creating pollinator friendly landscapes.The objective of the podcast was to encourage homeowners to change the way they think about managing their landscapes from the default of large expanses of turfgrass, which has relatively low ecological value, to only strategically placed turfgrass. The host and Extension Association discussed a project at the Extension Associate's residence which reduced lawn area by approximately 625 square feet through two beds with transplants and one bed with a drought tolerant wildflower seed mix. An emphasis was placed on providing diversity to meet the needs of the diverse insect world but it was also noted that options are available for those that prefer a neater, more manicure aesthetic. The conversation went beyond pollinators and also discussed the importance of insects in the landscape, especially caterpillars, for supporting songbird reproduction since many enjoy attracting birds to their backyards.

Taun Beddes
Horticulture Agent
UTAH STATE UNIVERSITY
UT

Beddes, T.*[1], , Gunnell, J[2], , Caron, M.[3],
[1] Horticulture Agent, UTAH STATE UNIVERSITY, Provo, UT, 84606
[2] Extension Horticulturist, UTAH STATE UNIVERSITY, Logan, UT, 84321
[3] Extension Horticulturist, UTAH STATE UNIVERSITY, Orem, UT, 84097

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 and hosts have varied 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. A continued goal is to increase listenership and exposure to a younger demographic through more targeted use of social media.

Regional Finalists

Sandra Wick
District Extension Agent, Crop Production
K-State Research & Extension
Post Rock Extension District #1

Wick, S.*[1],
[1] District Extension Agent, Crop Production, K-State Research & Extension, Smith Center, KS, 66967

Producers are continually faced with the challenges of "Mother Nature" on their wheat crop, so to address the important topic, I developed a radio program for producers. The objective of this particular radio program was to inform producers on the damage potential to their wheat crop due to cold temperatures. The purpose was to educate producers on specific factors and symptoms that might appear to the wheat due to the cold temperatures along with any management guidelines to follow for their wheat. The Post Rock Extension District is an agricultural based, five-county area with a population of approximately 20,250 citizens. The producers were provided wheat production information with two different radio stations, KDNS, Glen Elder, KS and KVSV, Beloit, KS. The programs were aired on Friday, November 8, 2019, at 6:40 a.m. and on Monday, November 11, 2019 at 12:05 p.m. After the program was aired, more specific questions arose on the potential damage to the wheat crop and producers thanked us for providing the information. The radio program was prepared and recorded in the Post Rock Extension District – Smith Center Office, on a computer using Logitech headphones/microphone and the software, ***"Audacity".***

Judith L Wright
Sr. Agriculture Economic Specialist
Cornell Cooperative Extension
Seneca County

Wright, J.L.*[1],
[1] Sr. Agriculture Economic Specialist, Cornell Cooperative Extension, Waterloo, NY, 13165

This is a recorded contribution focused on an agriculture related topic is written and recorded by Judy Wright. It is submitted as an MP3 file to WGVA in Geneva, NY and was initially aired daily through the week of May 27, 2019 at approximately 5:30 am. The purpose of this recording was to create awareness of this invasive pest of lilies and to provide listeners with control measures as well as how to contribute to research if they so desired. The recording is made using Audacity software in the educator's office.

Mark Tancig
EA I - Comm & Res Hort
UF/IFAS Leon Co. Extension
Leon

Tancig, M.*[1],
[1] EA I - Comm & Res Hort, UF/IFAS Leon Co. Extension, Tallahassee, FL, 32301

Mistletoe (*Phoradendron leucarpum*) is a common interest story during the holiday season due to the lore surrounding it, yet many people are still unaware of its presence or biology. This native hemi-parasitic plant can commonly be found on hardwood trees and is a valuable food source for local wildlife. The objective of creating this audio recording was to provide science-based information regarding the biology of this common, yet often misunderstood, plant to a broad-range of public radio listeners.

As the UF/IFAS Extension Leon County Horticulture Agent, I provide evidence-based horticulture information to citizens of Leon County that reinforce the nine Florida-Friendly Landscaping™ principles. Through various educational materials and methods, such as conducting presentations, writing newspaper articles, and answering calls and emails, audio recordings for a radio audience are another way to reinforce promotion of science-based practices for sustainable landscape management, including increasing knowledge of local native plant species.

Evidence that this audio recording resulted in knowledge comes from several personal emails commenting on the timeliness of the piece and several comments from members of the public stating they enjoyed learning more about mistletoe.

I was contacted by the local public radio station (WFSU) to provide information about mistletoe and asked if I could participate in the production of a short video. I arrived at the radio station with necessary tools where I was interviewed and filmed on site. WFSU staff used the audio portion for an on-air news segment. WFSU staff did all the post-processing, editing, and playback of the audio recording. The recording was played during the local news segments on December 20, 2019 and posted to WFSU's News webpage. At least one other local public radio station replayed the audio recording (WUSF on December 21, 2019). The audio recording can be heard here - https://news.wfsu.org/post/did-you-know-mistletoe-grows-trees-we-didnt-until-we-went-outside-and-looked.

WFSU radio reaches 70,400 listeners a week on four different channels that are broadcast in Tallahassee, Fl., Carrabelle, Fl., Panama City, Fl., and Thomasville, Ga.

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 plants needed to create a Monarch Waystation and a recipe for Buffalo Style Beef tacos, which aired the week of March 9th through March 13, 2020.

Jessica Swapp
Extension Ag Agent
New Mexico State University Cooperative Extension Service
Grant County

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

The objective of the podcast is to provide local as well as global clientele research based, up to date agriculture information and education. The podcast features both local grassroots agriculture organizations as well as featured Extension specialists. This podcast began as an outreach tool for the public to provide accurate research based information and education. The podcast is also able to reach clientele where they are, without clientele having to attend a program. The podcast also utilizes published agriculture statistics and Extension publications from Land Grant Universities. The episodes vary in time and topic. There is not a set schedule for the release of new episodes. Episodes are released when the information is relevant to the time of year and topic. Episodes are available for unlimited plays on the host website as well as through several podcast "apps." The County Agent conducts the interviews with minimal equipment and can conduct an interview anywhere. The County Agent also edits recordings for content and publishes the episodes. The agent researched all steps to produce the podcast and is self-taught. Episodes are recorded on an iPhone, transferred to iTunes, converted to a WAV file, moved to Audacity where they are edited for content and royalty free music and sound effects are added. Once finished, episodes are uploaded to the host website and published for listening. Episodes are advertised through broadcast email, links on our Facebook page, as well as links on several grassroots agriculture organizations Facebook pages. The podcast began in December of 2019 and currently has seven episodes. The podcast episodes have been downloaded 396 times listened to in 16 states and 5 countries. Listeners are provided contact information for the Extension office as well as any specialists that are on the podcast episodes. The submitted program aired January 24, 2020.

Linda Chalker-Scott
Extension Specialist and Associate Professor
Washington State University
WSU Puyallup

Chalker-Scott, L.*[1],
[1] Extension Specialist and Associate Professor, Washington State University, Puyallup, WA, 98371

Gardeners have heard that black walnut trees (*Juglans nigra*) contain a toxic chemical called juglone that will kill any other plants growing nearby. But is this perception supported by science? Urban Horticulture Extension Specialist Dr. Linda Chalker-Scott talks to Farmer Fred* (Fred Hoffman) on the KFBK Garden Show to explain the origins of this myth and reassure gardeners that black walnut trees in their landscape are not going to injure their other garden plants. (The WSU Extension fact sheet used as the basis for this interview is included as an attachment. It has been downloaded nearly 1000 times since its publication in March 2019.)

This ~13 minute segment is found in the January 12, 2020 broadcast. It runs from 20:32 – 33:55.

https://www.iheart.com/podcast/the-kfbk-garden-show-20475020/episode/tree-care-in-january-guest-arborist-55505086/

*"Farmer Fred" Hoffman is a University of California certified lifetime Master Gardener and garden columnist.

State Winners

State Winner	
North Central Region	
Illinois	Jennifer Woodyard
Iowa	Paul Kassel
Michigan	Eric Anderson
North Dakota	Mohamed Khan
Ohio	Mark Allen Badertscher
South Dakota	Adam Varenhorst
Southern Region	
Alabama	Tony A. Glover
Mississippi	Brady Self
North Carolina	Paul Mckenzie
Oklahoma	David Nowlin
Tennessee	Xiurui Iris Cui
Texas	Marshall Tolleson
West Region	
Montana	Mat Walter

Published Photo

National Winner

Alicia Halbritter
Agriculture & Natural Resources Agent
UF/IFAS Baker County Extension
Baker

This photo was taken on June 3rd, 2019 and utilized in print twice, as part of a fact sheet for the 2019 Corn Field Day, and a research update infographic for industry partners. The objective of this photo was to help depict issues related to insect management in field corn production. The photo was used in a fact sheet given to producers at the Corn Field Day to

discuss findings from the associated research project in which stink bug populations and related damage were monitored in a plant population density study. The photo was taken in the research field by the agent during data collection. Attendees (n=64) of the Corn Field Day who received the Stink Bug fact sheet were given a presentation about the biology of stink bugs, the life cycle, and how adult mating leads to high nymph populations which leads to increased crop damage. The agent is solely responsible for the photograph, the development of the fact sheet, and the infographic. 95% of survey respondents from the 2019 Corn Field Day said the handouts (Stink Bug fact sheet) will be useful for future reference and that they intended to apply the information learned to improve their corn production program.

National Finalists

John Porter
Extension Educator/Assistant Professor
Nebraska Extension
Douglas

The CUSP Scholars program is a UNL program funded by the Buffett foundation that brings cohorts of students from Rwanda for four years of undergrad education. During the summer, students engage in learning activities on campus and throughout the state. During this session, I led a two week course on gardening and horticulture for a group of 25 Rwandan exchange students. Using my experiences traveling in Rwanda, I engaged the students in discussions of the need for increased food production in the country and upcoming investments in hydroponics and developed hands-on experiences using materials that should be easily found in the country.

The photo was published as part of an article I wrote for the Garden Professors Blog titled "DIY Hydroponics: Going soil-less at home and abroad" in addition to various social media posts about the program. Sharing the story of the program through photos and articles is key to highlighting the successes of the program in helping give Rwandans tools to address the issues in their country when they return.

The article was also published to meet the demand for information on small-scale home hydroponics.

The audience for the Garden Professors Blog consists of home gardeners and horticulture professionals interested in evidence-based gardening information. The blog has over 50,000 viewers and subscribers on Wordpress and Facebook. The article containing this photo has been viewed at least 800 times since publication in October 2019.

Timothy McDermott
Ext. Educ., ANR

Franklin County Ext. Office

This is a picture of a cluster of larval forms of the Black Swallowtail butterfly, *Papilio polyxenes*, collected by students at the OSU Student Farm during an on-farm consult on production practices on June 21st at 8:00 am. I shot this with an iPhone 8, filtered for sunlight and exposure via the Juno Instagram filter. It showcases Japanese bokeh technique which draws the focus to the forefront while using the aesthetic quality of the blur of the farm and student farmers in the background. Social media allows the Extension Educator an alternate way to promote, market and educate that differs from traditional programming. In Franklin County, the urban agricultural community is social-media conscious and connected on varied levels. Students especially will connect much more reliably and readily through social media messaging platforms than email or old school media. My goal for entry was to show that picture quality, storytelling and education can come in many forms. While this may not be from a published work or journal, the photo still has impact, shows high quality, and captures the early morning moment experienced by the students in their interaction with the pollinators at their farm. The students were surprised that the beautiful pollinator larvae were consuming their hard work and had already grazed their carrot patch. While some of the students are in Horticulture and Crop Sciences, some participate simply to get experience growing. No formal evaluation was completed. Clicks and likes would not be an acceptable form of impact data for evaluation. That was not the intent of the photograph. The photo was part of a social media shout-out and thank you to the students at the farm for sharing their time, energy and enthusiasm. The captions and text within the Instagram dialogue reflect the interactions common between friends using social media. They should be evaluated through that lens as it was meant to reinforce friendship and collaboration.

talking hocking They got plenty of pollinators at Waterman Farm #knowyourfarmer #osuextension #farmlife

studentfarmosu Thanks for stopping by, it was a real treat having you (emoji)

Link for Evaluation:

https://www.instagram.com/p/By-UP7gDVAr/

Anna Busch
Field & Forage Crops Educator
Penn State Extension
Union County

This photo was published in a Penn State Extension article, titled "Soybean Sentinel Plot Report - August 27, 2019", that reported the common insect pests and diseases from weekly soybean scouting efforts across the Commonwealth of Pennsylvania. Silver-spotted skippers were one of the most common pests in late August. The photo was captioned "A silver-spotted skipper caterpillar. These colorful animals can be easy to find in soybean fields this time of year, but rarely cause economic damage." The article was published in Penn State Extension's "Field Crop News" e-newsletter that is published weekly during the growing season and reaches over 8,000 subscribers.

Regional Winners

Phil Kaatz
EXTENSION EDUCATOR
MSU EXTENSION
LAPEER

Lapeer County Michigan State University (MSU) Extension collaborates with the Rockford Map Publishers, Inc. to publish a county plat book every two to three years as a fundraiser for 4-H and other MSU Extension programming. The plat books provide up to date information as a guide for private land ownership.

The plat book was published in September 2019 for print sale in book form. The books are available for sale from Lapeer County MSU Extension and several other county governmental offices. The plat book is also available as an eBook at the following website: https://rockfordmap.com/Buy-Now?SubmitType=&State=153c7a93-a05c-4969-9373-ec737472593b&CountyGUID=47ba5e83-e1a8-4e71-b0fd-484288f36132&Category=editions&Type=&Year=2019 There have been 408 books sold as of March 2020.

The photo by Phil Kaatz captures the natural beauty and serenity of a spring day in Lapeer County. Any road or highway in Lapeer County may have a burst of stunning landscape around the bend to highlight a field of cover crop. The photo was taken with a Canon EOS Rebel T2i using an EFS 18-55mm lens in early June 2019. Two photos were submitted as possible options for the book cover and both were used by the graphics editor for the final cover design.

Sarah Marie Hirsh
Agent
University of Maryland
Somerset County

Diagnosing pest issues on farms can be a challenge, as there are a huge number of pests, diseases, and nutrient deficiencies to distinguish. At the farm where the current photo was taken, the grower was surprised to learn that she had stinkbugs, as she had been diligently scouting for them and had taken precautions against them. Stinkbugs tend to be evasive, actually dropping to the ground and hiding when humans approach. Often, such as in this case, understanding the signs and symptoms of pest damage is critical for Ag Service providers and growers to confidently diagnose and treat problems, as the pests themselves may rarely be seen. The current photo shows the patterns of discoloration that occurs when the stinkbug removes material from the tomato cells, and shows the tiny black dots where the insects' mouths had penetrated the tomato skin. For publication, the photo was cropped and magnified, with arrows pointing to the black dots. The photo was published in the article "Stinkbug Damage Found in Tomato Fields" on July 18, 2019 within "University of Maryland Extension Fruit and Vegetable News" (https://extension.umd.edu/sites/extension.umd.edu/files/_docs/VegetableFruitNews10-4.pdf). The caption read "In the center of each cloudy spot is a tiny black dot where mouthparts penetrated into the tomato". This published photo can help growers to know what to look for when stinkbugs are damaging their tomato crop, even when the insects themselves are not found.

Michelle Infante-Casella
Agricultural Agent/Professor
RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION
GLOUCESTER

On August 30, 2019, Agricultural Agent, Michelle Infante-Casella visited a residence in Deptford, New Jersey at the request of homeowner, Matthew Jacovelli. The visit was to determine if Mr. Jacovelli's corn plant, growing in his flowerbed, was a Guinness World Record. Mr. Jacovelli counted 28 ears of corn growing on a single plant. However, when Agent Infante-Casella counted she verified 29 ears. In order to prove to Guinness this plant was in fact a world record, the Jacovelli's videoed Infante-Casella counting the ears 4 times. In addition, the Agricultural Agent filled out a form with her credentials, her university's website, her contact information and a description of the corn plant to be sent to Guinness. Agent Infante-Casella used her cell phone to take photos of the visit with the Jacovelli's and daughter Jean Jacovelli used the Agent's cell phone to have her be photographed with Matthew and Virginia Jacovelli and the 29-ear corn plant. The information, video and photographs were sent to Guinness officials and they approved the corn plant was indeed a world record (see https://www.

guinnessworldrecords.com/world-records/most-corn-cobs-on-a-single-plant?fb_comment_id=785246328215977_1631774236896511). The photo and story were published in at least 6 local and regional newspapers. The story also aired on 2 local television news stations (ABC news https://6abc.com/5529313/ and CBS news https://philadelphia.cbslocal.com/2019/09/11/gloucester-county-man-grows-record-breaking-corn-stalk-credits-squirrels/), and one national news station using the photos from Agent Infante-Casella. The photo and story was published in the Philadelphia Inquirer on September 10, 2019 and can be found at https://www.inquirer.com/news/new-jersey/guinness-world-record-corn-new-jersey-jacovelli-deptford-20190910.html. It was also posted on the newsroom website for Rutgers University School of Environmental and Biological Sciences and the New Jersey Agricultural Experiment Station at https://sebsnjaesnews.rutgers.edu/2019/09/corn-plant-with-29-ears-in-south-jersey-verified-by-rutgers-for-guinness-world-records/ and included the caption, "The count of 29 ears was verified by Michelle Infante-Casella (L) who is joined by Virginia and Matthew Jacovelli". This unique plant created an interesting circumstance that will never be forgotten by the Jacovelli Family and will always be remembered by Agent, Infante-Casella. Cooperative Extension work is never mundane and Agricultural Agents can never predict where their expertise will take them each day they walk into the office.

Allison Howell
CEA - Agriculture
UofA Division of Agriculture Research & Extension
Clay

The photos submitted were published, along with an article, in two Clay County newspapers: the Clay County Times Democrat in Piggott and the Clay County Courier in Corning. The primary audience was the general public. There are many people throughout Clay County that think 4-H is just about showing livestock. In 2019, I put together a 4-H Survival Day Camp for those in 4-H or wanting to participate. The purpose of the Survival Day was to teach youth what to do to take care of themselves if they get stuck out in the wilderness alone. The year before last, two young girls in California got lost out in the woods alone and managed to stay alive due to the wilderness skills they learned at a 4-H meeting. That lead me to putting on this day camp to allow youth to come learn from a trained professional on how to stay warm, stay dry, build a shelter, filter water, and catch food. A local survival instructor came out to teach the kids some of the most important things they would need if they ever get lost alone. The two newspapers distributed nearly 8,000 electronic and hard copies that included information about the Survival Day. Several calls and texts were received with comments saying how much kids learned and enjoyed the day camp. Almost everyone in attendance stated that they would definitely be interested in another Survival Day in the future. The 25 kids in attendance absolutely loved it, as well as the adults. We all learned a lot and hope to put on another Survival Day this year as well. We hoped the public would see that there is a lot more to 4-H than just showing cattle. I hope the kids never have to use anything they learned, but if they do, I hope they will be able to remember it to help them in a bad situation.

Brooklyne Wassel
County Extension Agent
University of Georgia
Pike/Northwest

Caption read, "#gotmilk ? While visiting the #niftytifty #dairyfarm Pike County's #extensionagent learned about opportunities for youth with #livestockshow interest. Do you have an interest in showing dairy? (Cow, glass of milk, and clover emoji) #dairyindustry #ugaextension #agriculture #youthinagriculture #4h #4hlivestock #ga4h #4hgrowshere #makethebestbetter #pikecountyga #dairyheifer #showcalf"

Online location: https://www.instagram.com/p/BvhvHkljVQU/

This educational photo was captured during a new agent training in March 2019 conducted in Tifton, Georgia at the University of Georgia's dairy with a county provided iPhone 6 camera. It was published as a part of an ongoing social media campaign to educate the Pike County, Georgia community about the role of the County Agent and the opportunities that are afforded to youth through the local Extension office. The Pike County community has been without an agent for numerous years, and through the absence of an agent, community members are unsure of the role Extension plays. Social media plays a critical role in educating the public, and this particular campaign helps to answer those questions by establishing credibility through showing day to day activities and illuminating opportunities. While Facebook caters to a wide audience, Instagram is able to connect with not just parents but the youth of the county which was the target audience for this dual purpose agent credibility and livestock showing post. This post reached 158 individual accounts and accumulated 26 direct contacts. Four individuals researched the Pike County Extension's main page due to the post, and one parent requested more information on livestock showing. Within a community of less than 19,000 residents, this reach was considered successful for a less than a year-old Instagram campaign.

Joshua Sherman
Horticulture Extension Agent
The University of Arizona
Cochise, Graham, Santa Cruz, Pima counties

Most people have never seen the pecan flowers on a pecan tree! One reason maybe it is due to the short length of time they are visible in a growing season. Another reason may be due to the fact that the flowers can be quite inconspicuous. Pecan flowers are pretty small (especially the pistillate female flower) in the early part of the season as leaves are unfurling, and offering protection for proper pollination to ensue. Most people also do not know that the pecan trees bear both the female and male flowers within its canopy, thus no need to plant a male and female tree for proper pollination. Lastly, the female flower starts its cycle light green, just as the color of the foliage, then once pollinated the flower turns a darker pigment. In some cultivars, this pigment can be stunning!

Scott J. Duggan
Livestock Agent
Oregon State University
Central Oregon

Our publication entitled, "Care and Management of New Feeder Pigs" was written for beginning farmers seeking information on raising feeder pigs. The authors wanted to provide information on the best management practices utilized by successful swine producers. The inclusion of clean bedding material for young pigs is paramount for their health and protection from the cold spring temperatures common in Oregon. It is our hope that if readers follow our recommendations outlined in this publication they will provide a warm, safe, and clean environment for their pigs. The picture of two pigs looking out the door of their cozy barn was used to help create an image of good health and high quality care of young feeder pigs. The caption, "Two pigs looking through door" was included in the publication.

Dale Whaley
Assistant Professor
WASHINGTON STATE UNIVERSITY EXTENSION
Douglas

Puncturevine (Tribulus terrestris L.) (Figure 1) is also commonly referred to as tackweed, puncture weed, Mexican sandbur, Texas sandbur, goathead, caltrop, and bullhead. This non-native plant of the southern Europe and Mediterranean region likely showed up in the United States and later the PNW due to seed movement. Since its introduction, human activity and animals have introduced and spread the plant throughout much of the United States and Pacific Northwest.

State Winners

State Winner	
North Central Region	
Indiana	John L. Hawley
Iowa	Kapil Arora
South Dakota	Adam Varenhorst
Wisconsin	Aerica Bjurstrom
Northeast Region	
New York	Margaret Quaassdorff
Southern Region	
Kentucky	Samantha Anderson
Mississippi	Gary Bachman
North Carolina	Andrew Baucom
South Carolina	Terasa M Lott
Tennessee	Celeste Scott
Texas	Cary Sims

Computer Generated Graphics

National Winner

Ashley D. Wright
Livestock Area Agent
The University of Arizona
Southeastern Arizona

Wright, A.*[1],
[1] Livestock Area Agent, The University of Arizona, Willcox, AZ, 85643

This PowerPoint presentation evolved to address issues producers were having following several years of significant drought in Arizona. I created the first version of this presentation and presented it at three of my county-level Cooperative Extension workshops that focused on livestock production during drought. I was also invited to present it at the Cowman's Reproductive Workshop in Alton, UT during the fall of 2018. Following that, I created this updated and more comprehensive version for the 2019 Range Livestock Nutrition Workshops, a yearly series of workshops that take place around the state of Arizona. For 2019, those were held in Willcox, Prescott, and Holbrook (a roundtrip journey of 720 miles over three consecutive days). A total of 157 producers attended across the three locations. Forty-one percent of evaluations were returned, and the average producer rating for this presentation was a 4.3 (1 = not valuable and 5 = valuable). When designing this presentation, I kept slides interesting by using a variety of images (all photos included in this slide set have been taken by me) and minimizing text. I prefer to incorporate short, memorable bullet points and use stories and discussion to further clarify meaning and reinforce important points. The goal of the presentation is for producers to

understand the impacts of drought beyond just a lack of forage or water and that they should create a plan before it's needed to mitigate or respond to drought. By planning ahead (even during wet years) and being pro-active, they can protect their livestock production, preserve rangeland conditions, and reduce financial risk to the operation. The most impactful results are that 100% of producers who attended the 2019 Range Livestock Nutrition workshops indicated the material improved their awareness of the topics covered and provided new knowledge. Ninety-eight percent will adopt one or more practices, 95% thought the material provided new skills, and 85% felt it modified their opinions or attitudes. This slide set will continue to be used at extension events throughout 2020 to encourage producers to prepare for the next inevitable drought.

National Finalists

Sandra Wick
District Extension Agent, Crop Production
K-State Research & Extension
Post Rock Extension District #1

Wick, S.*[1],
[1] District Extension Agent, Crop Production, K-State Research & Extension, Smith Center, KS, 66967

With fertilizer prices continuing to be a significant input cost, it is increasingly important for producers to properly manage their agricultural inputs especially with low commodity prices. The **Crop Nutrient Management Update meeting** was designed to help producers understand the fertilizer/soil relationship to achieve a greater return from an investment in fertilizer. The objective of my presentation was to provide producers with the most current and up-to-date information to use in their cropping enterprises. The purpose was to educate producers and help increase their knowledge of developing nutrient management plans for their operation. It is important for producers to be able to use all tools for their cropping enterprise, so it can be economical, yet profitable. This presentation was done at the **Crop Nutrient Management meeting** on January 28, 2020 to the 42 producers and crop consultants along with local COOP personnel in attendance at the meeting. This presentation was prepared using K-State Research and Extension information and on a computer with Microsoft *PowerPoint* software in the office and reproduced on a color copier. Each participant was provided a copy of the slides to take notes during the meeting.

Amanda Bennett
Ext. Educ., ANR
Ohio State University Extension
Miami County Ext. Office

Bennett, A.*[1],
[1] Ext. Educ., ANR, Ohio State University Extension, Troy, OH, 45373

The purpose of this presentation was to introduce beginner beekeepers to basic honeybee biology, behavior, nutritional needs, and other workings of inside the bee hive to be a successful beekeeper. Additionally, resources on how to obtain bees and elements to consider when choosing their apiary location were included. The presentation was presented on March 23, 2019 at the Southwest Ohio Beekeepers School, an annual event that draws over 350 people. The audience is typically a mix of experienced and beginner beekeepers. Over the years, the event evaluations revealed an increase in attendance of those who were thinking about keeping bees or those that had just started to keep bees. Therefore, the organizers of the event created a specific beginners beekeeping tract to answer the most basic questions for participants. This presentation is part one of that tract.

It was presented at the 2019 event to 124 participants. Evaluation results showed that participants thought the quality of the presentation measured at 4.82 on a Likert scale, where 1 was poor and 5 was excellent. Additionally, participants rated the usefulness of the presentation at 4.68 on a Likert Scale, where 1 was poor and 5 was excellent. As a result, the same presentation was requested for the 2020 event.

The presentation was developed utilizing Microsoft Powerpoint and was available as an online handout for event participants. The Extension Educator was the sole author on the presentation, utilizing print and online media and personal experience as resources.

Matthew March
County Extension Agent- Agriculture
Texas A&M AgriLife Extension
Polk

March, M.*[1],
[1] County Extension Agent- Agriculture, Texas A&M AgriLife Extension, Livingston, TX, 77351

The objective of this presentation was to educate landowners, wildlife managers, and wildlife educators about bobwhite quail (*Colinus virginiaus*). This included reasons for population declines locally and range wide, life history, habitat requirements, and evaluation of different habitats in the piney woods region of Texas. Additionally, a goal was for participants to grasp management steps needed to improve habitat quality for bobwhite quail. Bobwhite quail has a long history as an

important part of the natural heritage in Texas including the piney woods. Historically, populations were robust and quail hunting was a popular past time in the piney woods. However, due to mostly habitat change bobwhite quail are now absent from most of the piney woods region of the state. The purpose of this presentation was not to only educate participants, but hopefully encourage and result in habitat management practices to reverse the population decline. This presentation was assisted with PowerPoint slides and was presented to approximately 35 participants as part of game management seminar series and advanced training for Master Naturalists. I was the sole author and presenter of this presentation.

Regional Winners

Katie Pekarek
Extension Educator-Water Quality
University of Nebraska-Lincoln Extension
Southeast

Pekarek, K.*[1],
[1] Extension Educator-Water Quality, University of Nebraska-Lincoln Extension, Lincoln, NE, 68583

The "Nebraska Water Quality" computer generated graphics presentation was developed for the 2020 Crop Production Clinics. The objective was to teach producers and landowners about how crop production practices influence water quality in Nebraska and make them aware of the quality of water resources in Nebraska. Local water quality data was integrated into the presentation based on the location of the talk.

The presentation was given at two of the Crop Production Clinics, one in northeast Nebraska and one in southern Nebraska. Approximately 510 producers, landowners, crop consultants, and agency personnel attended the presentation.

I developed the presentation with contributions to water quality information and graphics from the Nebraska Department of Environment and Energy, Nebraska Natural Resources Districts, USGS, Conservation Survey Division, and the Agrichemical Database. All slides should be judged. It was created using Microsoft PowerPoint.

Sarah Marie Hirsh
Agent
University of Maryland
Somerset County

Hirsh, S.M.*[1],
[1] Agent, University of Maryland, Princess Anne, MD, 21853

Farmers often question if a certain practice or product will result in improved production or increased profit. While consulting literature or experts is helpful, many times the answer is site-specific. Because farms have diverse soil types, topography, management histories, etc, the best course of action may be to "try out" the practice or product in question on the farm. Farmers are well-versed in "trial-and-error", examining various agronomic management practices or products. These "trials" could lead to more reliable answers if they are designed to follow the basic principles of experimental design—replication, randomization—and if data is subject to basic statistical analyses (means and variability around means). In addition, when evaluating the value of agronomic practices and products, it is important to evaluate cost-effectiveness (e.g., through making economic response curves). This presentation reviews basic experimental design and statistics topics, and encourages farmers to run their own on-farm trials. The presentation then uses a case study to explain how to set-up a simple on-farm experiment, from asking the research question to analyzing the data. In the concluding slides of the presentation, there is a brief discussion of available resources for help with on-farm experimentation. Through understanding simple experimental design and statistical analyses, farmers can independently or collaboratively run on-farm trials that can help them understand what practices and products are worthwhile for their unique farm.

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

The purpose of this presentation was to increase dairy business on-farm personnel knowledge of dairy calf and heifer management. Its main focus was calf and heifer inventory management, the reasons why heifer inventory is climbing in US herds, benefits of carrying appropriate farm-specific inventory, and strategies to calculate and maintain the number of best quality and profitable animals in the herd. The presentation was prepared by the author as one section in a series for the Cornell PRO-DAIRY's Calf and Heifer Management Online Course which ran March 29 – May 17, 2019, and again September 13 – November 8, 2019, and was presented to approximately 90 people each session. The enrollees included dairy farmers, dairy farm employees, members of supporting industry, and those with interest in calves and heifers across the USA and world. Participants gained valuable knowledge in sustainable business strategies to increase profitability using heifer inventory management strategies.

Elizabeth Bosak
Field & Forage Crops Educator
Penn State Extension
Dauphin & Perry Counties

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

Poison hemlock (*Conium maculatum*) is a highly toxic biennial weed with an expanding distribution in Pennsylvania. This weed is of concern to any gardener, landowner, livestock owner, and farmer because of its toxicity and because it can be easily confused with two other related plant species that are widespread in gardens, fencerows, pastures, hayfields, and at times, crop fields. Management of this weed can be particularly challenging because people often do not notice an infestation until it is flowering and past the optimum stage to manage. The goal of this video was to teach people how to identify poison hemlock on their own at the rosette/vegetative stage and the flowering stage. A two-minute narrated PowerPoint presentation was developed using Camtasia and published on Penn State Extension's website and YouTube channel (https://www.youtube.com/watch?v=fqnQp1_tKDc&t=6s). The video includes a brief written description on Penn State Extension's website (https://extension.psu.edu/poison-hemlock-identification). Since publication on November 18, 2019, the video has been used in two in-person programs for private and commercial pesticide applicators and viewed seventy two times on YouTube.

Matthew Jones
Extension Agent - Horticulture
North Carolina Cooperative Extension (NC State University)
Chatham County

Jones, J.M.*[1],
[1] Extension Agent - Horticulture, North Carolina Cooperative Extension (NC State University), Pittsboro, NC, 27312

Correct tree identification is important for landowners, homeowners, landscape professionals, naturalists, and many other Extension clientele. However, many anatomical features needed for quick field ID of deciduous trees are not available in winter. Fortunately, dichotomous keys exist for tree ID using only features found on dormant specimens. This PowerPoint presentation (uploaded here as a PDF along with a separate script) was part of a hands-on workshop on winter tree identiifcation. The lecture focused on the importance of native trees, an overview of the botanical terms used for winter tree ID, an explanation of dichotomous keys, and instructions on how to use online dichotomous keys and hand lenses. Following the lecture, the participants were guided by the instructor through the step-by-step process of identifying two species using twig specimens collected by the agent and Extension Master Gardener Volunteers. Participants were then given the remaining hour of the workshop to identify four other species from provided samples. Each participant had access to a hand lens (Hasting's triplets) and their own specimens. Laptops with USB microscopes were provided and shared among 3-4 participants. Using the provided laptops or their own smartphone and tablets, participants made use of online keys developed by NC State University Professor of Plant Biology Dr. Alexander Krings. Master Gardener Volunteers were stationed at each table to assist participants. Four identical (repeated) workshops were held to meet demand. One hundred twenty-two participants attended in total, nearly all reporting increases in knowledge and over three-quarters indicating they would continue to practice tree ID using these methods.

Zachary Snipes
Extension Agent
Clemson Extension
Charleston

Snipes, Z.*[1],
[1] Extension Agent, Clemson Extension, Charleston, SC, 29401

I hosted a strawberry meeting in my county last year and decided that a talk on strawberry disease management was necessary. I see hundreds, if not thousands, of dollars wasted each year on diseased fruit. Many of the issues I see can and should be easily managed. I decided to present on strawberry diseases but take a different approach to presenting the material. I wanted growers to think about disease management as a function of time. When would they see disease and when should they manage it. I set the stage by introducting the diseses and the times that growers should expect them. I gave some recomendations at planting for common diseases that I see. I then transitioned into how to manage disease once the plants start to bloom. I was hoping to shift thier focus from keeping the plant alive to making it function at full capacity. I then showed a few videos that were created by Clemson Scientists. I think having a few videos in a presentation really changes the pace of back to back presentations and gives the audience a different platform on which to learn. The videos highlighted the two most common fruit diseases. They featured what they look like, how they spread, how they thrive, and most importantly how we as managers can control them. Once the video was finished, I introduced resources that can help with disease management. The resources included a website, paper copies, and an app that all have the same information. Having multiple sources of the same information allows agents to meet growers where they are at. I then introduced cool research that could be done on-farm to help out with growers production and offered the assistance to them on thier farm. I concluded

with a few tips that would help them before and during the season. I am confident based on evaluations that growers that attended the meeting are more knowledgeable and aware of strawberry diseases. Hopefully the presentation will result in more money staying on the farm.

Paul G Carter
Extension Regional Specialist
WASHINGTON STATE UNIVERSITY
Columbia County

Carter, P.G.*[1],
[1] Extension Regional Specialist, WASHINGTON STATE UNIVERSITY, Dayton, WA, 99328

The Inland Pacific Northwest region includes vast dryland areas of rich deep soils capable of producing excellent quality and quantities of wheat and rotational crops. The cropping systems are young compared to other regions of the country and soils have only recently (last 40 years) discovered alarming declines in soil pH. This decline has begun to cause agronomic farming difficulties including increased plant diseases, herbicide carryover, crop stand establishment, and other complicating issues. The presentation focuses on relationships between soil acidity, nutrient availability, and liming effects on essential soil nutrient interactions, crop deficiency symptoms, agronomic effects, and work with on-farm soil sampling and liming trials. The extent of soil acidification issues were identified from earlier soil surveys, regional soil sampling results, and work with over 40 on-farm research trials will be presented. Paul will introduce practices for soil pH measurement in the field and talk about current projects. The presentation was developed for the Extension education of farmers and industry agronomist.

State Winners

State Winner	
North Central Region	
Illinois	Jennifer Fishburn
Michigan	Eric Anderson
Minnesota	Emily Krekelberg
Wisconsin	Tina L. Kohlman
Northeast Region	
New Jersey	William J Bamka
Southern Region	
Alabama	S. Leanne Dillard
Arkansas	Amy Tallent
Florida	Taylor Clem
Georgia	Kimberly Kester Post
Kentucky	Alexis Sheffield
Mississippi	Brady Self
Tennessee	Melissa Henry
West Region	
Montana	Adriane Good

Program Promotional Package

National Winner

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

The year 2019 was a challenge for farmers starting with a cold, wet spring, a colder than average summer, followed by record breaking rain fall through December. The challenging year resulted in poor quality harvests and significant soil compaction and soil quality damage. A crops and soils program was developed by Aerica Bjurstrom, Agriculture Agent – Kewaunee County to address what farmers could see in the fields and on the farm based on the 2019 growing season.

The program called Preparing for 2020: Soil & Forage Meeting was planned and carried out by Aerica Bjurstrom. Promotional methods included a flyer (content and photo developed by Aerica Bjurstrom, layout by support staff Erin Dahle), a tv spot including Aerica Bjurstrom (produced by Millaine Wells), and a promotional Ripl video created by Aerica Bjurstrom (photos, content, and design by Aerica Bjurstrom). Other promotional pieces included a press release and radio spot. Sixteen people attended the meeting. All three pieces were posted on social media (Facebook and Twitter). The flyer was emailed to a mailing list consisting of 355 farmers and agriculture professionals. The video was part of the Midwest Farm Weekly television program on WFRV Green Bay, WI, and posted on the WFRV website.

The goal of the program was to increase the knowledge of attendees on soil health and feeding livestock after a difficult harvest year. Impact would be measured by how attendees would implement newly gained knowledge in their jobs and on the farm. Certified Crop Advisors received 2.5 Continuing Education Credits for attending the program.

National Finalists

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

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

Farm Service Agency in Ohio to provide a series of educational programs to help producers make informed decisions related to enrollment in commodity programs authorized by the 2018 Farm Bill. The objective of this promotional package was to raise awareness of upcoming Extension programs held throughout the state of Ohio as well as resources available to clientele seeking to learn about the Farm Bill on OSU Extension's Farm Bill webpage.

The promotional package included a press release, a flyer, and a postcard that were available to all Agriculture and Natural Resources Extension professionals throughout the state to advertise upcoming programs and identifed the Farm Bill webpage as a resource for clientele. Each item can be customized to promote local educational programs. The promotional material was used by ANR educators throughout the state to promote Farm Bill Programs for crop producers. Over 143 meetings were hosted through the state and many utilized the flyer, postcard, and/or press release. Programs were attended by over 6,000 total participants throughout the state.

The press release was distributed to media sources throughout the state and was published in several local newspapers, as well as some larger agricultural media sources in Ohio. For example, Ohio's Country Journal which has a circulation of over 19,000 published the press release twice – once in November, 2019 and again in January, 2020. Following distribution of the press release, the Ohio Farm Bureau recorded two YouTube videos featuring Extension professionals to advertise the Farm Bill programs which have achieved over 4,000 total views. Ohio's Country Journal also recorded a video interview with Ben Brown about Farm Bill programming. Additionally, the Agronomy and Farm Management Podcast and the Ohio Farm Bureau Podcast featured stories on OSU's Farm Bill programming efforts.

Each item in the promotional package features the address for the Farm Bill webpage which includes recorded webinars as well as a decision tool developed by the OSU Extension to estimate projected payments for Farm Bill programs. To date, the webinars have 6,516 views and the tool has 10,440 downloads.

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

Bauder, S.*[1],
[1] SDSU Extension Agronomy Field Specialist, SDSU Extension, Tyndall, SD, 57066

The 2019 growing season was quite challenging for most South Dakota farmers and ranchers. Extreme rainfall and frequent flooding left many producers facing complex crop and livestock production issues. In order to ease confusion for producers and answer tough questions, I organized ten 'Extension Open House Meetings' throughout the hardest hit flood areas in South Dakota during the month of June (originally eight were scheduled, then two additional meetings were added additional advertising). The free, come-and-go-style meetings offered expert advice from SDSU Extension specialists, NRCS personnel, RMA representatives, and local crop insurance agents. I chose an informal "open house" meeting style to allow producers to attend at any time throughout the session and ask questions unique to their situation, rather than attending an afternoon seminar that may only partially apply to them. This is not a common Extension meeting format in South Dakota, but it fit the flooding situation well. The most commonly discussed topics were cover crop decisions on prevent plant acres, crop insurance/RMA rules and regulations, weed management, NRCS/FSA programs, general farm business management, and various flood related topics. The meetings were advertised through paid ads and press releases in multiple regional and local print and online media sources, social media, hung flyers, paid and free radio ads and interviews, word of mouth, and email lists. I created the content of the attached flyer, it served as the backbone of the advertising campaign and was used for electronic communications, hung in meeting locations, and served as a base to build other paid advertising. The press release was created based on language used on the flyer and was distributed to multiple media sources across the state and posted on the SDSU Extension website, which had more than 277,000 new users last year. The attached radio interview was aired on the SDSU Extension Radio network that plays five days a week on ten stations, covering the entire state. In total, approximately 100 people (mainly agriculture producers) attended the meetings and more than 20 different personnel from Extension, NRCS, RMA, and crop insurance agencies assisted to make these meetings a success.

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1],
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The Sheep and Goat Meat Quality and Value-Added Products Workshop is one of three all-day workshops held each year in the southwestern area of Pennsylvania. The purpose of these workshops is to provide detailed information on sheep and goat production to help producers improve production efficiency and profitability. The objectives of this workshop were for producers to learn about meat quality characteristics, learn where retail cuts come from on a carcass, and learn ways to add value to their animals or meat products. Twenty people attended the workshop and 100% of those who completed a post evaluation indicated that their knowledge increased a moderate to considerable amount and 75% planned to use the information to make changes to their operation. I produced the marketing brochure using Publisher, wrote the press release, and worked with Penn State staff to create the information that appears on the website. The website is located at https://extension.psu.edu/meat-quality-and-value-added-products-workshop. The photo that appears on the webpage was taken by me. The brochure was distributed via postal mail and at other workshops held across the state, the press release was sent out state-wide through Penn State's Public Relations Specialist, and an email invitation that directed recipients to the website was sent out by Penn State's marketing and communications department.

Regional Winners

Donna Coffin
EXTENSION EDUCATOR
UMaine Extension

Coffin, D.[1], , **Smart, A.[2],** , Jemison, J.[3],
[1] EXTENSION EDUCATOR, UMaine Extension, Dover-Foxcroft, ME, 04426
[2] Extension Plant Pathologist, UMaine Extension, Orono, ME, 04473
[3] Extension Soil and Water Quality Specialist, UMaine Extension, Orono, ME, 04473

Hemp can be grown to produce grain, fiber, and medicinal products. Interest in growing hemp in Maine has increased significantly since the 2018 Farm Bill legalized hemp. UMaine Extension planned a one day program to address production, research, licensing, processing, marketing and financial feasibility for farmers currently growing hemp and for others interested in starting to grow hemp. 67 farmers, agriculture service providers and potential farmers attended the program. In a post program evaluation 44% indicated they plan to add hemp or value-added hemp products to their farm and 22% need more information before they decide to start farming.

The author organized and served on the planning and implementation committee, invited a majority of the speakers, wrote the content for the flyer, news release, and Facebook event. She promoted the Facebook event and shared with a number of Facebook homesteading and hemp growing groups. She developed the pre-survey and post-program evaluation to collect impact information.

150 flyers were printed and distributed at a Maine Hemp Licensing program and the Maine Agricultural Trades Show. The news release was emailed to ten state-wide, regional and local newspapers as well as four e-newsletters with over 2,300 recipients . The Facebook event was viewed by 1,500 people (42% men, 58% women) and promoted as an ad that was viewed by 2,133 people (72% men, 28% women) with 151 engagements.

Sherri Sanders
CEA-AGRI

WHITE

Sanders, S.*[1], , Meux, Chris[2], , Batiste, Barbara[3], , Thorpe, Tonisha[4],
[1] CEA-AGRI, University of Arkansas System Division of Agriculture, Searcy, AR, 72143
[2] Design Specialist - Communications, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204
[3] Civil Rights Compliance Officer, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204
[4] Legal/Compliance Assistant, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204

Peaches have long been a favorite of Arkansans, and peach production has been one of the major fruit crops in the state for many years. In White county, we have numerous homeowner and commercial peach orchards.

Because of this interest in growing peaches, the White County Extension Service offered a peach pruning workshop. Experiential learning is the process of learning through experience. Hands-on learning can be a form of experiential learning and has proven to be successful in retention of subject matter.This workshop covered the principles of pruning fruit trees, safety practices and included "hands-on" instruction in a peach orchard. The promotional material was designed as a flyer in English and Spanish to reach a diverse audience. A translator was present to interpret during the workshop for the Hispanic participants. I would like to extend an acknowledgement to

Barbara Batiste, Civil Rights Compliance Officer, in our state office for her assistance in securing the translator and a resource to translate the flyer to Spanish text. The promotional material was distributed via email and hard copy as an insert in the White county Horticulture Newsletter which reaches 323 people representing 36 counties and 5 states. It was included as an insert in the White county Master Gardener newsletter reaching 109 volunteers. Full-color flyers were distributed to 75 county offices, local businesses, the local beekeeping club and at educational programs (approximately 200). Additionally, it was placed on the White county Extension website: https://www.uaex.edu/counties/white/

Promotional materials were used on social media platforms:

Twitter: https://twitter.com/SherriSanders11

UAEX White county Facebook: https://www.facebook.com/UAEX.WhiteCountyAgriculture/

White county Master Gardener Facebook: https://www.facebook.com/WCMG1997/

Collectively, there were over 26,550 indirect and 827 direct contacts from the social media platforms.

Twenty-five individuals registered for the class (maximum), 12 of which were Hispanic.

The workshop was a success based on evaluations:

89% of respondents gave a superior rating on the principles of pruning portion

92% of respondents gave a superior rating on the pruning safety practices portion of the workshop

94% of respondents stated they thought the best part of the program was the "hands-on" pruning of actual trees.

Erin Harlow
Residential and Commercial Horticulture Extension Agent
University of Florida/IFAS Extension Columbia County
Columbia County

Harlow, E.*[1],
[1] Residential and Commercial Horticulture Extension Agent, University of Florida/IFAS Extension Columbia County, Lake City, FL, 32055

Promoting programs well in advance is an important step to a successful workshop. Often times agents get busy, don't anticipate enough time for promotion, and then realize too late that they will not have the desired number of participants to hold a class. The Horticulture Workshops and Programs 2020 January-June promotional piece was developed to address this problem and help excite the public about the new, reinvigorated horticulture extension program and agent. It provides a comprehensive guide for residents, an easy reference for support staff to look up programs, and provides the agent one location to pull information for individual flyers, online sales, and digital media. It covers a six-month span and is modeled after educational catalogs provided by botanical gardens to their patrons. The intended audiences are residents in Columbia and surrounding counties that might be interested in participating in horticulture classes, youth, and horticulture professionals. The program guide is divided into color-coded sections including horticulture, arts, water and natural resources, youth, and professional. It also promotes plants clinics and the Master Gardener Volunteer program. The promotional piece is provided in-print at programs and at the office. It is also available for download on the county website. The document was developed by the member using publisher and is printed at the office. Over 30 have been distributed in-print. An unanticipated result of the program guide was the improved communication and empowerment of the office support staff relaying workshop information to the public. They appreciate having all of the details at their fingertips. Another benefit of having the program piece is the ability to pull the descriptions and details of each class for any advertising. Whether it is a blog post, facebook, the county calendar, Eventbrite, or somewhere else, the descriptions is already written and it has been easy to cope and paste to other locations so the message about a class is the same. This promotional piece has truly helped this horticulture extension program improve communication with the public, gain interest in programs, and increase attendance to programs.

Amy Dabbs
Clemson Extension Agent
CLEMSON UNIVERSITY
Charleston, Berkeley, Dorchester Counties

Dabbs, A.*[1],
[1] Clemson Extension Agent, CLEMSON UNIVERSITY, Charleston, SC, 29401

School Gardening for SC Educators is a Clemson extension-based program that combines horticulture training, ongoing technical support and equipment for schools to start and sustain successful school gardens.

The program is currently in the second year of a five-year partnership with the South Carolina Department of Education, office of Health and Student Nutrition, Farm to School program. Through this partnership, funds are made availble for Clemson Extension to offer three regional workshops each summer geared towards educators interested in gardening with students.

In 2019, workshops were offered on June 13 at the SC Botanical Garden, June 25 at Spartanburg Community College and July 24 at Moore Farm Botanical Gardens.

Commerical graphics designer Torborg Davern created flyers and social media images for promotional use. Flyers were distributed directly to teachers at programs in the spring of 2019. The workshops were directly marketed through a Mailchimp Newsletter to over 1000 educators across the state. Multiple social media posts to Facebook and Instagram were made. The initial Facebook post reached 2,298 people in one day.

Through this promotion, these programs were at maximum capacity with waiting lists for attendance.

Betsy Greene
Extension Equine Specialist

Arizona

Greene, B.*[1], , Wright, A.D.[2],
[1] Extension Equine Specialist, , Tucson, AZ, 85721
[2] Area Livestock Assistant Agent, University of Arizona, Willcox, AZ, 85743

The recent completion of a successful 4th Annual Southern Arizona Equine Health Symposium provides clear documentation of impact, increased learning, and intention by owners and caretakers to change/improve the health management of horses in southern Arizona. The partnership between the University of Arizona Cooperative Extension and the Southern Arizona Equine Health Council has extended the reach of all organizations involved. We used multiple tactics to reach and inform all of our clientele about the annual event, since our participant demographics range from teens to a high percentages of attendees in their 60's. The event is promoted through a variety of means: email/mailing lists from extension and veterinary clinics, flyers (Wright 90%) at local barns and feed stores, press releases (Greene, 100%), a website, and a heavy social media presence. The symposium webpage (hosted on the Arizona Cooperative Equine Extension site -Greene, 90% of content) and a Facebook page (Greene-33% and Wright-33% are administrators with one other person) are consistently maintained and updated throughout the year. Posts highlighting the year's talks and speakers are regularly shared into large regional equine Facebook groups to drive interest. Following distribution of a press release, one of our key organizers (Dr. Ann Pearson) was interviewed on a local TV news show, the Morning Blend in 2019, and again in 2020 (with Dr. Betsy Greene). Betsy did 3 hours of media training with Dr. Pearson in both years, writing and organizing key points and getting her comfortable with the content. A key impact is the knowledge gained by our participants. When asked if they planned to make any changes to their horse's care, they reported an average intent to change of 4.02 (1 = not likely to make a change to 5 = very likely to make a change). Reported knowledge rose by an average of 24% for all lectures. An additional positive impact includes the exposure it gives to both the UArizona Equine Extension program and the local veterinarians and farriers involved. This event has grown in attendance each year.

Emily Standley

Standley, E.*[1],
[1] Lewistown, MT, 59457

A nearly universal responsibility for Extension agents in Montana is to also serve as the county coordinator for Private Applicator Training (PAT). In this role, county agents are responsible for testing and training individuals who intend to use restricted-use pesticides. One option for individuals to earn a private applicator's license is through an initial training program, which involves approximately seven hours of in-class learning, covering introductory, but crucial, topics such as safety, pesticide laws, and properly reading labels. These initial training events are also an opportunity for current license-holders to earn continuing education credits for maintaining their license.

The attached flyer, press release, and letter were used as promotional items to inform local communities about an initial private applicator training program in May of 2019. I wrote both the letter and the press release, and developed the flyer myself, using a free, online design platform. The press release was run in our local newspaper, the Lewistown News Argus, which is distributed throughout many surrounding communities. The letter contains very similar wording to the press release, except that a more specific agenda is included. This letter was sent directly to current private pesticide applicators in Fergus and Petroleum Counties, and was also sent to individuals whose license had recently expired. The flyer was hung in the Extension office and local businesses; was posted on our county Extension Facebook page; and was shared with our e-newsletter email list (approximately 200 recipients). The flyer and press release were designed to provide more generalized information, with just enough detail to inform readers and gain their interest. The letter was tailored toward people already familiar with PAT programming, so more specific details were included. 48 individuals attended this training program; 27 attendees obtained their private applicator's license that day, and the remaining 21 attendees earned 6 continuing education credits. The most important impact of this event is that local applicators improved their knowledge about safe and efficient pesticide use, which leads to environmental, financial, and community benefits as well.

Jessica Swapp
Extension Ag Agent
New Mexico State University Cooperative Extension Service
Grant County

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

In the 2012 agricultural census, Grant County had 407 farms and reported the primary agricultural product produced as being cattle with some small sheep herds. Of the 407 farms, 317 reported as having cattle and calves in Grant County. The total amount of cattle produced in the county was 27,000 head. Total cattle price receipts from cattle production equal $29.4 million dollars. In the 2017 census, the total number of farms fell to 404. In 2018, Grant County reported 27,500 head of cattle. One year later in 2019 that number has fallen to 26,500.

NMSU Extension in Grant County developed a cattle producer program designed to address the concerns of profitability by Grant County cattle producers. During the program producers heard from NMSU Cooperative Extension Specialists on how to better manage their herds during periods of drought, proper vaccination techniques of beef cattle and BQA (Beef Quality Assurance) certification. Producers also learned about the benefits of NMSU Youth Ranch Management Camp to educate the younger generation of agriculturalists.

The program reached 38 producers in Grant County.

89.5% of respondents increased their knowledge about NMSU Ranch Management Camp.

84.2% of respondents increased their knowledge about managing beef cow nutrition during times of drought.

100% of respondents increased their knowledge about preventing Trichomoniasis in their beef cattle herd

100% of respondents increased their understanding of Trichomoniasis in beef cattle.

The flyer was distributed via email list of 400 recipients. It was also distributred in the community at public/community gathering places (feedstores, post offices, gas stations).

State Winners

State Winner	
North Central Region	
Iowa	Kapil Arora
Kansas	Cassie Homan
Michigan	Jeremy Jubenville
Nebraska	John Porter
Northeast Region	
New Jersey	Henry Bignell, Jr.
Southern Region	
Alabama	Ayanava Majumdar
Georgia	Melissa Mattee
Kentucky	Kevin Lyons
Mississippi	Jessica Sibley
North Carolina	Jenny Carleo
Tennessee	Kathleen Wilson
Texas	Brady L. Timmons
Virginia	Edward Olsen

Personal Column

National Winner

Phillip Durst
Sr. Extension Dairy & Beef Educator
MSU EXTENSION
OGEMAW

As dairy farms have grown larger, milking more cows and employing more people, the role of the owners and managers is increasingly that of managing the farm through people. That is a challenge for many farmers who need to further develop a range of skills in managing employees. These columns were written to address common issues on dairy farms; hiring anyone just to fill a need, and putting up with many problems caused by employees. The columns were written by this author based on my work with Michigan State University Extension in farm employee management and my experience talking with farmers. They were written exclusively for Hoard's Dairyman magazine and accepted by the editor for publication. Through Hoard's, these columns reach a large audience. The magazine is sent to more than 51,000 homes, farms and businesses nationally and internationally. I challenge farmers on what might be their typical response to these issues, to get them to think differently about problems. It was evident that was accomplished, when I received a note from a large dairy owner in another state with the subject "Love, love, LOVE your message" and a note that said; "We try this at (our farm). I will share it with my two younger partners."

National Finalists

Shane Bugeja
Extension Educator, Ag Production Systems
University of Minnesota Extension
Blue Earth/Le Sueur County

In 2019, I noticed there was a dearth of extension agricultural/horticultural information in our local paper, Le Sueur County News. After examining my technical service records and listening to conversations at hosted extension events, I decided that a printed article would benefit Le Sueur County and the University of Minnesota.

In August of that year, I reached an agreement with Le Sueur County News to publish an article every 4th Wednesday of the month. The original would be submitted to the editor the week prior to publication. Circulation of Le Sueur County News is 1,536, but was also available online and cross listed with other city/county papers. My selections for this award were published on November 27th, 2019 and February 19th, 2020. The audience that read Le Sueur County News is predominately rural, and included both homeowners as well as farmers.

The November article regarding the Impossible Burger and its manufacture was done primarily due to observing one-sided articles written by non-scientists or industry authors. I also noticed the same intense discussion about these products at my own events, particularly in beef programs. I strived to bring a balanced discussion to the topic, while also mentioning an aspect that I found fascinating, the use of leghemoglobin.

In January, the Minnesota Department of Agriculture released an updated list of noxious invasive species. Many new additions included weeds from Eurasia. After hearing discussion about why all these invasive species come from certain countries, I felt there needed to be an awareness that North America as well as Asia/Europe all export potential invasive species. I highlighted one example of a seemingly innocuous native plant such as goldenrod that is quite a nasty problem elsewhere on the globe. This topic was written in the February 19th article.

In essence, my main objective in writing these columns was to not only scientifically inform the public about serious issues in agriculture and natural resources, but also to help instill curiosity about the world around them. After hearing positive feedback from county residents, I will continue to strive for this goal.

Anthony Shane Harris
County Extension Coordinator
Alabama Cooperative Extension System
Tallapoosa County

The objective to writing and publishing a garden talk magazine column was to report and provide information to the clientele of East Central Alabama as part of the duties and guidelines of Extension. All magazine articles for my personal column were written to provide homeowners and others seasonal information and educational tips regarding home gardening, insect & plant disease control, and as well as, to promote Extension workshops and events. All articles were written to be informative, timely, and educational yet have an entertaining and personal touch. With smaller local newspapers today and space limited for guest columns, the monthly magazine column has been very effective and has increased local Extension visibility. Numerous compliments, comments, and responses via telephone calls, emails, and personal contacts have been received from publishing regular monthly articles. All magazine articles for the personal column were written, typed, and edited by Shane Harris. The word processing software used was Microsoft Word 2016. Each article and accompanied photos was emailed directly to the staff of *Tallapoosa Publishers*, distributor for *Lake Martin Living*. Circulation for *Lake Martin Living* is approximately 65,000 subscribers with potential readership of 155,000 throughout rural East Central Alabama. In addition to the print copy, all submitted articles were published online at www.lakemartinliving.com as well as shared on *Lake Martin Living* and Tallapoosa County Extension office Facebook pages respectively.

Janet Laminack
CEA-HORT
Texas A&M AgriLife Extension
Denton County

Agents in the Denton County AgriLife office share a weekly column; each agent contributes monthly. The article, with photos, is sent to the Denton Record-Chronicle for publication on Fridays (circulation of 17,400). It is also published online (DRC average daily webpage views of 12,000) where it can be shared on social media.

The column is sent to other news outlets and used in printed and online editions. We use the column to educate on timely topics and promote educational events and opportunities. Most articles point readers to additional information through our office, including the Master Gardener help desk or online resources.

Denton County is one of the fastest growing counties in the United States, with most people moving in from out of state. Thus, many of these residents are unfamiliar with horticulture practices for our region. Water conservation and watershed

protection remain big issues facing our area.

I write my columns with the goal of making them entertaining, understandable, and timely. Topics have included: storm-damaged trees, reducing yard waste with new city policies, watering your landscape during a drought, lawn diseases management, winter preparation, and growing vegetables, fruits, and herbs.

The bagworm column was in the Top 10 most-read Denton Record-Chronicle stories for that weekend. It was also posted on the Denton County Master Gardener Facebook page reaching 937 people, with 107 engagements and 6 shares. On the Denton County Texas A&M AgriLife Extension Facebook page it reached 572 people with 107 engagements.

A community member requested I write about pesticides after the City of Denton announced no glyphosate use in their parks and they began a completely organic maintenance program at one location. The citizens of Denton are environmentally conscious, but often do not have a clear understanding of pesticides, integrated pest management, what organic means, and how to protect our watershed. The story was well-received, including requests for more information on IPM by city employees.

Regional Winners

Cassie Homan
District Agent
K-State Research and Extension
Post Rock District

These two articles are part of a column called Post Rock Answers. I send a newspaper article to the column two times a month with timely horticulture information. The column is sent to seven different newspapers in the North Central Kansas area. This is a total population of 16,997 residents.

The first article is called *Fall is a Great Time to Plant a Tree*, it was printed around September 13, 2019. It discusses the benefits of planting a tree in the fall versus in the spring. I also listed suggestions of trees that grow well in our area. I then gave a step by step guide of how to properly plant a tree. One of the most frequent questions I get is what type of tree I recommend. This article helped answer those questions.

The second article is called *Have a Merry Christmas with a Fresh Cut Tree*. It was printed around December 6, 2019. This article talked about using a fresh cut tree for the holidays versus an artificial one. I gave resources on how to find Christmas Tree Farms and how it can be a fun event for the family. I also discussed how to keep the tree looking great once you get it in your home. It was a fun article for Christmas time and still incorporated some horticulture tips for the public!

The articles were printed in newspapers, but also can be found on our website here:

https://www.postrock.k-state.edu/docs/answers-column/horticulture-answers/Post%20Rock%20Answers%20Fall%20Tree%20Planing%20Sept%2013%20.pdf

https://www.postrock.k-state.edu/docs/answers-column/horticulture-answers/Post%20Rock%20Answers%20Dec%206%20Christmas%20Tree%20.pdf

Ronald David Myers
Principal Agent, Agriculture
University of Maryland Extension
Anne Arundel

Dave's Ramble, is a compilation of personal stories told in the voice of the Crops Master based on events that occurred while employed at the United States Naval Academy Dairy Farm from 1980 to 1997, and at the University of Maryland Extension from 1997 to 2020. The stories are intended to capture the harsh but humorous side of life on a farm, and offer timely sage advice, often with a touch of poetic satire. Dave's Ramble has been the opening monologue since the Summer 2004 edition of *Ag News*, a quarterly Extension newsletter written for the farm community of Anne Arundel and Prince George's Counties in Maryland. The archived newsletters are available online at the Anne Arundel Extension website: https://extension.umd.edu/anne-arundel-county/agriculture/anne-arundel-county-agnr-newsletter#

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

I have a biweekly column, under the standing line *Keeping It Green*, in Lock Haven's *The Express*. This allows me to write about horticulture related topics throughout the year. At times, I try to pick topics which most readers might find interesting or observe in their landscapes or within their communities. In addition, I try to insert some facts about the subject and use it as a teachable moment. The two submitted columns were a part of a series detailing plant life on Maine's Mt. Desert Island and Acadia National Park. The overall series was an effort to highlight plants in their natural environment and their uses in our modern-day landscapes. The July 20, 2019 column covered black chokeberry while the July 27, 2019 article looked at several conifer species. 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 column article. A Nikon D3100 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.

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 Parkersburg News and Sentinel in Parkersburg, WV. It reaches over 26,000 people in the Mid-Ohio Valley on a daily basis, providing a valuable educational resource to the community. This is a great tool to disseminate research-based information to the public, who are eager to learn home horticulture, farming and gardening tips and receive lawn care advice. The column focuses on timely recommendations during the growing season and mixes in local themes as well as personal stories to engage readers.

As an unbiased source of information, WVU Extension Service must continue these avenues of communication to a mass audience. The column generates numerous phone calls and e-mails to the Wood County WVU Extension Service office for citizens who request follow-up information. The column covered various topics in 2019, including growing cauliflower, rosemary for the herb garden, planting turnips, making leaf mold compost, soil testing, preserving the harvest, lawn care for drought conditions, cracking in tomatoes, winter wheat as a cover crop, growing pole beans, the power of lime, the value of rained on hay and planting spring flowering bulbs.

"Crimson Clover" and "The Kissing Bug" are prime examples of the appeal of the column to farmers, home owners and avid gardeners. The real impact of the "Backyard Gardener" is that many of these readers take the research based information and apply it to their farm, home garden or property.

Alana W. West
COUNTY EXTENSION 4-H AGENT
CLEMSON EXTENSION SERVICE
Newberry County

Newberry County 4-H is given the chance to highlight programs and opportunities on a monthly basis with a local newspaper column entitled *Their View* in the Newberry Observer, a local news source. The column is written by Nebwerry County 4-H Agent, Alana West with a goal of 500 words. Considering the audience of most printed newspapers is generally older, this column is not our primary means of drawing youth to 4-H programs, but rather to inform the public of what 4-H is doing in the community. Topics for the column have included introductions to 4-H and the local Extension Office staff, registration information for upcoming programs, and even how to pick a proper Christmas tree. Information in the column is written in a candid manner, allowing readers to feel a connection. The Newberry Observer reaches approximately 6,500 readers with it's paper copy and 8,250 readers online.

Jennifer Werlin
Extension Educator
University of Idaho Extension
Teton

In the Teton Valley News Farm-to-Fork Column, the objective is to introduce readers to various community food system topics covered by Extension programming in Teton County, Idaho such as gardening/horticulture, small farms, and food security and access. The purpose of the monthly column is to raise awareness about relevant food system and agriculture topics in the Teton mountain region, located in the Yellowstone-Teton Ecosystem of southeastern Idaho. It is also intended to help advertise for county and state-wide Extension programs. The column has run continuously and existed since early 2017. The audience of over 22,000 newspaper subscribers primarily includes adult members of the public, particularly those interested in growing their own food or buying directly from farm and ranch producers in the small, rural community. The column is written and edited by the county chair and only Extension Educator for the county Jennifer Werlin, who specializes in Community Food Systems. The Farm-to-Fork newspaper columns are also replicated and printed for the quarterly Extension newsletter for Teton County, Idaho. Over 200 printed copies of the newsletters are distributed throughout the county of 10,000 residents at the Extension office, community bulletin boards, and health food stores. Newsletters are also posted on the University of Idaho county webpage and emailed to approximately 200 email subscribers.

Nicole D. Sanchez
Horticulture Ext. Field Faculty
Oregon State University Extension Service
Klamath

Klamath Basin is home to a short growing season and may experience frost any month of the year. Approximately 50% of gardeners in Klamath Falls and surrounding areas are "transplants" from different regions and experience significant challenges translating their gardening knowledge to the Klamath climate. This weekly article series tackles relevant horticultural topics using a "Five Facts" format- five facts or points, usually with references and links for more information, on a seasonally relevant horticultural issue. Examples include "Five reasons to plant trees in fall", "Five seed packet facts", and "Five insects commonly submitted to the Plant Clinic".

Most popular (based on comments from readers) was "Five things you didn't want to know about aphids"

Popularity of the articles is evidenced by increased calls to the Extension office on Wednesday mornings, the day the column is published each week, and frequent incidences of class and program participants slipping the author suggestions for future articles on scraps of paper.

In addition to answering many questions about plants, insects, and disease issues in the area, the series has highlighted Extension and Master Gardener programming with articles like "Five plants you'll find at the Master Gardener plant sale" and "Five things Master Gardeners achieved in 2019". Over 60 local individuals have approached the author in meetings, the grocery store, and other locations to thank her for the information in the articles or comment on them. After publication, articles are also shared on social media (Facebook) and the Klamath County Extension Website. Through social media, the articles are frequently shared Oregon- wide and occasionally nationwide. Publication of these articles has led to invitations for speaking engagements, development of webinars, and the author being interviewed for an article in a national magazine (to be published summer 2020).

Much horticultural information published for Oregon is more relevant to the coastal and Willamette Valley areas. The Klamath Basin Horticulture series has proven to be a valuable and appreciated mechanism for sharing locally relevant information in a community that enjoys both high newspaper readership and interest in gardening.

State Winners

State Winner	
North Central Region	
Indiana	Ashley Adair
Ohio	Amy K. Stone
Northeast Region	
New York	Libby Eiholzer
Southern Region	
Arkansas	Brad Runsick
Florida	Taylor Clem
Georgia	Caitlin Bennett Jackson
Kentucky	Eric Baker
Louisiana	Albert Orgeron
Mississippi	James Shannon
North Carolina	Paul Mckenzie
Tennessee	Christopher Cooper

Feature Story

National Winner

Mary Kate Wheeler
Farm Business Management Specialist
Cornell Cooperative Extension
South Central New York Dairy and Field Crops

Wheeler, M.*[1],
[1] Farm Business Management Specialist, Cornell Cooperative Extension, Owego, NY, 13827

This entry highlights a feature article that appeared in the Winter 2020 edition of the Small Farms Quarterly. The author, NACAA member Mary Kate Wheeler, works with the South Central NY Dairy and Field Crops Team to deliver educational programming and technical assistance related to farm business management. The team serves dairy and crop producers in six New York counties: Broome, Chemung, Cortland, Onondaga, Tioga and Tompkins.

The "Rate Your Recordkeeping System" article tackles financial recordkeeping, a critical function of any business, yet one that many farms fail to master. Despite the importance of this topic, it rarely generates enthusiasm among agricultural producers. This article takes a creative approach to engage farm operators, inspire them to evaluate their own recordkeeping systems, and challenge them to think critically about possible improvements. By using an interactive quiz format to share best (and worst) management practices, the article invites readers to recognize and rank the features of their own system. The concluding section provides recommendations tailored specifically to meet the needs of different farms, depending on how they score their current system.

Mary Kate wrote and submitted "Rate Your Recordkeeping System" to Small Farms Quarterly for publication in January 2020. The timely publication date pushed the information out to farmers between the end of the year and their income tax filing deadline, a period when farm operators are more attentive to recordkeeping and financial analysis. The Small Farms Quarterly circulates approximately 40,000 print copies, and posts articles to their website.

The article previously appeared in the South Central NY Dairy and Field Crops Team's December 2019 Dairy Digest newsletter, which reaches 700 subscribers by mail and another 200 digital subscribers by email. The team also shared the article electronically on its blog and Facebook page. Producers have responded with positive feedback about the article, including one dairy operator who proudly posted her high recordkeeping score on her own Facebook page.

National Finalists

Sara Bauder
SDSU Extension Agronomy Field Specialist
SDSU Extension
South Dakota

Bauder, S.[1], , David Karki[2], , **Anthony Bly[3],**
[1] SDSU Extension Agronomy Field Specialist, SDSU Extension, Tyndall, SD, 57066
[2] SDSU Extension Agronomy Field Specialist, SDSU Extension, Watertown, SD, 57201
[3] SDSU Extension Soils Field Specialist, SDSU Extension, Sioux Falls, SD, 57106

South Dakota faced an extremely challenging farming year in 2019. According to the USDA-NRCS 2019 'South Dakota Cropping Systems Inventory', unprecedented precipitation and flooding across much of the state resulted in nearly 4 million acres that could not be planted; this consisted of 1/5 of the country's total unplanted cropping acres due to weather in 2019. This left many producers searching for ways to raise forage for livestock and/or keep their soils covered to control weeds and erosion for the remainder of the growing season. Cover crops quickly rose to be of great interest, however this came with an entire suite of questions and challenges. This article entitled "Cover Crops 2019: What to Plant When" was written to assist producers in making decisions about cover crops and provided basic resources to get the decision making process started. We released the article in early July when many fields were beginning to look passible and producer questions were starting to flow in. The article was published on our SDSU Extension website which engaged more than 277,000 new users last year. It was also released as a news release, which helped spread the information in print across the state. In addition, the article was released in our weekly Pest & Crop Newsletter in early July which is distributed to 2,700 recipients each week during the growing season. Furthermore, information from the article was discussed on our SDSU Extension radio program, which plays five days a week on ten stations, covering every acre in South Dakota. Sara Bauder, Anthony Bly, and David Karki wrote this article collectively and intend to build a formal extension publication from this information for the 2020 cropping season.

Thomas Butzler
Horticulture Educator
Penn State Cooperative Extension
Clinton/Northeast

Butzler, T.*[1],
[1] Horticulture Educator, Penn State Cooperative Extension, Lock Haven, PA, 17745

I have a biweekly column, under the standing line *Keeping It Green*, in Lock Haven's *The Express*. This allows me to write about horticulture related topics throughout the year. Usually, these topics are set up well ahead of time in order to create a calendar of articles. Occasionally, there is a horticulture topic that is very timely and cannot wait to be published in the biweekly column. In these situations, I submit an article as a featured story along with photos. In this instance, I wanted to highlight the Apiary Exhibit at the 2020 Pennsylvania Farm Show. Only open several days, the article had to get into the paper quickly so subscribers, if interested upon reading, could head down to the Farm Show before its conclusion. I included photos with the article to highlight the descriptive portion of my text. The article, with photos, was published on January 9, 2020. Photo captions are at the bottom of the submitted article. It was submitted via *The Express*'s virtual newsroom; therefore, it was not prepared with letterhead. A Nikon D3100 was used for the photographs. *The Express* has a daily circulation over 10,000. Several phone calls were generated because of the news article and some callers requested additional information.

Eric Baker
AGENT FOR AG AND NATURAL RESOURCES
UK COOPERATIVE EXTENSION- ESTILL CO. OFFICE
ESTILL

Baker, E.*[1],
[1] AGENT FOR AG AND NATURAL RESOURCES, UK COOPERATIVE EXTENSION- ESTILL CO. OFFICE, Irvine, KY, 40336

With the Kentucky River coursing through our county, Estill County farm families and citizens know well the adversities of periodic flooding and associated damage. Nebraska grain farmers and livestock producers experienced a major flood in March 2019 that left the agriculture community with over a billion dollars of damages. Local Kentucky farmers and friends rose to the occasion to send aid through the University of Kentucky Cooperative Extension Service, local county Cattlemen Associations, and other agriculture agencies. Estill County contributed to the relief effort which was coordinated by the Estill County Cattlemen's Association, Estill County Cooperative Extension, and Estill County FFA Chapter. The Estill County Fair Association livestock pavilion was the

collection point April 23rd. A local Estill County Cattlemen's Association member volunteered to haul the donations to Frankfort in his covered cattle trailer. After all donations were collected, Estill County farmers and friends donated 20 rolls of barbwire, 200 steel t-posts, feed, tarps, cleaning supplies, baby diapers, mops, buckets, non-perishable food, water, and various other relief items. We estimate collected donations exceeded $3,500 in value. Our community showed kindness and generosity toward Nebraska farm families. *Citizens Voice & Times* reports a circulation of 3,257 issues weekly.

Regional Winners

Cassie Homan
District Agent
K-State Research and Extension
Post Rock District

Homan, C.*[1],
[1] District Agent, K-State Research and Extension, Beloit, KS, 67420

This article was published in seven newspapers in the North Central Kansas area around May 10, 2019. The article that is scanned was published in the Beloit Call Newspaper. This paper services a community of 6,373 people. The purpose of the article was to help people protect their landscapes and windrows from bagworm insects. In our rural area we have many Eastern Red Cedar trees which are the favorite host for bagworms.

This article discussed the lifecycle of the insect, the damage they cause, and how to control the pest. It was very timely because it was printed around the time that trees should be treated. This is an important reminder for readers because often people don't think to treat until they start to see the bagworms. At this point the pests have already stopped feeding and are enclosed in their sacks, so spraying would be useless.

After printing the article, I received many follow-up questions from community members. I was asked about companies in the area that would spray for homeowners. I was also asked when the last possible date to spray could be. Many people didn't get around to spraying at the ideal time and wanted to ensure their treatment would still be effective.

The article can be found on our Post Rock Extension Website here:

https://www.postrock.k-state.edu/docs/answers-column/horticulture-answers/Post-Rock-Answers-May-10-Bagworms%20.pdf

Stanley J Moore
Extension Dairy Educator
MSU EXTENSION
ANTRIM

Moore, S.J.*[1],
[1] Extension Dairy Educator, MSU EXTENSION, Bellaire, MI, 49615

The purpose of this article was share from my experience in working with farms going through a generational transition. In the article I share two fictitious farm scenarios, although they are based on real world examples. One farm has waited too long to begin the transition process, while other has started at a more ideal time. The goal of the article was to encourage farmers to begin the farm transition process while the senior generation is 40 to 50 years old, and the younger generation is in their 20's. It is important to begin the transition process at an earlier age because: transitions take time, risk tolerance decreases with age, and waiting means a missed opportunity to mentor the next generation. I authored and submitted the article to Progressive Dairy magazine and the article appeared in the August 25, 2019 edition. The Progressive Dairy magazine has a total circulation of 26,915 nationwide, reaching dairy farmers throughout the United States. Farms that begin the transition process when the next generation is in their 20's have more flexibility in the tools they can use, and have a higher rate of successful transfer.

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

Compaction is a major problem affecting soil health as it inhibits root growth, hinders water infiltration, and increases flooding. Some soils can be naturally prone to compaction and much of the soil in Ocean County, New Jersey is classified by the U.S. Department of Agriculture as having a low resistance to compaction making compaction more likely in these soils. To raise awareness of compaction as well as provide information on how to manage soil compaction, this feature was written for inclusion in *The New Jersey Landscape Contractor* magazine. *The New Jersey Landscape Contractor* magazine is the official publication of the New Jersey Landscape Contractors Association. The article outlines the causes of compaction, its effects on soil health, mitigation options, and how to assess soil compaction with the objective of informing landscapers on the basics of compaction and how to address it.

"Assessing Soil Compaction" in *The New Jersey Landscape Contractor*, Spring 2019 edition (May 2019) is available at https://www.njlca.org/public/NJLCA-The-New-Jersey-Landscape-Contractor-Magazine-Spring-2019.cfm?sd=75. Circulation of the triennial magazine is estimated to be approximately 600 print copies and 4,000 digital issues per issue sent to professionals in the Green Industry in New Jersey, landscaping companies, and educational and government institutions. The well-received article resulted in Dr. Yergeau being asked to contribute a column in the magazine.

Eddie Smith
Extension Agent/County Coordinator
Mississippi State University
SE - Pearl River

Smith, E.*[1],
[1] Extension Agent/County Coordinator, Mississippi State University, Poplarville, MS, 39570

This article provides tips on chores that can be done outside during the fall time of the year. The fall is a great time to get outside and work in the yard. Publication of this article in the magazine has the potiential to reach at least 7,000 people. The magazine is distributed to businesses in south Mississippi and is also available online. Seniors are the target audience but other age groups read the magazine too.

Matthew Webb
Extension Agent
University of Tennessee Extension
Marshall

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

The purpose of this article was to promote an alternative method of feeding hay to beef cattle to members of the Tennessee Cattlemen's Association. The Tennessee Cattlemen's Association was organized in 1985 and has 7,000 members in 71 local cattlemen's associations throughout the state. This article was published in the August 2019 edition of the Tennessee Cattle Business which is the official publication of the Tennessee Cattlemen's Association. Fence Line Hay Feeders are hay feeders that are built into the fence and on an appropriate feed pad. This allows beef cattle producers to feed large round hay rolls without entering the field where beef cattle are wintered. If designed correctly, these feeders may be more time efficient, safer for the cattle and producer, reduces hay waste, improves animal health through reduced mud around the feeders and reduces pasture damage from tractor wheel traffic. There are possibilities to use these feeders not only for winter feeding but also in weaning or receiving lots and as a sacrifice area during a drought. It is crucial that these feeders are built in an appropriate location and designed to fit the size of the cow herd as well as around and in conjunction with hay storage, handling facilities and farm roads. Issues with these feeders is cost, manure and waste management, hay quality and maintenance of the feeder structure and the feed pad. Information for the article was based from designs and communications with Eden Shale Farm in Owenton, KY where the original feeder designs are located as well as from the Tennessee Beef Heifer Development Center in Lewisburg where five designs were constructed and used as part the heifer development program. After these feeders were constructed, the agent has conducted farm tours and field days with over 400 producers. There have been over 100,000 views through videos and posts on social media sites.

Ashley D. Wright
Livestock Area Agent
The University of Arizona
Southeastern Arizona

Wright, A.*[1],
[1] Livestock Area Agent, The University of Arizona, Willcox, AZ, 85643

This article, titled "Beef Quality Assurance: The Right Thing to do For Your Cattle and Arizona's Cattle Industry" was solicited, written for and published in the December 2019 edition of *Arizona Cattlelog*: The Official Publication of the Arizona Cattle Growers' Association (ACGA). The goal of the article was to draw new attention to Arizona Cooperative Extension's Beef Quality Assurance (BQA) Certification Program. Following the release of this article, we have seen an increase in inquiries regarding upcoming BQA certification opportunities, and strong engagement with the BQA program at our annual Range Livestock Nutrition Workshops. Almost all participants at each of the three locations either renewed their certifications or stayed after the program for the new certification training. This was a timely release of information, especially with new educational opportunities emerging around the state in the last several years focusing on young or beginning ranchers. This includes a three-year Beginning Farmer and Rancher Development Grant from the National Institute of Food and Agriculture awarded to the University of Arizona Cooperative Extension to provide training and information to beginning ranchers, the reinvigorating of two young farmer and ranchers groups, and the creation of a new committee for young ranchers by the Arizona Cattle Growers' Association. This focus on education specifically targeting young or beginning ranchers and the results of a new study from Colorado State (June 2019) highlighting potential premiums from BQA certification made it an opportune time to expose ranchers, both new and old, to the impacts

of the program and provide information on how to become certified. The *Arizona Cattlelog* is distributed to all members of the Arizona Cattle Growers' Association and available online. 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.

Article (page 33):

https://issuu.com/azcattlegrowers/docs/43088_azcattlelog_dec19_proof

Linda Chalker-Scott
Extension Specialist and Associate Professor
Washington State University
WSU Puyallup

Chalker-Scott, L.*[1],
[1] Extension Specialist and Associate Professor, Washington State University, Puyallup, WA, 98371

Though gentle handling of roots is good advice when transplanting seedlings, woody perennials, shrubs, and trees from the nursery can all benefit from a more vigorous approach. By "taking it all off" gardeners can

1. remove all of the foreign material from the root ball, including containers, twine, burlap and soilless media or clay;

2. find and correct circling, girdling, or other flawed woody root systems; and

3. ensure the transplant is situated at grade – meaning the root crown is visible rather than being buried.

By removing all of these barriers between the roots and the native soil, gardeners can ensure that their plants will establish more quickly and have better survival than those plants that are planted with an undisturbed root ball.

This article appeared in *Fine Gardening* magazine February 2020, pp. 22-24.

State Winners

State Winner	
North Central Region	
Indiana	Sarah Hanson
Minnesota	Emily Krekelberg
Nebraska	John Porter
Ohio	Amy K. Stone
Wisconsin	Ryan Sterry
Southern Region	
Alabama	David P. Russell
Arkansas	Rachel Bearden
Florida	Kalyn Waters
Georgia	Brooklyne Wassel
North Carolina	Hannah Lepsch
South Carolina	Terasa M Lott

Newsletter Individual

National Winner

Megan Taylor

Nebraska Extension

Kernels of Knowledge and Trifoliate Times is a combined newsletter geared towards row crop farmers and crop consultants. This newsletter reached 236 stakeholders over three editions in 2019-2020; early season before planting March through May, midseason in July through September, and then January through February. The purpose of this newsletter was to provide timely information and crop scouting updates in response to requests from stakeholders to provide supplemental information related to trainings I was providing. These were distributed primarily in paper form during in person trainings. The first edition was given out at two farmer meetings and forty copies were distributed. Topics covered were starter fertilizer, planting in wet soils, and flooding updates. The second edition was distributed at in-season meetings and industry plot updates. The newsletter was distributed to around seventy-eight stakeholders. Topics covered included disease identification, herbicide damage, and stalk/stem rot identification. The second edition of the newsletter was used in conjunction with short presentations that I conducted at these meetings. The newsletter served as a reference for the participants and provided a guide for the stakeholders to use on their own acres. The final edition of the newsletter, focused on the previous cropping year, and was disturbed at private and commercial applicator training. Around 118 copies were given out in January and February.

This edition of the newsletter summarized 2019 issues and provided photographs for reference. This newsletter will be distributed once again this year digitally on my website and on social media, as well as paper handouts during in-person trainings.

National Finalists

Erika Lyon
Extension Educator - ANR
Ohio State University Extension
Jefferson County

The ANR Extension Connection newsletter for Jefferson County, Ohio highlighted relevant agricultural and horticultural information, updates, and local and regional events during the summer of 2019. The objective of the newsletter was to ensure that county residents stayed in the loop on Extension programs available to them as well keeping them informed of relevant issues and interests in the fields of agriculture and natural resources. Newsletters contained articles on livestock production, horticultural pests, invasive species, farm stress, among other topics that were based on the needs of the county. The newsletter reached a general audience consisting of agricultural producers, growers, consumers, county officials and the general public.

Many community members of Jefferson County do not have good access to the internet to receive information. Furthermore, those who do have internet access often encounter scientifically unsupported claims online represented as facts. These newsletters included both reactive and proactive science-based information that could be received both electronically and by mail. For example, an article about the hazards of ash trees was included to inform county landowners of the dangers of dead stands of ash created by the Emerald Ash Borer. Although the beetle had been present in the county for some time, many dead ash trees had not been removed, and these trees were creating hazardous conditions for anyone walking nearby.

My role as editor for this newsletter included writing articles on topics related to agricultural production, compiling articles written by colleagues relevant for county clientele, creating advertisements for county and nearby events and opportunities, formatting and distribution. Newsletter issues were designed using Microsoft Publisher software.

With options to receive online or through the mail, the newsletter reached 427 households through mailing of printed copies and approximately 250 individuals and agencies via email on a bimonthly basis. Additional newsletters were also made available for pick up at the Jefferson County Extension office. Clientele frequently referred to the newsletter for information and, as a result, contacted the office with further questions regarding the topics included. Attendees at county programs often stated that they found out about events through the ANR Extension Connection newsletter.

Andrew Kness
Agent
University of Maryland Extension
MD

Harford Ag Notes is the local agriculture newsletter distributed by University of Maryland Extension in Harford County. The target audience of this monthly newsletter is local agriculture professionals in Harford County, MD; however, subscribers are located in surrounding counties in Maryland and Southern Pennsylvania. The newsletter is distributed to 514 farmers, industry professionals, extension colleagues, local government officials, and related individuals in the field of agriculture. *Harford Ag Notes* is distributed both electronically via email (70%), as well as hard copy mailings (30%) in order to reach all interested readers.

A recent needs assessment conducted by the University of Maryland Extension determined that newsletters are one of the most convenient and utilized sources of information for agriculture clientele; therefore, this newsletter not only strives to keep readers up-to-date with current events, workshops, and news, but emphasis is placed on giving readers educational articles and resources that are timely and pertinent to their farming operations.

Personal communication with subscribers indicate that articles in this newsletter provides readers with information that is valuable and impactful and demonstrates that newsletters are an effective educational tool for extension educators.

Sherri Sanders
CEA-AGRI

WHITE

The White County Horticulture newsletter disseminates timely horticulture information and advertises upcoming education opportunities. The research-based information is provided by the Horticulture Agent and University of Arkansas Specialists from horticulture, entomology, plant pathology, plant and soil sciences and other departments, as well as the Plant Disease clinic. The monthly newsletter is distributed electronically and by mail, reaching over 325 people representing 36 counties and 5 different states. The audience includes homeowners and commercial growers. Additionally, many of the articles are featured on the agent's Facebook and Twitter pages, reaching over 88,000 direct and indirect contacts in 2019. An on-line survey of newsletter recipients indicated that the newsletter has influenced them to:

• Tested soil and interpreted soil analysis report: 53%

• Identified insect pests and treated as recommended by Extension: 64%

• Learned to properly prune fruit/nut trees and ornamental shrubs: 43%

• Identified plant diseases and treated as recommended by Extension: 73%

These changes of practice have:

• Improved the quality of their lawn and garden: 39%

• Reduced the use of chemicals: 33%

• Tried a new plant in their vegetable or ornamental garden: 22%

• Saved money or decreased cost: 17%

• Added value to my home: 47%

According to one client, "the newsletter answers timely questions about everything I have in my yard." Another person commented that they had started a personal reference library with the newsletters. He keeps every issue and refers to them when he has questions.

Regional Winners

Jeremy Jubenville
Extension Floriculture & Greenhouse Educator
Michigan State University Extension
Kalamazoo

Consistent communication is one of the best ways to maintain stakeholder engagement. Efficient communication methods are also a necessity with a multi-county coverage area and statewide responsibilities. "**Southwest Michigan Greenhouse News and Notes**" is a digital newsletter distributed to a list of greenhouse growers, allied industry representatives, and protected agriculture enthusiasts. I use Mailchimp to send out email campaigns every 7-10 days during spring production season (December through June) and every 2-3 weeks during the slower times of year. Each newsletter contains news and announcements, insect and disease reports, upcoming events, and links to information resources.

I sent a total of 36 email newsletters in 2019 (Mailchimp) to recipients in **18 Michigan counties**. I started the year with 166 recipients and ended the year with 170 for a net gain of 4 new recipients. A grand total of 6090 email newsletters were successfully delivered over the course of the year with 2309 unique opens **-- an increase of 18.3% over the previous year**. The open rates ranged from 32% to 50% with an **overall average open rate of 37.9%**. There were 5526 total opens, which suggests that recipients came back to the emails for reference at a later date.

The attached files are two examples of my newsletter converted to pdf format. Archived newsletters, designed for viewing on traditional computers and mobile devices, are available online. The May 21, 2019 newsletter can be found here: link to May 21 newsletter and the February 7, 2020 edition can be found here: link to Feb 7 newsletter.

Skylar Peters
4-H/Youth Development Educator
Penn State Extension
Mifflin County

The purpose of this newsletter is to inform families and new families about the events and activties going on in the 4-H program. This newsletter is sent out to our entire group of 4-H members and volunteers who are enrolled in our 4-H Online system. In 2019 we had 341 4-H members and 73 4-H volunteers enrolled who recieved this newsletter. This newsletter is also sent to our commissioners and other stakeholders in our program who would be interested in events we have going on. This newsletter is also used to promote our program and showcase the diverse selection of programs we offer to our youth. This newsletter is made using Microsoft Publisher and is sent out on a monthly basis.

Emily Morrow
Extension Agent
West Virginia University Extension Service
Jefferson

The purpose of these newsletters is to keep the local agriculture community informed of upcoming events and news. The content of the newsletter includes descriptions of upcoming local and regional educational opportunities, and informative articles that are orginal content, from other extension sources, and from other agriculture news sites. Article topics are selected based on seasonal trends currently seen in the industry and the area. This publication reaches everyone from large scale for-profit producers to backyard gardeners, so topics are selected to appeal to this diverse audience. These newsletters are distributed via mail and email to approximately 400 households located in Jefferson County and surrounding counties.

Melissa Morgan
Extension Agent
Mississippi State University Extension Service
SW - Copiah

The Copiah County 4-H youth, parents, and volunteers participate in various activities offered through the Copiah County Extension Office. Once a month or every other month, a newsletter is mailed to those individuals. The newsletters

includes the various activities that are being offered to the 4-H youth, parents, and volunteers for the upcoming months. The August 2019 and March 2020 newsletter published included activities for the following: Sewing, Shooting Sports, Livestock, Cookout Contest, Project Achievement Day, Horse, Scholarships, Poultry Chain and Club Congress. There were also activities listed for the general 4-H youth and volunteers to participate. The newsletter also served as a form of recognition for youth that have excelled in activities. This newsletter was mailed to approximately 958 youth, parents, and volunteers. Of those that received newsletter, almost half were minorities. The newsletter was also made available for electronic viewing. The number of audience members that viewed it electronically is undocumented. The newsletter helped to inform the youth and volunteers of activities and increased participation in those activities.

Elizabeth Mcmahon
CEA-HORT
Texas A&M AgriLife Extension Service
Gillespie

The objective of this newsletter is to inform Master Gardeners, homeowners, and small acreage landowners with horticultural interests of upcoming programs and to provide information on timely horticulture topics. Besides these, usually included within the newsletter are program updates, "Strange Tales of Horticulture", and a 'Name that Plant" contest. The Gillespie County Horticulture Newsletter is published four times a year. It is distributed by email list to 257 recipients. It is also available online at https://gillespie.agrilife.org/agriculture-2/horticulture/horticulture-newsletter/. The articles, except as noted, are written by the agent herself.

The Fall newsletter was distributed on September 19th, 2019. The Summer newsletter was distributed on July 15th, 2019.

Sonia I. Rios
Area Subtropical Horticulture Advisor
University of California Coop. Ext.
Riverside & San Diego Counties

The newsletter was created to better serve subtropical horticulture growers, packing houses, Pest Control Advisors, Certified Crop Advisors, and other stockholders in southern California. The newsletter helps me stay connected to my clientele and so that they are always aware of what is occurring in our counties. Included in the quarterly issues are articles that offer stakeholders latest information regarding their commodity (dates, citrus, avocados, macadamias, etc.) in pest management, natural disaster aftermath and soils and irrigation management. The newsletter also mentions past local events such as seminars, meetings, and other outreach events. Likewise, it also mentions announcements for upcoming University of California Cooperative Extension events.

The newsletter is fairly new; however, it is distributed to more than 462 growers and stakeholders in Riverside and San Diego Counties alone, via email. I also offer hardcopies of the latest newsletters to every outreach or seminar that I host or attend. Every newsletter will also have different featured photos that I have taken throughout the newsletter as well as many other photos at past events. I found that this keeps the growers engaged and feel encompassed in the subtropical horticulture and extension community.

State Winners

State Winner	
North Central Region	
Iowa	Ron Lenth
Kansas	Shad Marston
Southern Region	
Alabama	Bridgette F. Brannon
Georgia	Brooklyne Wassel
Kentucky	Alexis Sheffield
North Carolina	Hannah Lepsch
South Carolina	Kerrie Roach
Tennessee	Amy L Dismukes
Virginia	Edward Olsen

Newsletter Team

National Winner

Philip Rozeboom
IPM Coordinator
SDSU Extension

Anthony Bly*[1], , **Bachmann, A.*[2],** , **Connie Strunk*[3],** , David Karki*[4], , Emmanuel Byamukama*[5], , Gared Shaffer*[6], , **Jack Davis*[7],** , Jason Clark*[8], , Jonathan Kleinjan*[9], , **Laura Edwards*[10],** , Paul Johnson*[11], , Ruth Beck*[12], , **Sara Bauder*[13],** , **Varenhorst, A.*[14],** , **Wagner, P.*[15],** , **Rozeboom, P.*[16],**

[1] Soils Field Specialist, SDSU Extension, Sioux Falls, SD, 57106
[2] Pesticide Education & Urban Entomology Field Specialist, SDSU Extension, Pierre, SD, 57501
[3] Plant Pathology Field Specialist, SDSU Extension, Brookings, SD, 57007
[4] Agronomy Field Specialist, SDSU Extension, Watertown, SD, 57201
[5] Associate Professor & Plant Pathologist, SDSU Extension, Brookings, SD, 57007

[6] Weeds Field Specialist, SDSU Extension, Aberdeen, SD, 57401
[7] Crops Business Management Field Specialist, SDSU Extension, Mitchell, SD, 57301
[8] Assitant Professor & Soil Fertility Specialist, SDSU Extension, Brookings, SD, 57007
[9] Crop Production Associate, SDSU Extension, Brookings, SD, 57007
[10] State Climatologist, SDSU Extension, Aberdeen, SD, 57401
[11] Weed Science Coordinator, SDSU Extension, Brookings, SD, 57007
[12] Agronomy Field Specialist, SDSU Extension, Pierre, SD, 57501
[13] Agronomy Field Specialist, SDSU Extension, Mitchell, SD, 57301
[14] Assistant Professor & SDSU Extension Field Crop Entomologist, SDSU Extension, Brookings, SD, 57007
[15] Entomology Field Specialist, SDSU Extension, Rapid City, SD, 57703
[16] IPM Coordinator, SDSU Extension, Brookings, SD, 57007

The Pest and Crop Newsletter is a weekly release from May till August and a monthly release from October to April. The newsletter consists of any articles that the SDSU Extension team had published the previous week or month on extension.sdstate.edu. It is availbe and emailed to anyone who subscribes, for free, on the extension website. The goal of the newsletter is to keep our 2,500 readers up-to-date on anything from insects, diseases, weeds and suggested best-managment practices. This is done to allow them to be well informed when making management decisions.

National Finalists

Tina L. Kohlman
DAIRY & LIVESTOCK AGENT
University of Wisconsin Madison Division of Extension
FOND DU LAC COUNTY

Kohlman, T.L.*[1], , Zimbric, J.W.[2],
[1] DAIRY & LIVESTOCK AGENT, University of Wisconsin Madison Division of Extension, Fond Du Lac, WI, 54935
[2] Extension Area Crops & Soils Educator, University of Wisconsin Division of Madison, Fond du Lac/Dodge Counties, Fond du Lac, WI, 54935

Extension Fond du Lac County Agriculture Programming continues to utilize a hardcopy, direct-mailing, monthly newsletter to over 600 farmers and agri-business professionals to share university-based resources that are timely and relevant. The newsletters also serve as a vehicle to promote upcoming meetings in the immediate area. The title "From Field to Barn" is used, encompassing both agronomic and dairy production related areas. The two newsletters submitted include the November 2019 and December 2019 editions. In both editions, articles are predominantly written by two team members, with addition of other articles with source credit.

Team members write and provide articles from other resources in the monthly newsletter. This agent provides the design and editing the newsletter. The newsletter is published with Microsoft Publisher 2019, and printed in black and white on colored paper with a Minolta C455 color printer. Newsletters are distributed mid-month for the following month.

Caitlin B. Jackson
County Extension Coordinator
University of Georgia
Monroe/Northeast

Robinson, H.*[1], , Wassel, B.*[2], , Whitley, N*[3], , Jackson, C.B.*[4],
[1] Upson & Lamar County Extension Agent, University of Georgia, Thomaston, GA, 30286
[2] Pike County Extension Agent, University of Georgia, Zebulon, GA, 30295
[3] Extension Animal Science Specialist, Fort Valley State University, Fort Valley, GA, 31030
[4] County Extension Coordinator, University of Georgia, Forsyth, GA, 31029

Small ruminant producers in the Southeast face unique challenges with heat, humidity and internal parasite resistance to approved dewormers. The BLEAT, a newsletter for sheep and goat producers, is a collaborative effort by University of Georgia Extension Agents in middle Georgia and the Fort Valley State University Extension Small Ruminant Specialist to provide producers a quarterly educational resource. The newsletter is set up to address timely production issues, forage information, recipes, highlight youth activities, and advertise information on upcoming events. University of Georgia Extension Agents from five counties in middle Georgia area and the Fort Valley State Universty Extension Small Ruminant Specialist submit research-based articles with occasional guest contributions from Extension Small Ruminant Specialists from other states. Articles are submitted every quarter to Caitlin Jackson who designs and edits the layout of every edition of the newsletter using Canva, an internet-based graphic design program. Each edition is proofread by contributing Agents and Specialists before publication. Editions are published quarterly and distributed electronically through social media and emailed directly to Extension Agent and Specialist contact lists. Three editions of the BLEAT have been published since summer 2019 and distributed to 314 producers per issue.

Jennifer Heguy
Farm Advisor
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION
Merced, Stanislaus and San Joaquin Counties

Heguy, J.*[1], , Bruno, D.[2], , Hollingsworth, J.[3], , Karle, B.[4],
[1] Farm Advisor, UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION, Modesto, CA, 95358
[2] Farm Advisor, UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION, Fresno, CA, 93710
[3] Farm Advisor, UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION, Fresno, CA, 93710
[4] Farm Advisor, UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION, Orland, CA, 95963

California is the number one milk producing state in the nation, with four University of California (UC) Farm Advisors serving major dairy areas of the State. Beyond extending education to clientele, UC Farm Advisors are responsible for developing and executing applied research programs at the local level. Absence of critical mass and a need for consistent messaging and branding led to the creation of a statewide dairy newsletter. The objective of the California Dairy Newsletter is to provide dairy producers quarterly publications of current research findings, emerging regulatory information and information pertaining to improved production efficiencies on dairies. The newsletter is a collaboration of county-based Farm Advisors, State Specialists, and Agriculture Experiment Station faculty. In addition to traditional dairy science articles, collaboration across disciplines provides agronomic information, important for a state that relies on homegrown forages to mitigate feed costs, and one that is required to adhere to strict manure management regulation on cropland. This team approach allows for consistent delivery of information to clientele, including articles from experts in their respective fields. The newsletter is edited and formatted by J. Heguy, with each county office producing and distributing the newsletter. County offices cumulatively mail 2,900 copies per newsletter issue, with a targeted audience of dairy producers, dairy employees, and allied industry. The newsletter is also available electronically, with subscribers across the US and world. The statewide dairy newsletter approach has allowed the UC dairy team to consistently deliver timely, science-based information to dairy clientele.

Regional Winners

Elizabeth Hawkins
Field Specialist, Agronomic Systems

Fulton, J.*[1], , Hawkins, E.*[2], , Landis, E.*[3], , Lee, J.*[4],
[1] Professor, The Ohio State University, , ,
[2] Field Specialist, Agronomic Systems, , Wilimington, OH, 45177
[3] Student Assistant, The Ohio State University, , ,
[4] Student Research Assistant, The Ohio State University, , ,

The Digital Ag Download (DAD) is a quarterly newsletter created and distributed by The Ohio State University Digital Ag Team. The Digital Ag Download was created to help the Digital Ag Team deliver timely and relevant information about digital agriculture topics throughout the year. Each newsletter focuses on seasonal activities in agriculture and highlights the team's research and extension programs. Special reports are released between the regularly scheduled newsletters as additional needs to provide information arise. The target audience for the newsletter includes farmers, crop consultants, Extension and agriculture industry professionals. The newsletter is created and shared by members of the Digital Ag Team using the Constant Contact email marketing software. Newsletters are also posted on the Digital Ag Team website in PDF format. Currently, the newsletter has over 370 subscribers and received more than 700 views in 2019.

Two issues of the newsletter in PDF format can be viewed at:

https://digitalag.osu.edu/sites/digitag/files/imce/Q3%20Updates%20-%202019.pdf

https://digitalag.osu.edu/sites/digitag/files/imce/publications/digital_ag_download/2019%20Special%20Report%20-%20Nitrogen%20Application.pdf

William Errickson
County Agent III
Rutgers Cooperative Extension
Monmouth

Newman, M.*[1], , **Errickson, W.[2],** , Larson, D.[3], , Tansey, R.[4], , McNamara, D.[5], , Krzyzanowski, V.[6],
[1] County Agent III, CEDH, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728
[2] County Agent III, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728
[3] Horticulturist, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728
[4] Senior FCHS Extension Associate, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728
[5] Program Associate, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728

[6] Program Associate, Rutgers Cooperative Extension of Monmouth County, Freehold, NJ, 07728

The Monmouth Extension Connection is a quarterly newsletter that is published by Rutgers Cooperative Extension of Monmouth County. This publication represents a collaborative effort by the departments of Agriculture and Natural Resources, 4-H, and Family and Community Health Sciences. All content is written by faculty members and programmatic staff of Rutgers Cooperative Extension. The objective of the Monmouth Extension Connection is to provide residents of Monmouth County with science-based information on current agricultural and health and wellness topics, including: cultivation of new crops, pest and disease updates, extension services, youth programming, healthy recipes, and food safety. Additional information on current and upcoming extension events is also provided. The audience for the Monmouth Extension Connection includes commercial growers, home gardeners, 4-H families, members of the Monmouth County Board of Agriculture, and other Monmouth County residents who are interested in agriculture and healthy living. The newsletter is available as a full-color, printed hard copy and a downloadable digital version on the Monmouth County website. Printing, web-hosting, graphic design and layout are all provided by the County of Monmouth. Combined circulation of both formats is approximately 1,500 and all newsletters are available free of charge. Copies of the newsletters are available at the extension office, distributed at events, and mailed directly to clientele. Announcements of the release of the digital version with a link to the current issue are emailed to stakeholders, partner organizations, and clientele in each of the three extension departments. In addition to providing stakeholders of the Monmouth County Extension Office with updates and current information, the newsletter also serves as a recruitment tool to invite new participants to become involved in extension. To this effect, an increase in participation in activities promoted through the newsletter has been observed. Positive feedback in the form of emails and comments has also been expressed by the agricultural community, 4-H families, and the Monmouth County Board of Chosen Freeholders, who recognize the Monmouth Extension Connection as a valuable and effective measure for communicating the efforts of Rutgers Cooperative Extension of Monmouth County.

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

Eiholzer, L*[1], , Quaassdorff, M.*[2],
[1] Bilingual Dairy Management Specialist, CCE NWNY Dairy, Livestock, and Field Crops Team, , NY, 14020
[2] Dairy Management Specialist, CCE NWNY Dairy, Livestock and Field Crops Team, Batavia, NY, 14020

The purpose of this electronic team newsletter, "Dairy Alert", is to increase the reach of timely, brief, and important information regarding current events in the dairy community. It is distributed to dairy producers and employees, allied industry, and those with a dairy interest in Northwest New York. Sections may include breaking news affecting the dairy community, and upcoming Extension and industry programming. Web links to additional resources often are included in the content. The newsletter is a short, two-page PDF sent for free by email to anyone in our team's database with a dairy interest. Over 600 people receive this e-alert once each quarter, and more often if timely topics should arise. People receiving this e-alert are able to forward the email to others to further share the valuable information contained. It is also posted on our extension team's website for all to read.

Sheldon D. Barker
EXTENSION AGENT

Barker, S.D.*[1], , J. C. Rains*[2], , J. C. Rains*[3],
[1] EXTENSION AGENT, , Dunlap, TN, 37327
[2] Extension Agent, member, Pikeville, TN, 37367
[3] Extension Agent, member, Pikeville, TN, 37367

The *Sequatchie Valley Master Gardener News* is a monthly newsletter, the purpose of which is to inform Master Gardeners in the Sequatchie Valley (Bledsoe and Sequatchie Counties) Tennessee, of events and activities, and to provide timely garden and horticulture information. The newsletter, also, serves as a means to promote Extension activities in the two counties other than the Master Gardening program. The audience is those that have completed the Master Gardening course. Copies are distributed electronically to seventy-six individuals. Extension field staff on field equipment prepares the newsletter. Team members, and occasionally Master Gardeners, submit articles and materials for publication. Articles come from Extension news releases or are written by field staff or Master Gardeners. Since Master Gardeners are volunteers and are often a first contact with a client regarding horticulture questions the newsletter has served as a means of providing timely information on current topics and issues.

Andrea Davis
Extension Agent
Virginia Cooperative Extension
Virginia Beach

Davis, A.*[1], , Flanagan, R.D.*[2],
[1] Extension Agent, Virginia Cooperative Extension, Virginia Beach, VA, 23456
[2] Extension Agent, Virginia Cooperative Extension, Virginia Beach, VA, 23456

The purpose of this newsletter is to increase awareness of agriculture and agricultural opportunities in Virginia Beach. Through the newsletter, readers can learn more about the state of agriculture in Virginia Beach from the local Department of Agriculture as well as information on programming and resources available through Virginia Cooperative Extension to aid agricultural endeavors. Each extension agent prepares and submits for inclusion timely information and photos to advertise upcoming programs and other available resources for industry and consumer clients. The Agriculture and Natural Resources and Horticulture sections are those specifically created by the Agriculture and Natural Resources Extension Agents, being myself and Roy Flanagan. I focus on information related to urban/suburban agriculture including lawn and landscape programming for professionals and homeowners. Roy's focus is on the commercial crop producers. This newsletter is distributed via email, online availability, and hard copy distribution from our office and at the Virginia Beach Farmers Market and reaches agricultural producers, green industry employees, city officials, and homeowners throughout the city. In the electronic format, links to registrations and resources are live and available for ease. The newsletter is published quarterly through the City of Virginia Beach Department of Agriculture and reaches approximately 7500 people via email and hard copy distribution.

State Winners

State Winner	
North Central Region	
Iowa	Rich Wrage
Kansas	Shad Marston
Minnesota	Emily Krekelberg
Northeast Region	
Maryland	Jon Traunfeld
Southern Region	
Alabama	Steven M. Brown
Arkansas	Jeffrey Works
Florida	Christine A. Kelly-Begazo
Kentucky	Andrea Stith
Mississippi	Eddie Smith
Texas	Michael R. Hiller

Video Presentation

National Winner

Kerry P. Smith
Outreach Programs Admin
ALABAMA COOPERATIVE EXTENSION SYSTEM
statewide

Smith, Kerry P.[1], , Glover, Tony A.[2], , O'Rear, Bethany A.[3], , Pacumbaba, Rudy[4],
[1] Outreach Programs Administrator, Alabama Cooperative Extension System, Auburn University, AL, 36849
[2] County Extension Coordinator, Cullman County, Alabama Cooperative Extension System, Cullman, AL, 35055
[3] Regional Extension Agent, Alabama Cooperative Extension System, Birmingham, AL, 35223
[4] Extension Specialist, Alabama Cooperative Extension System, Normal, AL, 35762

This video is one in a series promoting research in Auburn University's College of Agriculture. This specific episode promotes a project, *Harvest for Health*, led by Alabama Extension's Home Grounds Team. The project was selected for promotion by the College's Director of Communications and Marketing, filmed by Alabama Public TV (APTV) in summer 2019, and first aired on August 8, 2019. APTV programming is received in 1.9 million households, and their average weekly viewership is 14.9%. The general, TV viewing public is the audience. This video highlights a project engaging Master Gardener (MG) volunteers, shows project value to the state and to scientific research, and illustrates our multifaceted partnership between the University of Alabama Birmingham, Auburn University, Alabama Cooperative Extension, and Extension Volunteers. Publicly promoting our project also reinforced our appreciation for the volunteers' contributions and helped recruit new participants through 2021. The NACAA members interviewed, represented and explained Extension's different roles within the project. Other studies have shown that a diet high in fruits and vegetables benefits cancer survivors, but this is the first medical study linking gardening to their health. UAB recruits the study's cancer survivors, AU Horticulture provides teaching tools, and Extension Agents train and support the MG volunteers serving as mentors. This *Harvest for Health* research is funded by grants from the National Institutes of Health (NIH), the Women's Breast Health Fund (Birmingham, AL), and donations from Safer Brand, Scott's Miracle Gro, and numerous private donors. NACAA members from Alabama: Kerry Smith, Tony Glover, Bethany O'Rear, Rudy Pacumbaba – all representing Alabama Cooperative Extension's, Home Grounds Team Time segment for judging: start, 00:00, to 11:13 Web link: https://video.aptv.org/video/spotlight-on-agriculture-harvest-for-health-bwsegj/

National Finalists

Kapil Arora
Field Agricultural Engineer
Iowa State University Extension

Arora, K.*[1], , Bentley, Jennifer[2], , Blessington, Brooke[3], , Drollette, Ryan[4], , LaFaver Waters[5], , Leibold, Kelvin[6], , Schwab, Denise[7], , Tranel, Larry[8], , Vittetoe, Rebecca[9], , DeJong, Joel[10], , Schultz, Madeline[11],
[1] Field Agricultural Engineer, Iowa State University Extension, Winterset, IA, 50273
[2] Extension Dairy Specialist, Iowa State University Extension, Decorah, IA, 52101
[3] Regional Extension Education Director, Iowa State University Extension, Creston, IA, 50801
[4] Farm Management Specialist, Iowa State University Extension, Iowa City, IA, 52246
[5] Carol, Iowa State University Extension, Council Bluffs, IA, 51503
[6] Farm Management Specialist, Iowa State University Extension, Iowa Falls, IA, 50126
[7] Beef Program Specialist, Iowa State University Extension, Vinton, IA, 52349
[8] Extension Dairy Specialist, Iowa State University Extension, Dubuque, IA, 52003
[9] Extension Field Agronomist, Iowa State University Extension, Washington, IA, 52353
[10] Extension Field Agronomist, Iowa State University Extension, Le Mars, IA, 51031
[11] Farm Management Specialist, Iowa State University Extension, Ames, IA, 50011

Iowa Agricultural Extension Association educated NACAA Members attending NACAA 2019 National Meeting, Iowa County Extension Council Members, and Iowa Extension Staff to support hosting NACAA 2023 in Iowa. To help councils and members understand what Iowa has to offer, an education video was developed which is available online. The video informs viewers how extension staff are helping Iowans grow its people, places, products, and profits. The video informs viewers to come and learn from Iowa's Extension staff how Iowa is one of the leading agricultural state. Video has been shown 168 times to approximately 1,700 extension staff & council members within Iowa and NACAA Members attending the 2019 NACAA National Meeting. The video makes the case why NACAA 2023 National Meeting should be held in Des Moines, Iowa. Outcome of these educational efforts has been the agreement by staff, council members, and administration within Iowa Extension System to submit a bid to host NACAA 2023 National Meeting when Iowa has never been able to host in the past 105 years of its association history. Iowa's educational efforts were successful in informing NACAA members at the 2019 National Meeting and Iowa was selected to be the host state in 2023.

Rachel Rosenberg Goldstein
Assistant Research Professor
University of Maryland

Rosenberg Goldstein, R.[1], , Suri, Mayhah[2], , Pee, D.[3],
[1] Assistant Research Professor, University of Maryland, College Park, MD, 20742
[2] Faculty Specialist, University of Maryland, College Park, MD, MD, 20742
[3] Program Specialist, University of Maryland Extension, College Park, MD, MD, 20742

The CONSERVE Extension Team's mission is to facilitate the adoption of transformative on farm solutions that enable the safe use of nontraditional irrigation water on food crops, focusing on water reuse. The purpose of this video is to introduce and normalize water reuse for irrigation to Maryland's agricultural and rural communities. Watching an online video was the second most preferred outreach/education method for learning about water reuse based on over 800 farmer responses to a needs assessment survey distributed by the CONSERVE Extension team. The intended audience is farmers, local government officials in rural communities, and Extension professionals. The video was posted online on the CONSERVE and University of Maryland College of Agriculture & Natural Resources YouTube channels (https://www.youtube.com/watch?v=1LE2Xt5YYEI&t=7s) on June 5, 2019 and has been viewed 598 times and presented to more than 120 water reuse workshop participants and students. The video idea and narrative, including storyboarding and selection of the subjects, was developed by Dr. Goldstein, Ms. Suri, and Ms. Pee. Dr. Goldstein and Ms. Suri also supervised video editing and distribution. The video was recorded and edited by a contracted videographer from Riverlight Studios based in Maryland and New York. With our video, we are highlighting an additional irrigation water source for farmers as water availability and precipitation become increasingly unpredictable.

Emma Erler
Program Coordinator, Education Center
UNH Cooperative Extension

Erler, E.*[1],
[1] Program Coordinator, Education Center, UNH Cooperative Extension, Goffstown, NH, 03045

Soil testing is inarguably one of the most valuable tools available to home gardeners. A soil test from the University of New Hampshire not only indicates possible nutrient deficiencies, organic matter content and pH imbalance, but provides recommendations on how to improve the soil. Although collecting a soil sample is a relatively simple task, UNH Extension staff respond to hundreds of questions each year

about how to collect and submit a soil sample. Though written instructions are provided on our website, I recognized that it is important to provide a variety of learning opportunities to reach audiences in new and different ways. Thus, I worked on creating a one-minute video that covers how to correctly collect a soil sample. The short format of the video makes it appropriate for social media. I was personally responsible for the content of the script and its delivery. The video is located on the UNH Extension YouTube channel at: https://www.youtube.com/watch?v=tPxYTLNNMT4

Regional Winners

Cassie Homan
District Agent
K-State Research and Extension
Post Rock District

Homan, C.*[1],
[1] District Agent, K-State Research and Extension, Beloit, KS, 67420

This video was made with Golden Prairie District's Horticulture Agent Pallace Messer. We had been receiving numerous calls about pine tree issues. Clients would call and say their pines are turning brown and immediately ask what to spray. As you learn in the video, it's not that easy. There are numerous diseases in Kansas, but often the tree is simply stressed environmentally.

The video was made for residents in North Central and Western Kansas. It was published on our YouTube Channel and on both Golden Prairie and Post Rock Extension's Facebook. We use it as a guide for people with questions. I can lead them to the video link, instead of going out to examine every tree.

We plan to use this video yearly as a reminder of when to spray and the best choices of chemicals. The video has gotten 60 views on YouTube and 705 views on Facebook, there were also 210 engagements on Facebook, meaning the video was liked, shared, and commented on. The video was produced with the help of our Social Media Manager, Shannon Rogers.

It can be found on YouTube here:

https://www.youtube.com/watch?v=dDj3K-k_1ig&list=PLnWJCPggj6a-uWkzmid8xkRPzyDzO3BqM&index=22

Gary J. Wyatt
Extension Educator, Agroforestry
University of Minnesota Extension
Regional Extension Office

Wyatt, G.J.*[1], , Noll, S.[2], , Robinson Favorito, A.[3], , **Neu Schuft, A.[4],** , Zamora, D.[5], , Current, D.[6], , Janni, K.[7], , Reichenbach, M.[8],
[1] Extension Educator, Agroforestry, University of Minnesota Extension, Mankato, MN, 56001
[2] Extension Animal Scientist - Turkey, University of Minnesota Extension, St. Paul, MN, 55108
[3] Multimedia Communications Specialist, Wild Carrot Productions, St. Paul, MN, 56001
[4] Extension Educator - Poultry, University of Minnesota Extension, St. Paul, MN, 56001
[5] Extension Educator - Agroforestry, University of Minnesota Extension, St. Paul, MN, 56001
[6] Director - CINRAM, University of Minnesota, St. Paul, MN, 55108
[7] Extension Ag Engineer, University of Minnesota Extension, St. Paul, MN, 55108
[8] Extension Educator - Forestry, University of Minnesota Extension, Cloquet, MN, 55720

In the spring of 2015, more than 9 million birds in Minnesota's primarily commercial poultry flocks died or were euthanized to prevent the spread of the avian influenza disease. The state verified 108 outbreaks among chicken, turkey and mixed-poultry flocks in 23 counties. With a grant from the Minnesota Department of Agriculture, researchers and Extension from the University of Minnesota have collaborated to assess research priorities for addressing avian influenza and to identify research/Extension projects that directly address the causes of avian influenza, the reasons some fowl are more susceptible, and the prevention measures that can be taken. Our research objective was to prevent disease transmission using vegetative windbreaks. The research team has conducted a literature review of vegetative windbreaks as it relates to turkey disease control. Surveys have been conducted among turkey farmers (with and without windbreaks) and Soil and Water Conservation District / Natural Resources Conservation Service (SWCD/NRCS) staff to determine the benefits and challenges of windbreaks near turkey barns; setback distances; and tree and shrub species. Mammals and birds were also monitored around the barns, at selected turkey barns by trail cams to evaluate what wild animals were coming close to the turkey barns. Our findings concluded that windbreaks provide multiple benefits to poultry operations and windbreaks do mitigate dust and some particles (which could have disease organisms) but we could not document disease control with windbreaks. Educational fact sheets, videos and teaching modules will be created to inform farmers and the industry of the best management practices for use of windbreaks near turkey barns. The results and findings of this research project were used to create this video which is being shared with turkey growers in Minnesota through University of Minnesota Extension and the Minnesota Turkey Growers Association. More research is needed to determine if windbreaks can be a positive barrier in mitigating poultry diseases.

https://www.youtube.com/watch?v=oTWlXmZvHqU

Heidi Reed
Field & Forage Crops Educator

Bradford

Reed, H.*[1], , Coyne, Christopher[2], , **Larson, Zachary[3],**
[1] Field & Forage Crops Educator, , York, PA, 17402
[2] Instructional Designer, LearnNow Video Coordinator, Penn State College of Agricultural Sciences, State College, PA, 16802
[3] Extension Educator, Penn State Extension, Martinsburg, PA, 16662

The objective of this introductory video is to detail what planting green is and why farmers do it; it is the first in a planned series about this novel approach to cover crop management. Planting green is growing in popularity in Pennsylvania, but the practice is still new to many. A LearnNow video format was chosen to diversify the methods of information sharing beyond the already published extension articles and peer reviewed journal article. This LearnNow video was published to YouTube on January 15, 2020, and to the Penn State Extension website on January 29, 2020. The video was recorded and edited professionally by the PSU College of Ag Science LearnNow Team, led by coordinator Chris Coyne; some in-field video footage was provided by Agronomy Educator Zachary Larson; additional video footage, photos, and script were provided by Heidi Reed. The intended audience is farmers. From publishing to date, the video has been viewed over 100 times across platforms. As a result of this video, over 100 viewers have learned what planting green is and why farmers do it, and may attempt planting green themselves.

Click **here** to view the LearnNow video on the Penn State Extension website, or **here** to view on YouTube.

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 Fall Armyworm, *Spodoptera frugiperda,* is a common problem in Southwest Arkansas pastures and hayfields. In 2017 and 2018, Pike County was the first county in Arkansas to report Fall Armyworm infestations. These infestations were reported much earlier than normal in early June. Producers were faced with two options, apply pesticide or cut the fields. Many producers chose to treat with a short term insecticide, which only gave them a small break in the life cycle.

In an effort to help my producers detect Fall Armyworm infestations earlier, I created this video. Early detection allows producers the ability to apply an insecticide with a residual control. Most producers could extend control for 14-12 days, allowing the hayfield to reach harvest stage. Since we do not have any row crops in Pike County, very few of my producers have a sweep net. They also do not have a PVC square to count infestation load. By integrating these tools into the video, I had several producers call the office with questions about where to purchase or how to make these tools.

The Facebook post had 251 viewers and the YouTube upload had 4. While this is not a great number of contacts, the video did lead to producers calling the office and inquiring about Fall Armyworm control and scouting. Those who applied insecticide with residual control increased hay production and lowered control costs.

The video can be found at https://www.facebook.com/uaexpikeag/videos/909479402723117/ or on YouTube at https://www.youtube.com/watch?v=PJuOtuUu7K0&t=26s

Andrew Baucom
Extension Agent, Agriculture - Field Crops

Union

Baucom, A.*[1], , Starkes, C.D.[2],
[1] Extension Agent, Agriculture - Field Crops, , Monroe, NC, 28112
[2] Union County 4-H Agent, , Monroe, NC, 28112

Andrew Baucom and Crystal Starkes, Union County, NC Extension agents collaborated on shooting a video presentation for North Carolina Agriculture Commissioner Steve Troxler to highlight the importance of vocational agriculture classes in Union County high schools. Students shared with the commissioner their experiences from taking agriculture classes, what they hope to take away from their classroom experiences, and why they feel that vocational agriculture classes are important in today's school systems. This video was then used at a local dinner featuring the NC Agriculture Commissioner himself, Union County Public Schools administration and principals, local high school FFA chapters, Union County 4-H, as well as parents of local youth. The total number of attendees was just over 100 youth and adults representing many facets of the community. The capstone of the night featured presentations by local FFA and 4-H'ers, and a speech by Mr. Troxler. The featured video was put together by Union County Extension staff in support by Union County 4-H and local high school FFA chapters. Students were lined up by Crystal Starkes, questions and filming was done by Andrew Baucom, and editing and finishing we done by Andrew Baucom, Crystal Starkes and Nancie Mandeville. Following the presentation, this video was published on the social media pages of both

Union County Extension and UCPS. It was also published in a monthly newsletter highlighting programmatic impacts.

Youtube Link: https://youtu.be/aYI87Hu2dRU

State Winners

State Winner	
North Central Region	
Michigan	Ron Goldy, Kraig Ehm, and Fred Frazee
Missouri	Patrick Davis
Nebraska	John Porter
Ohio	Timothy McDermott
South Dakota	Adele Harty
Wisconsin	Liz Binversie
Northeast Region	
New York	Elizabeth Higgins
Southern Region	
Florida	De Broughton
Georgia	Campbell Vaughn
Kentucky	Joanna Coles
Mississippi	Gary Bachman
South Carolina	Anthony J Savereno
Tennessee	Kimberly Hall
Texas	Andy Holloway
Virginia	Jennifer Ligon

Fact Sheet

National Winner

Kimberly Kester Post
County Extension Agent
University of Georgia
Lanier/Clinch/Southwest

Post, K.K.*[1], , Anderson, H.[2], , Dawson, J.[3], , Dowdy, M.[4],
[1] County Extension Agent, University of Georgia, Lakeland, GA, 31635
[2] County Extension Agent, University of Georgia, Fitzgerald, GA, 31750
[3] County Extension Agent, Fort Valley State University, Valdosta, GA, 31601
[4] County Extension Agent, University of Georgia, Quitman, GA, 31643

The Sheep & Goat Quick Facts handout was developed for distribution at the Southwest Georgia Small Ruminant Workshop (SGSRW), scheduled for March 14th, 2020. The SGSRW was a collaboration between University of Georgia Extension and Fort Valley State University Extension. The workshop offered hands-on education for beginner sheep and goat owners including parasite control and FAMACHA certification, animal handling, first aid, breeding and kidding, and nutrition management. The handout served as a quick reference sheet with information about vitals for sheep and goats, breed information, stocking rates, deworming dosages, and additional resources for supplies and information.

As of the registration deadline, 58 participants were pre-registered for the workshop. Due to the COVID-19 situation in March 2020, the workshop had to be cancelled. The handout was subsequently shared on Facebook, county ag blogs, and e-mail lists. It reached over 525 people.

National Finalists

Jared Goplen
Extension Educator, Crops
University of Minnesota Extension
WC Regional Office

Goplen, J.*[1], , Peters, T.*[2], , Ikley, J.[3], , Nicolai, T[4],
[1] Extension Educator, Crops, University of Minnesota Extension, Morris, MN, 56267
[2] Assistant Professor / Extension Sugarbeet Agronomist, North Dakota State University / University of Minnesota, Fargo, ND, 58105
[3] Assistant Professor / Extension Weed Specialist, North Dakota State University, Fargo, ND, 58105
[4] Extension Educator, Crops, University of Minnesota Extension, Farmington, MN, 55024

The *Herbicide Resistant Traits in Minnesota and North Dakota* fact sheet is a resource that was created to help clarify which herbicides can be applied to the various herbicide-resistant trait packages available in crops common to Minnesota and North Dakota. Varieties of alfalfa, canola, corn, soybeans, sugarbeets, and wheat have been developed with various herbicide-resistant traits. The number of traits available has created confusion about which herbicides can be applied safely and legally to various crop trait packages. Misapplications are both costly and embarrassing for farmers and custom applicators. The objective of this resource was to help prevent herbicide misapplications from occurring. The publication was developed in December 2019 as a collaboration between University of Minnesota Extension and North Dakota State University. It was initially drafted by Jared Goplen and Tom Peters, with additional input and revision from Joe Ikley and Dave Nicolai. Final edits were completed by Jared Goplen and Tom Peters. North Dakota State University printing services made 2,500 copies on high-gloss paper. Nearly 1,000 of those copies were distributed throughout Minnesota and

North Dakota to farmers and crop consultants during winter meetings and workshops held in January and February of 2020. Content was also published on the University of Minnesota and North Dakota State University Extension websites. While this publication has only been available for a short time, it has already become a go-to resource for farmers and consultants as they make management decisions for the upcoming field seasons. Both the printed and online versions of this publication will continue to be updated as new herbicide-resistant traits become available, and additional copies will be printed as needed. Ultimately, this fact sheet will continue to help clarify herbicide trait decisions and will help prevent costly misapplications from occurring.

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

Prescribed burning is often an underutilized tool by land managers, but its use could drastically improve timber lands in the southeast. Baker County is made up of 377,000 acres, 86% of which is devoted to timber production. The North Florida Prescribed Burn Association and the Baker County Landowners group have recently been founded and are aiming at increasing the use of prescribed burning in the county to manage private and public timber lands. The Tools for the Toolbox: Prescribed Fire fact sheet was developed in order to be distributed to attendees of the Learn & Burn program, members of the North Florida Prescribed Burn Association and the Baker County Landowners group. The objective of the fact sheet was to introduce basic concepts of prescribed burning, its uses in pine stand management, and provide further resources from other agencies. Not only is the fact sheet intended to educate land managers, but also to attract managers to the idea of implementing fire on their lands. The use of high quality, attractive photos from burns done in Baker County help highlight the concepts and get readers excited about burning. To date, 50 copies were distributed to attendees of a Learn & Burn program and 300 individuals received the fact sheet electronically. Future use of the fact sheet will include distributions to the general public to improve the acceptance of prescribed burning as a useful tool and not a hinderance to community life.

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 this fact sheet was to provide relevant information for measuring infiltration rate in the field and is based on the USDA-NRCS soil health testing recommendations. The fact sheet identifies the materials required and the steps involved. It contains numerous images and there is a link provided in the fact sheet to a YouTube video, also produced by the author, to help enhance ease of use. The fact sheet was reviewed by two Tennessee agricultural Extension agents, two soil health specialists, and one Extension specialist in soils at the University of Kentucky. It was published in February 2020 and uploaded to the Tennessee State University website (http://www.tnstate.edu/faculty/jdekoff/documents/InfiltrationRate.pdf). The audience includes Extension agents and farmers. This fact sheet also related to soil health test kits that had been previously distributed by the author to 24 counties throughout Tennessee and included the materials needed for measuring infiltration rates. At the end of the fact sheet, additional resources were referenced to allow readers to identify further information. Contact information (phone, email, social media) was also included to allow readers to follow up with additional questions. A link to the fact sheet was sent to all agriculture Extension agents and specialists in Tennessee in February 2020 and it was promoted on Twitter in March 2020 where over 200 people viewed the tweet.

Regional Winners

Chris Zoller
ASSOCIATE PROFESSOR & EXTENSION EDUCATOR ANR
Ohio State University Extension Tuscarawas County
Tuscarawas

Zoller, C.*[1],
[1] ASSOCIATE PROFESSOR & EXTENSION EDUCATOR ANR, Ohio State University Extension Tuscarawas County, New Philadelphia, OH, 44663

This fact sheet was authored by me and produced internally by Ohio State University Extension. Discussions with farmers, primarily dairy farmers, prompted the idea for this fact sheet. Farmers and farm families were contacting me to discuss their future in the industry, especially given the depressed milk prices and outlook prices for inputs, including feed, seed, fertilizer, and fuel. These farms were average or below average size in terms of herd size and faced the difficult decision of exiting

a business and way of life they and their families had known for generations. The purpose of this fact sheet was to help farmers and farm families evaluate their situation with respect to financial position, goals, personal and business assets, and opportunities for life after farming. Additionally, the fact sheet provides recommendations for making the decision to exit, including advisors to contact, and the general process. The fact sheet has been distributed at producer meetings, shared in newsletters, and used in one-on-one meetings with farmers and farm families. According to website statistics provided by Ohio State University Extension, this fact sheet has had 166 pageviews and 119 users. Users have come from the United States, South Africa, Uruguay, and India. This fact sheet is available at: https://ohioline.osu.edu/factsheet/anr-71.

Stephanie Plaster
Agriculture Agent
University of Wisconsin Madison Division of Extension
Ozaukee and Washington County

Plaster, S.*[1], , Kohlman, T.[2],
[1] Agriculture Agent, University of Wisconsin Madison Division of Extension, Port Washington, WI, 53074
[2] Dairy & Livestock Agent, University of Wisconsin Madison Division of Extension, Fond du Lac, WI, 54935

I developed and presented "Motivating Farmers in a Time of Change" with another colleague, Tina Kohlman, at the 2019 National Farm Business Management Conference in Sheboygan, WI. This two hour session was targeted towards early career professionals to help them gain confidence in listening and communication skills. Ninety people participated in this interactive session which featured a mixture of lecture, videos, group discussion and activities which were designed to help agriculture professionals develop these skills to help their clients make decisions they feel comfortable with. The "Listening for Strengths & Values" fact sheet was one of the activity handouts used to help the participants learn and practice the skill of providing affirmations. Affirmations remind a person of their strengths and the resources they have available and help instill a belief that they can change. Participants rated their knowledge before and after the session and indicated an increase in knowledge after participating in the session. Comments received included "great delivery and examples of a tough topic!", "very well structured program, appreciated the hands on and group activities you gave us", "good ways to think about better ways to communicate", and "handouts are very well done, enjoyed activities, love the short videos."

William J Bamka
COUNTY AGENT II
Rutgers University
Burlington County

Bamka, W.J.*[1], , Komar, S.J.*[2], , Schilling, Brian*[3], , Cabrera,R.I.[4],
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[2] County Agriculture Agent, Rutgers Cooperative Extension, Newton, NJ, 07860
[3] Extension Specialist in Farm Policy, Rutgers Cooperative Extension, New Brunswick, NJ,
[4] Extension Specialist in Nursery Production and Management, Rutgers Cooperative Extension, Bridgeton, NJ, 08302

William Bamka, Burlington County, and Stephen Komar, Sussex County are both County Agricultural Agents with Rutgers New Jersey Agricultural Experiment Station (NJAES), Cooperative Extension. Both are members of the Rutgers Hemp Team. They co-wrote an extension fact sheet with Extension Specialists Brian Schilling and Raul Cabrera titled, "Industrial Hemp Production in New Jersey: Frequently asked Questions". Bamka has conducted educational programs with hemp since 2018. Client inquiries about this crop surged with the passage of the 2014 Farm Bill and continue to grow. Bamka invited Komar to work with him to meet stakeholder needs. Both Agricultural Agents became the key contacts in the state for hemp production and marketing questions for Rutgers Extension. Hemp Industry interest spans from grain farmers interested in producing hemp fiber and grain to traditional and beginning farmers interested in producing hemp for the CBD market. The purpose of the Fact Sheet is to research-based information and extension outreach for a wide range of clientele.

This educational fact sheet for New Jersey Hemp can be found at https://njaes.rutgers.edu/fs1302/ . The fact sheet was originally published in April 2019, and revised January 2020 due to changes in Federal Hemp Rules. The fact sheet has received over1100 page views and has been downloaded 421 times from the NJAES website. Over 600 hard copies of this publication have been distributed at grower educational events, during one-on-one site and office consultations, and by mail. Growers using this fact sheet have said, during face-to-face discussions, they find it a valuable resource and have found helpful regulatory guidance.

Elizabeth A. Bihn
Director, Produce Safety Alliance
Cornell University Dept of Food Science

Donna Clements*[1], , Laura Acuna-Maldonado[2], , **Connie Fisk[3],** , Don Stoeckel[4], , Gretchen Wall[5], , **Kristin Woods[6],** , **Bihn, B.[7],**
[1] PSA Southwest Regional Extension Associate, Cornell University, Geneva, NY, 14456
[2] PSA Spanish Language Extension Associate, Cornell University, Geneva, NY, 14456
[3] PSA Northwest Regional Extension Associate, Cornell University, Plattsmouth, NE, 68048
[4] PSA Midwest Regional Extension Associate, Cornell University, Geneva, NY, 14456
[5] PSA Coordinator, Cornell University, Geneva, NY, 14456
[6] Regional Extension Agent, Alabama Cooperative Extension, Grove Hill, AL, 36451
[7] Director, Produce Safety Alliance, Cornell University Dept of Food Science, Geneva, NY, 14456

On January 4, 2011, the Food Safety Modernization Act (FSMA) was signed into law. It represented the first major update of food safety regulations in the United States in approximately 80 years. The FSMA Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption (i.e., Produce Safety Rule) are the first federal regulatory requirements focused on practices aimed at preventing microbial contamination of fruits and vegetables. The Produce Safety Rule covers agricultural water, worker training, wildlife and domesticated animals, sanitation, and soil amendments. Soil amendments include biological soil amendments of animal origin (BSAAOs), such as untreated manure and composted manure, that may serve as a potential source of contamination to fruits and vegetables. The Produce Safety Rule requires growers to implement specific practices to prevent BSAAOs from contaminating fresh produce. The Factsheet entitled *FSMA Produce Safety Rule: Documentation Requirements for Commercial Soil Amendment Suppliers* was developed to help both growers and suppliers understand what information is required by the Produce Safety Rule as well as practices that can be implemented to reduce microbial risks. This factsheet was highlighted in the Produce Safety Alliance (PSA) October 17, 2019 Newsletter, which was distributed to a listserv of 5,093. It was also shared during the PSA Trainers & Lead Trainers Annual Update Webinar October 16, 2019, where 219 attended. There have been 193 views of the pdf since October 7, 2019 and 96 downloads of the word format document that can be edited for use by third-party soil amendment suppliers.

Erin Kinley
Area Master Gardener Coordinator
Penn State Extension
Area D

Kinley, E.*[1],
[1] Area Master Gardener Coordinator, Penn State Extension, Collegeville, PA, 19426

With urban populations becoming more interested in gardening, the low rate of homeownership among Millenials, and Baby Boomers downsizing to smaller homes or apartments, Extension has seen an increased demand for information related to small space and above-ground gardening. This fact sheet, "Four Keys to Successful Container Vegetable Gardening" was designed for both beginning and intermediate gardeners, particularly those new to gardening in small spaces and containers. Over 400 copies were distributed in a ten-day period at the 2020 Pennsylvania Farm Show in January as part of a hands-on display at the Penn State Extension Master Gardener booth, which featured new and trending topics in consumer horticulture. There are also plans to make the handout available to Master Gardener programs across the state to use for speaking engagements and information booths.

Emily Standley
Fergus

Standley, E.N.*[1],
[1] Extension Agent, Montana State University, Lewistown, MT, 59457

In central Montana, our farming and ranching communities have often expressed a desire to share their stories with the general public. Even in a comparatively rural state, where agriculture is the leading industry, there is still a significant portion of the population without a direct connection to agriculture. To help bridge this gap locally and share the positive impacts of agriculture, I developed a fact sheet highlighting economic and production statistics of our local farms and ranches, and our most prominent agricultural outputs: cattle and wheat. The resulting resource provided a quick, easy-to-read introduction on the importance of our agricultural communities. The primary audience for this fact sheet were individuals unfamiliar with agriculture, which is why I translated the information into more relatable metrics such as pounds of product and number of people fed, rather than using bushels, number of head, etc. A secondary audience were the farmers and ranchers themselves. Although this group is certainly familiar with agriculture, seeing these statistics helped them further realize the impact and importance of their work, and provided more resources to continue telling their stories in the future. To demonstrate credibility and encourage readers to explore more agricultural statistics on their own,

I listed sources and methodology at the bottom of the fact sheet. I utilized colors and design elements that would direct readers' eyes to follow the flow of information from top to bottom, and I used simple graphics that would help readers associate each statistic with a tangible object. This fact sheet was printed and shared in our local Extension office and with local community partners such as Conservation Districts, but the most successful distribution came when we posted it on our county Extension Facebook page (https://www.facebook.com/Fergusextension/photos/a.1216525078412262/2974132682651484/?type=3&theater), where it was shared 65 times and reached 8,338 people (for context, the population of Fergus and Petroleum Counties totals to just under 12,000 people).

Katie Wagner
Horticultural Agent
Utah State University
Salt Lake County

Wagner, Katie*[1], , **Murray, Marion[2],** , Yeip, Olivia[3],
[1] Extension Associate Professor of Horticulture, Utah State University, Salt Lake City, UT, 84114
[2] Integrated Pest Management Project Leader, Utah State University Extension, Logan, UT, 84322
[3] Lead Graphic Designer, Utah State University Extension, Kaysville, UT, 84037

A 2019 needs assessment of participants of Utah State University (USU) Extension horticulture public outreach events held in Salt Lake County asked participants about their current gardening activities and activities they want to learn how to do. Survey results found 62% of participants wanted to learn how to attract natural enemies to garden areas yet only 18% of respondents currently do so. In effort to educate the public on ways to attract and retain beneficial organisms to Utah farms and gardens, USU Extension faculty and staff developed an interpretive sign to display at USU Extension maintained demonstration gardens throughout Utah. The 'Promoting Beneficial Organisms' sign was created to expose the public to basic concepts of conservation biological control and introduce them to landscape elements that attract and retain a range of beneficial organisms. To date, one sign has been fabricated and mounted at Wheeler Historic Farm (estimated 500,000 annual visitors) although multiple other USU Extension faculty with demonstration garden spaces in Utah have expressed interest in also displaying the sign. The applicant secured grant funding for sign fabrication and worked with Marion Murray, USU Extension integrated pest management project leader, and Olivia Yeip, USU Extension graphic designer, to design and create content for the sign. Design of the sign was finalized in summer 2019, fabricated fall 2019 and mounted early winter 2019. The sign will not only provide locally relevant and research-based information to visitors, but also help to support educational outreach efforts during USU Extension hosted sustainable agriculture field days, Master Gardener working labs and Junior Master Gardener programming held at Wheeler Historic Farm. Although not a traditional Extension factsheet or bulletin, the interpretative sign is a publication type that employs an innovative approach that reaches diverse audiences at demonstration gardens and other highly visible outdoor spaces.

State Winners

State Winner	
North Central Region	
Illinois	W.Travis Meteer
Iowa	Denise Schwab
Kansas	Sandra Wick
South Dakota	Patrick Wagner
Southern Region	
Alabama	Alice M. Moore
Arkansas	Brad Runsick
Mississippi	Gary Bachman
North Carolina	Beth Burchell
South Carolina	Barbara Smith
Texas	Chase T. Brooke

Publication

National Winner

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

Brooke, C.T.*[1], , Treadwell, M[2],
[1] County Extension Agent- Agriculture & Natural Resources, Texas A&M AgriLife Extension, Mckinney, TX, 75069
[2] Assistant Professor and Range Extension Specialist, Texas A&M AgriLife Extension Service, San Angelo, TX, 76901

This peer-reviewed extension publication was written to aid Texas landowers and managers with identifying and managing invasive native juniper species (Juniperus spp.) on their land, primarily through the use of prescribed burning. In the first part, the publication compares resprouting versus non-resprouting junipers, and provides a short overview of safe burning practices. In the second portion of the publication, we identify the 5 most common juniper species in Texas, provide a short bonanical description of each species, and how they respond to fire.

This publication was written to be used by landowners and fire

managers with little to moderate experience with prescribed fire or juniper identification, and for distribution in extension programs. Our paper was used in several workshops and meetings, and at least 53 paper copies have been distributed, and more online.

I was invovled as the primary author and thereby responsible for researching, drafting, revising, and managing the publication process for the paper.

National Finalists

Steven Yergeau
Environmental & Resource Management Agent
Rutgers Cooperative Extension
Ocean County

Yergeau, S.*[1], , Mangiafico, Salvatore[2], , Rowe, Amy[3],
[1] Environmental & Resource Management Agent, Rutgers Cooperative Extension, Toms River, NJ, 08755
[2] County Agent II (Associate Professor), Rutgers Cooperative Extension, Millville, NJ, 08332
[3] County Agent II (Associate Professor), Rutgers Cooperative Extension, Roseland, NJ, 07068

https://njaes.rutgers.edu/fs1307/

Many of New Jersey's water quality issues stem from stormwater runoff, such as the inability to use waters for recreation due to pathogens, the loss of fisheries from lakes and coasts from nutrient pollution, increased flooding, and increased sedimentation from excess erosion within streams. To address these problems, the New Jersey Governor, and the State Senate and Assembly passed the 'Clean Stormwater and Flood Reduction Act' in 2019 authorizing municipalities, counties, or groups of municipalities to establish and operate local fee-based stormwater utilities. Stormwater utilities have been used in other parts of the country but have not been utilized in New Jersey. The passing of the bill generated news, information, and opinion pieces on this topic as property owners in New Jersey prepared for what this legislation would entail. In response to this new legislation, the authors compiled frequently asked questions garnered from the recent flurry of news articles and public meetings and answered them based upon the current best available research and legislation. In addition to useful information on the stormwater utilities act, several questions were included as a primer on stormwater. The goals of the fact sheet are to educate the public and others potentially impacted by this bill on the basics of the law and stormwater management in New Jersey and to clear up any misconceptions on the legislation.

The authors all conduct programs that involve stormwater management and have worked to incorporate this fact sheet into their educational programming. Since publication in July 2019, this informative fact sheet has been viewed 353 times from the NJAES publications site. In addition to being available online, this publication was given to members of the Stormwater Committee of the Barnegat Bay Partnership to aid in their efforts, was incorporated into a March 2020 *Green Knight* newsletter article (https://salem.njaes.rutgers.edu/greenknight/) with a circulation of over 800 throughout New Jersey, and has been distributed at six (6) events through Rutgers Master Gardener and Environmental Stewards volunteers. The fact sheet (FS1307) is published by the Rutgers New Jersey Agriculture Experiment Station and is available for download at: https://njaes.rutgers.edu/fs1307/.

Melanie Barkley
EXTENSION EDUCATOR
PENN STATE UNIVERSITY

Barkley, M.*[1],
[1] EXTENSION EDUCATOR, PENN STATE UNIVERSITY, Bedford, PA, 15522

The So You Want to Raise Sheep or Goats publication was developed as a handout for the So You Want to Raise Sheep or Goat workshops held across Pennsylvania. 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 workshops and the handout was to introduce potential producers and beginning producers to basic concepts of sheep and goat production. The purpose of the publication is to provide an overview of the information presented at the workshop. The handout discusses information on choosing the type of animals to raise, animal selection principles, equipment needs, reproduction and breeding seasons, feeding and nutrition, health issues, and marketing. Four workshops were held across the state in 2019 and used this publication as a handout. Results of the post evaluation indicated that 93% of participants learned a moderate to significant amount of information and 55% planned to use the information if they decided to start a new sheep or goat operation or with their current new operation. I wrote the publication, took photos, and worked with Penn State Creative Services to format the publication for print and the web.

Betsy Greene
Extension Equine Specialist

Arizona

Greene, B.*[1],
[1] Extension Equine Specialist, , Tucson, AZ, 85721

Horses living in the desert environment are often housed in dry lots with shade and sand footing and/or turned out on

sandy pasture. This can lead to a higher intake of sand due to feeding on the ground or horse grazing behaviors. Since ingested sand is heavier than the digesta passing through the gastrointestinal tract, it can settle to the bottom and accumulate, resulting in mild to severe colic. This publication is part of The Informed Arizona Equestrian Horse Health Series, intended for recreational to professional horse owners. It begins with a scenario, covers "Is my horse at risk", signs, treatment and prevention of sand colic. The goal is to make horse owners aware of proactive management methods to decrease sand intake, notice signs of colic, and act before their horse resembles the front page picture (surgical). This publication (https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1759-2018.pdf) is available for download at no charge. Currently, approximately 250 copies have been used and distributed by the author at multiple workshops and seminars on equine health and nutrition across Arizona and other states. Several local veterinarians have downloaded and forwarded this publication to their equine clients. The author is the initiator of this publication and is responsible for 80% of the content, and 100% of the formatting and design concepts. The layout was completed by the Cooperative Extension graphic designer.

Regional Winners

Heidi M Lindberg
Greenhouse Extension Educator
Michigan State University Extension
MSUE West Michigan

Gina Alessandri*[1], , **Lindberg, H.M.*[2],**
[1] Hemp Program Direction, Michigan Department of Agriculture and Rural Development, Lansing, MI, 48909
[2] Greenhouse Extension Educator, Michigan State University Extension, West Olive, MI, 49460

The Michigan Department of Agriculture began a pilot program for Industrial Hemp production during the spring of 2019. Michigan State University Extension began programming about hemp during the growing season in 2019. Upon receiving numerous questions on the regulation of hemp and noting that the Michigan Department of Agriculture was too understaffed to provide sufficient answers to all of the questions, I coauthored the "FAQ on Hemp Licensing and Regulation" with Gina Alessandri, the Hemp Program Director with the Michigan Department of Agriculture. The audience for this frequently asked question document was people interested in becoming licensed to grow, process, or sell hemp in Michigan during 2019 and beyond. It was posted on the Michigan State University Extension News website and distributed by a listserv of those possessing a current hemp production license in Michigan or had previously signed up for the newsletter. Through the Michigan Department of Agriculture listserv, it was distributed to 603 registered growers in Michigan and 483 licensed processors or handlers of hemp. On the Michigan State University Extension website, it had 471 page views. This publication served to answer very timely questions from a small, but very avid audience of those looking to expand or to start new hemp businesses in Michigan.

Tyler Williams
Extension Educator
University of Nebraska-Lincoln
Lancaster County

Williams, T.*[1], , Shulski, Martha[2],
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[2] Nebraska State Climatologist, University of Nebraska, Lincoln, NE, 68503

At the end of 2018, the 4th National Climate Assessment was released providing the latest information on climate trends, projections, and impacts in the United States. This publication provides regionally focused information, however, interpretation of the data and locally-focused information was lacking. With that in mind, we worked with the North Central Climate Collaborative to develop the Nebraska Climate Summary to address those needs. This is a collection of two-page summaries providing a Nebraska-specific climate overview and a brief summary of selected sectors. This publication is directed towards Extension professionals,government agencies, and the general public who want to better understand climate impacts in Nebraska. Each section was written to be used independently, so users can focus on certain sections of interest. To date, more than 200 printed copies have been distributed and emailed to hundreds more. The publication is also available on weather-ready.unl.edu. Co-authors and developers are Tyler Williams, Lancaster County, Nebraska and Martha Shulski, Nebraska State Climate Office.

Ashley Kulhanek
County Extension Educator - Agriculture and Natural Resources
OSU Extension
Medina County

Ilic, S.*[1], , **Kulhanek, A.[2],** , Lewis-Ivey, M.[3],
[1] Assistant Professor, OSU Department of Human Sciences Human Nutrition, Columbus, OH, 43210
[2] County Extension Educator - Agriculture and Natural Resources, OSU Extension, Medina, OH, 44256
[3] Assistant Professor, OSU Department of Plant Pathology, Wooster, OH, 44691

The Good Agricultural Practices Guide for Plain Growers was created to provide an educational teaching guide and reference tool for the Amish and Mennonite Growers (Plain Community) of Ohio to help them implement good agricultural practices (GAPS) on the produce farm. This targeted publication was needed to better serve the Plain Community of Ohio which may have previously received GAPS education formatted for a general audience. The new publication's objectives were: 1) to provide a print guide on GAPS for the Plain Growers whose culture may limit access to technologies used to teach GAPS to a broader audience, 2) to better meet the literacy level of the community, and 3) to teach principles of GAPS including risk assessments on the farm and produce safety risks from water, soil amendments, wildlife, people on the farm, and storage and traceability concerns. The new publication was created by adapting the traditional GAPS curriculum to suit a 7th grade reading level, using ample color photos from their own farms, and addressing cultural and farming practices and auction houses used in the plain community specifically. The nominating educator was a primary creator of GAPs content along with the co-authors and contributed graphics and photographs, as well as editing final publication. The guide has been reviewed for content and was reviewed by a professor in the OSU Department of Education for grade-level appropriateness. The publication is available digitally to Extension educators on the GAPS Team to be printed by office equipment or print shop on demand for training. It was used for the first time March 11, 2020 at a Plain Community GAPS Training for an audience of 67 and 70 were distributed. An informal verbal survey of repeat attendees found that 100% of participants preferred the new guide to the materials shared at previous trainings. We have received requests from produce auction houses who wish to have the new Plain Grower Guide available to share with their growers as well.

Emma Erler
Program Coordinator, Education Center
UNH Cooperative Extension

Erler, E.*[1],
[1] Program Coordinator, Education Center, UNH Cooperative Extension, Goffstown, NH, 03045

The purpose of this fact sheet is to provide home gardeners and early-career landscape professionals with an introduction to basic pruning techniques and principles. It is intended to provide a starting point for those that are new to pruning ornamental trees and shrubs. The need for a fact sheet of this type was demonstrated through the submission of nearly 600 pruning questions to the UNH Extension home gardener Infoline service in the 2018/2019 program year. I was responsible for writing the fact sheet, as well as drawing all of the illustrations. To date, it has been shared at two ornamental tree and shrub pruning demonstrations that hosted 42 participants, and was sent in an electronic newsletter on March 2, 2020 to 3,508 active subscribers. It is also available online on the UNH Extension website.

Jake Price
County Extension Coordinator
University of Georgia
Lowndes/Southwest

Jake Price[1],
[1] University of Georgia Extension Agent, Lowndes County, University of Georgia, Valdosta, Ga, 31601

Prior to 2013, commercial citrus plantings in Georgia were a novelty with less than 1500 trees planted throughout the state and four growers. In 2013 Lowndes County Extension held the first ever extension citrus meeting in Georgia to address the possibility of growing cold-hardy citrus commercially. Since that meeting, commercial citrus tree plantings have grown exponentially to 265,730 trees and 125 growers. In 2015 north Florida began to plant cold-hardy citrus. Initially growers were small landowners and non-traditional farmers but in 2018, traditional farmers began to plant larger acreages. There is no production or research data in Georgia on cold-hardy citrus such as satsuma mandarins which comprise 80% of the trees grown. There are no citrus specialists in Georgia. Growers are looking for basic production information such as fertility, insects, diseases, variety selection, rootstocks, plant spacing, freeze protection strategies, and answers to other questions that have arisen as trees mature and begin to fruit. Florida does not grow satsumas as they require cold weather to produce quality fruit so they have limited information for growers. This publication was produced to help new citrus growers in Georgia and northern Florida recognize basic problems in citrus production. Preventing production problems and

basic maintenance is also addressed. In addition, a citrus maintenance calendar was added to quickly help growers know when to expect certain issues or perform maintenance. The Lowndes County agent wrote the publication and took most of the photos. The bulletin was reviewed by University of Georgia and Florida specialists before publication in October of 2019. This publication is available on-line at https://extension.uga.edu/publications/detail.html?number=B1520 and has been viewed 125 times with 68 unique visitors as of March 3, 2020. The Georgia Citrus Association also spent $1,181.00 to publish 1000 for their annual meeting held in February.

Brian C Pugh
Area Agronomist
Oklahoma Cooperative Extension
Northeast District

Pugh, B.C.*[1], , **Clawson, S.[2]**, , **Bain, B.[3]**, , Richards, C.[4],
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[3] County Educator - Agriculture & CED, Oklahoma State University, Idabel, OK, 74745
[4] Director - Field Research Service Unit, Oklahoma State University, Stillwater, OK, 74078

In early 2018, a grazing demonstration was established on a 270 head cowherd at an Oklahoma State University Research Station. The herd at this location had remained static in below average body condition, which had led to depressed conception rates. Cow costs were higher than desired, with feed costs (pasture + Hay + supplement) making up a large portion of expenditures. The goal was to improve production efficiency of this research cowherd by managing winter feeding costs. A plan was implemented to make systematic improvements in forage management, utilizing rotational grazing of both warm and cool season forages to reduce the winter feeding period, and in turn improve cow productivity and economic efficiency. This year-round grazing research update bulletin was composed and published by the Oklahoma Cooperative Extension Service Area Agronomy Specialist, with valuable input from the Area Ag Econ Specialist. Its purpose was to provide forage management information, backed by actual cow performance data, that is timely and pertinent to commercial beef production in Oklahoma. It was also used to educate OCES County Educators, stakeholders, donors and administration about the progress of the grazing demonstration. Following the first year of planned system improvements and data recording, two field days were hosted at the site averaging 40 producers. Based on clientele input and interest in the topic, that number is expected to rise in future years. However, the full reach of this project, still in its' infancy, has been significantly greater. This information has been shared at over 40 county, district and state producer meetings and beef conferences reaching over 1600 producers. It has also been distributed by email and through personal hand out. The OSU website has been undergoing a facelift since this went to print, but it will soon be posted there as well. Ultimately, this project is a pilot to develop a curriculum used by county educators to identify, recruit and train a cooperating producer in their respective county. This producer will serve as a "local research unit" for hosting field days, tours and educational events within each county.

Wendy Becker
Agent
Montana State University
Fort Peck Reservation

Becker, W.*[1], , **Lewis, K. L.*[2]**,
[1] Agent, Montana State University, Poplar, MT, 59255
[2] Extension Agent, Montana State Universtiy, Cut Bank, MT, 59427

Bull Selection can be one of the most important economically important management decisions that a livestock producer can make. Bulls have a tremendous impact on the genetics of a cow herd, and according to Iowa State University, the returns on Investment between good and below-average sires for traits of interest can be 15% or greater. Montana bull buyers continually seek guidance on which is the best bull to choose. Desired goals can be spread throughout management and ownership of operations. This publication gives a basic look at what Expected Progeny Differences are, and how to effectively use them. It includes charts, pedigree breakdown information, and several useful and practical information sections. It is written for livestock producers from beginning to advanced operations. Distribution has been to all 56 county and 4 reservation offices, as well as a downloadable page on the MSU Extension publication page. County and Reservation agents (Lewis and Becker) collaborated to develop, write, and produce the publication, following guidelines and review from the MSU Extension Distribution Center. Publication date was used to coincide with bull sales around the State. Producers talks, beginning farmer and rancher meetings, cattlemen seminars, and in-service programs have all used the publication as a guideline for increasing their knowledge of EPD's, using this publication.

Dale Whaley
Assistant Professor
WASHINGTON STATE UNIVERSITY EXTENSION
Douglas

Whaley, D.*[1],
[1] Assistant Professor, WASHINGTON STATE UNIVERSITY EXTENSION, Waterville, WA, 98858

The Hessian fly Mayetiola destructor (Say) (Figure 1), is considered one of the oldest and most damaging insect pests to wheat (Triticum spp. L.). Originally from Asia, it is believed to have been introduced in straw bedding used by Hessian troops during the Revolutionary War, hence its name. From this initial introduction in the Long Island, New York area, the fly quickly spread from farm to farm, destroying entire wheat fields (Pauly 2002). Since then, this pest can be found throughout major wheat-producing regions in both the United States and Canada. Here in Washington State, a wheat pest survey conducted in 2015 detected Hessian fly densities in Adams, Stevens, and Whitman counties at levels below economic thresholds. Even though it was detected in small numbers, producers should be able to recognize this pest, know how to sample for it, and manage it when or if outbreak numbers are detected. However, in 2017, pest numbers were detected in high numbers, resulting in economic damage around the Ritzville area.

State Winners

State Winner	
North Central Region	
Kansas	Sandra Wick
Minnesota	Jodi DeJong-Hughes
North Dakota	Gregory J Endres
South Dakota	Sara Bauder
Wisconsin	Tina L. Kohlman
Northeast Region	
Maryland	Maegan A Perdue
Southern Region	
Alabama	M. Landon Marks
Arkansas	Sherrie Smith
Florida	Wayne Hobbs
Kentucky	Amanda Sears
Mississippi	Jeffrey Wilson
South Carolina	Justin Ballew
Virginia	Jennifer Ligon
West Region	
California	Jennifer Heguy
Utah	Katie Wagner

Web Site/Online Content

National Winner

Neil G. Kelly
REGIONAL EXTENSION AGENT
ALABAMA COOPERATIVE EXTENSION SYSTEM

Kelly, N.G.*[1], , **Chambliss, A. T.[2],** , **Conner, K. N.[3],** , **East, W. T.[4],** , **Glover, T. A.[5],** , **Kemble, J. M.[6],** , **Majumdar, A.[7],** , McCormack, L[8], , **Miles, J. D.[9],** , **Pickens, J. M[10],** , **Sikora, E. J.[11],** , **Vinson, E.L.[12],**
[1] REGIONAL EXTENSION AGENT, ALABAMA COOPERATIVE EXTENSION SYSTEM, Headland, AL, 36345
[2] Outreach Coordinator, Alabama Cooperative Extension System, , ,
[3] Extension Speciaist/Diagnostician, Alabama Cooperative Extension System, , ,
[4] Regional Extension Agent, Alabama Cooperative Extension System, Ashland, Al, 36251
[5] County Extension Coordinator, Alabama Cooperative Extension System, Cullman, Al, 35055
[6] Extension Specialist, Alabama Cooperative Extension System, , ,
[7] Extension Specialist, Alabama Cooperative Extension System, , ,
[8] , Alabama Cooperative Extension System, , ,
[9] Regional Extension Agent, Alabama Cooperative Extension System, Mobile, Al,
[10] Extension Specialist, Alabama Cooperative Extension System, Mobile, Al, 36689
[11] Professor/Extension Specialist, Alabama Cooperative Extension System, , ,
[12] Extension Specialist, Alabama Cooperative Extension System, , ,

Farming Basics Mobile App, launched in 2019, is a critical learning tool for beginning and experienced farmers. It is also a major educational tool for Regional Extension Agents, Extension Specialists, and Extension Coordinators across Alabama and the Southeast. It is a peer-reviewed publication that went through a rigorous development process with extensive data management system, information linkage (coding), and image library constructed by the Alabama Cooperative Extension System (ACES) Information Technology Team with input from the app team. The app has an extensive 'road-map' with the first version currently available worldwide across all devices and platforms. The app was tested at the alpha- and beta-testing stages with written reviews at the planning stage, hence this is a truly peer-reviewed product as required by ACES.

The app has informational features such as vast library of 50 horticultural crops, 100+ insect and disease description and images, and fertilizer and irrigation calculators. The

functional aspects that add tremendous value and uniqueness to the Farming Basics app include location services linked to REAs statewide so that beginning farmers can easily locate and directly contact Extension for help. Another critical functionality is the link to Commercial Horticulture online event calendar and ability to add events to native scheduling services on Apple or Android devices. The app also links growers to pest alerts, social media, and USDA price listing for horticultural commodities. The app has been marketed through an attractive push-card or post-card that is mailed or inserted into other promotional packets, distributed at grower conferences and large exhibitions, and PDF is embedded in digital media. The Alabama IPM Communicator E-newsletter with 3,080 subscribers was also used to promote the app. Beginning farmers can also email questions regarding the app and get response within 24 hours. We have also connected the app to beginning farmer training videos on YouTube that has resulted in over 300 views. Till date, the app has been installed over 500 times with nearly 55 percent installations on Android phones worldwide and overall rating of 4.8. Impact evaluations for the app will be collected in Fall 2020. https://www.aces.edu/blog/topics/ipm-farming/farming-basics-mobile-app/

National Finalists

Michelle Infante-Casella
Agricultural Agent/Professor
RUTGERS NEW JERSEY AGRICULTURAL EXPERIMENT STATION COOPERATIVE EXTENSION
GLOUCESTER

Infante-Casella, M.*[1], , Bamka, W.[2], , Komar, S.[3], , Schilling, B.[4], , Melendez, M.[5], , Marxen, L.[6],
[1] Agricultural Agent/Professor, Rutgers Cooperative Extension, Clarksboro, NJ, 08020
[2] Agricultural Agent/Associate Professor, Rutgers Cooperative Extension, Westampton, NJ, 08060
[3] Agricultural Agent/Associate Professor, Rutgers Cooperative Extension, Newton, NJ, 07860
[4] Director of Cooperative Extension, Rutgers Cooperative Extension, New Brunswick, NJ, 08901
[5] Agricultural Agent/Assistant Professor, Rutgers Cooperative Extension, Trenton, NJ, 08638
[6] Associate Director, Rutgers Office of Research Analytics, New Brunswick, NJ, 08901

The Rutgers Sustainable Agriculture Research and Education (SARE) program has the goal of disseminating information to the commercial agriculture industry, agriculture service providers and others about grants, projects, programs and educational materials related to sustainable agriculture that are funded by USDA SARE grant funding. A new website at http://sare.rutgers.edu/ was created to replace the former NJ SARE outreach site "Sustainable Farming on the Urban Fringe" for grant and resource information. The main areas of this new webpage include resources for: NJ SARE Outreach, Rutgers Direct Marketing and Agritourism Programming, RUBREW-Rutgers University Brewing Crops Research and Extension Work, and the Rutgers Hemp Program. The Cooperative Extension programs listed on the Rutgers SARE webpage have been funded by the USDA Northeast SARE program through the State Coordinator Professional Development Program (PDP) funds. Extension publications, presentations, training materials and other useful resources are posted on this site. In addition, Rutgers State SARE PDP Coordinator outreach information about resources and regional SARE grants is posted for grant applicants. The website had over 9,489 page views and 5,448 page users from March 28, 2019 to March 14, 2020. The webpage is continually being updated as new information is created by project team members. In addition, programs on the website are also complimented by social media pages on Facebook at https://www.facebook.com/RutgersUniversitySustainableHemp/ and https://www.facebook.com/RUBREW/. Sustainable agriculture is socially supportive, with the premise of sustainability that provides quality of life of farmers, farm families, and their communities. This website provides for online information to help meet the outreach goals of the Rutgers SARE program.

Mary Kate Wheeler
Farm Business Management Specialist
Cornell Cooperative Extension
South Central New York Dairy and Field Crops

Wheeler, M.*[1],
[1] Farm Business Management Specialist, Cornell Cooperative Extension, Owego, NY, 13827

This entry highlights a regional extension team blog, created and curated by Farm Business Management Specialist Mary Kate Wheeler. The South Central NY Dairy and Field Crops Team is a partnership between Cornell University and the Cornell Cooperative Extension Associations of six New York counties: Broome, Chemung, Cortland, Onondaga, Tioga and Tompkins. Mary Kate is one of five extension specialists, including NACAA member Fay Benson, who rgularly contributes to the blog.

The blog began in early 2019 as a means to expand the visibility and accessibility of original content developed by team members. For more than 30 years, the team has published a print newsletter to share information and events with farm operators. However, that content was previously difficult or impossible to find online in digital form.

Using the Cornell University blog service, Mary Kate customized a template that she uses to publish three types of articles. Technical articles describe applied research, emerging

technologies, or educational resources. Success stories highlight program impacts, while press releases describe upcoming events. The ease of publishing allows the team to respond quickly to producer needs, and rapidly cover emerging topics. The blog stores content in a format that is easy to browse and search.

Today, the blog has 478 subscribers who receive an email every time a post is published. Most are commercial farmers, yet the list includes extension educators, government agency representatives, and private sector service providers from across the state. The blog also receives attention from agricultural publications. The list of media outlets that have run articles from our blog includes Hoard's Dairyman Intel, Country Folks Magazine, Morning Ag Clips, and Cornell Small Farms Quarterly.

By increasing the visibility and accessibility of our work, the blog enhances the team's ability to serve existing audiences, introduces our work to new audiences, and increases our capacity for digital engagement. According to WordPress, 3,817 blog visitors logged 6,103 sessions and viewed 1.75 pages per session during the blog's first year of activity. Our team is encouraged by this initial success, and excited to see how this communication tool develops into the future.

URL: https://blogs.cornell.edu/scnydairyandfieldcrops/

Joanna Coles
County Extension Agent for Agriculture and Natural Resources
UK Cooperative Extension Service

Coles, J.*[1], , Hildabrand, Kristin*[2],
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[2] County Extension Agent for Horticulture, University of Kentucky Cooperative Extension Service, Bowling Green, KY, 42101

Facebook has over 2.32 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 2019-March 2020, outreach for the Warren County Agriculture Facebook page was 67,320 and engagement at 7502 with 1714 likes and 1814 followers. Social media blue book values each post on the page at almost $21.33/post. Based on the 146 posts made this year, that is a $3492 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 agent are the content contributors to the site and the Warren County staff assistants help with graphic development and calculating analytics.

Regional Winners

Abby Schuft
Extension Educator, Poultry
University of Minnesota
Minnesota

Schuft, A.*[1],
[1] Extension Educator, Poultry, University of Minnesota, Willmar, MN, 56201

In 2016, the University of Minnesota Extension poultry team began its social media presence using Facebook. The objective was to increase audience awareness and expand the reach of the growing Poultry Extension program by providing brief, timely, research-based information to Minnesota's diverse poultry audiences. These include backyard and small flock poultry owners, commercial producers and allied industry members producing table eggs, broilers, turkeys, upland game birds, fancy poultry and pigeons in Minnesota. In order to have consistent interactions with fans, an editorial calendar has been used to plan, compose and schedule a minimum of four posts per week. Themes include research updates, "YouTube Tuesday" videos, "Small Flock Saturday", and other applicable content which are all accompanied by an image or figure to attract interest. Users are also encouraged to follow web links to original internet content for more in depth information. A humorous cartoon or meme closes each business week as a "Friday Funny". The social media platform is promoted through state commodity and poultry organizations, at public events, paid advertising on Facebook and through organic sharing and reach. These consistent efforts resulted in an annual reach of 46,275 individuals in 2019 an increase nearly double over the previous calendar year. This also marks the most impact the page has had since its inception.The page ended 2019 with 267 "Likes" with 297 followers. The author who submitted this application is the sole editor and administrator of the Facebook page. You can view the Facebook page at facebook.com/UMNPoultry.

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, OSU Department of Agricultural, Environmental and Development Economics, Columbus, OH, 43210
[2] Extension Educator, Agriculture & Natural Resources, Ohio State University Extension, London, OH, 43140
[3] Associate Professor & Extension Educator, ANR, OSU Extension, Tuscarawas County, New Philadelphia, OH, 44663

The Ohio State University Extension (OSU Extension) developed several educational resources for producers seeking information related to the Agricultural Adjustment Act of 2018 (the Farm Bill). OSU Extension's Farm Bill coordinators developed a website compiling these resources with the objective of aiding producers in greater understanding of the programs and the tools available to help evaluate enrollment decisions.

The website, titled *OSU Farm Bill Decision Central*, includes seven sub-pages. The first page houses Excel based decision tools estimating payments under each program given different national prices and local yield scenarios. The tools, downloaded 10,440 times to date, have been downloaded by producers in Ohio as well as known states of Arkansas, Indiana, Kansas, Missouri, New Hampshire, and North Dakota. This page also includes decision tools developed at other universities, and instructional videos developed by program coordinators on how to utilize the decision tools.

The *Commodity Program Resources* page includes five recorded webinars outlining the structure and mechanics of crop commodity programsas well as important dates and deadlines. The webinars have over 6,000 views to date.

A *County Meetings* page lists upcoming meeting details in chronological order allowing visitors to find upcoming educational Farm Bill workshops offered by OSU Extension throughout the state. A clickable map is included enabling visitors to search for meetings by geographical area. 177 meetings have been listed on this page leading to a total of over 6,000 participants attending meetings in a three month period.

Commitment to user satisfaction and timely delivery inspired the *Frequently Asked Questions* page. All questions emailed or phoned into county offices and relayed to the state office were responded to directly, but also posted on this page for other acquirers. Users expressed gratitude for accuracy in fluid policy changes and for accessibility past OSU Extension business hours. Other pages include *Dairy Program Resources, Farm Bill Summit,* and *Related Articles.*

The website has been promoted by local county Extension Offices, the Ohio Farm Bureau, the Farm Service Agency, and media sources including Ohio's Country Journal and several local papers. The site has received over 23,000 pageviews over a period of five months.

URL: https://aede.osu.edu/research/osu-farm-management/2018-farm-bill

Liz Binversie
Agriculture Educator
University of Wisconsin Madison Division of Extension
Brown

Binversie, L.*[1],
[1] Agriculture Educator, University of Wisconsin Madison Division of Extension, Green Bay, WI, 54302

Https://FYI.extension.wisc.edu/hemp

This website was developed to be a one-stop shop for University-developed resources (Wisconsin and others), news, events, and provide a platform for networking and information sharing among those in the hemp industry. Currently, the state is not set up to share hemp licensee information. In 2019, it was challenging to make those key connections between growers, processors, retailers, consultants, and others. There is a calendar of events both university sponsored and courtesy listings. Another issue was that people weren't aware until after an event occurred that it was being offered. The posts on the main page share news and other hemp related information such as government programs, disease reports, or important legislature, among others. The resources pages have PDFs, articles, or other educational content. A separate webinar and videos page houses all of the UW sponsored hemp webinars and other recorded videos. Videos are embedded into each page with PDF links to the presentation. In some cases, the PDF has a link that will jump to that spot in the recording via YouTube. A form and listings page provides a platform for individuals and companies to share contact information, etworking ideas, and information of those buying or selling their hemp crops. Information submitted on the form updates in the corresponding listing within 5 minutes. Submitters receive a copy of their response and have the ability to edit their listing. Lastly, there is a THC/CBD lab analysis data sharing page. Growers, laboratories, or others can voluntarily add their testing results data. This information can be used to monitor how the crop is progressing, help inform harvest decisions, and aid in variety selection for the next years growing season. Using google data studio I created a data summary report with filtering capabilities.

I developed this website, coordinating with state specialists to include relevant articles, presentations, or other resources they've developed. I created the forms and listings and add

content to posts and maintain the calendar. I also developed the CBD/THC summary report tool with initial assistance from the university's Educational Technology Services.

Heather Bryant and Mary Saucier Choate
Extension Field Specialist, Food & Agriculture
UNH Cooperative Extension
Grafton County

Bryant, H.*[1], , Choate, Mary Saucier[2],
[1] Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, North Haverhill, NH, 03774
[2] Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, North Haverhill, NH, 03774

Maple syrup operations are both farms and food processing facilities in the eyes of the FDA, and may have some compliance requirements under the Preventive Controls Rule of the Food Safety Modernization Act (FSMA). However, they tend to see themselves as neither farms nor food processing facilities, and they tend to conduct their professional development separately from those entities. Thus we, Heather Bryant and Mary Saucier Choate, Field Specialists with UNH Cooperative Extension, were concerned that maple producers were not receiving FSMA outreach.

We applied for and received a Food Safety Outreach Program pilot project grant from USDA-NIFA to create a workshop and educational materials tailored for NH maple producers.

Determining where you fall under the rules is often the most difficult part of the process for maple producers so we began by developing an online tool to simplify the process. We used Qualtrics software. While there are similar tools available online, this is the only one that we know of that is tailored to maple producers. It works like an interactive flow chart. We designed it to ask a series of questions and based on the answers, tell the user where they most likely fall under FSMA. We posted the tool online along with other more general FSMA resources that our team created outside of this grant project (see them here).

The NH Maple Producers Association assisted us in promoting the tool and workshops to their members, and we also used the tool as part of an interactive session within the workshops. In February 2020 we posted the tool to a regional food safety information clearinghouse for wider distribution. First launched in fall 2018, the tool has been used 527 times, including 218 times since March 15, 2019. According to the 2017 Census of Agriculture there are 528 maple operations in NH so we feel the reach of our tool has exceeded our expectations.

Hanna Smith
Horticulture Agent
N.C. Cooperative Extension
Guilford County

Smith, H.*[1],
[1] Horticulture Agent, N.C. Cooperative Extension, Greensboro, NC, 27405

The Guilford Gardener Course was a 6-week course that focused on several topics and was geared towards people who wanted more in-depth information than our regular 1-hour gardening classes. The course was offered in the spring and there was a morning and an evening class option. It could be done as a stand-alone course but was also a prerequisite for the fall core Extension Master Gardener classes if anyone was interested in continuing on to be a volunteer. The class was offered at the Extension office in Guilford County, but since the county is so large and there are two major cities, Hanna decided that to reach a wider audience that she would also offer the course remotely at the High Point Library where residents in that part of the county could go there to watch a live feed of the class rather than driving a long way to get to the Extension office in Greensboro.

Since this was a course where each week builds on the last, participants were able to receive a Certificate of Completion at the end if they attended 4 of the 6 classes. An additional benefit of attending the course was that participants received a flash drive with relevant resource material and they also gained access to the course website. The website contained basic information about the course such as the schedule as well as an option to submit a question to Hanna. A tab called "Resources" loads a page where participants can get research-based resources relevant to each class topic as well as any handouts that were created for the class. Since the classes were offered remotely through Zoom, Hanna was also able to record the classes and post those on the website for participants who may have missed a class or wanted to go back and revisit a presentation. 61 participants registered for the course with 59 receiving a Certificate of Completion and 98% of participants reporting knowledge gain in areas of growing fruits/vegetables, conducting soil tests, selecting appropriate plants, and many other areas.

Website: https://sites.google.com/ncsu.edu/2019guilfordgardener/home

Linda Chalker-Scott
Extension Specialist and Associate Professor
Washington State University
WSU Puyallup

Chalker-Scott, L.*[1],
[1] Extension Specialist and Associate Professor, Washington State University, Puyallup, WA, 98371

The Garden Professors is a suite of social media sites which provides current, relevant, science-based information to the gardening public. Originally developed by Dr. Linda Chalker-Scott and three horticulture colleagues as a blog in 2009, *The Garden Professors* blog had 174,472 unique visitors from 188 countries in 2019.

Shortly after initiating the blog, Dr. Chalker-Scott created a Facebook page to expand the reach of *The Garden Professors* beyond traditional blog users. In 2019 this page reached 4,303,739 people. However, Facebook pages still have a top-down structure which makes it difficult for participants to initiate discussions or ask questions. To address the need for a more egalitarian social media space, she created *The Garden Professors* blog Facebook group, which currently has over 23,800 members. She manages a cadre of 10 volunteer administrators to keep the group running smoothly.

While it's difficult to assess impact with virtual audiences, Dr. Chalker-Scott created an online survey at the end of 2019 and invited Garden Professors followers to report their behavioral changes: 78% of respondents reported at least one behavioral change. Below are some of the responses to our questions on behavioral outcomes:

1. Passed on information from group to others: 85%
2. Read gardening information more critically: 84%
3. Avoided using home remedies: 67%
4. Increased the use of beneficial mulches: 67%
5. Were more skeptical of marketing claims: 67%
6. Improved methods of planting trees: 66%

Blog: http://www.gardenprofessors.com

Facebook page: http://www.facebook.com/TheGardenProfessors

Facebook group: https://www.facebook.com/groups/GardenProfessors

State Winners

State Winner	
North Central Region	
Iowa	Paul Kassel
Kansas	Cassie Homan
Northeast Region	
Maryland	Jon Traunfeld
Southern Region	
Arkansas	Brian See
Florida	Doug Mayo
Georgia	Brooklyne Wassel
Mississippi	Heather Jennings
South Carolina	Justin Ballew
Tennessee	Celeste Scott
Texas	Andy Holloway
Virginia	Amber A. Anderson

Learning Module/Notebook

National Winner

SC 4-H Midlands Region Agents
4-H Agent
Clemson Ext
York Co

Hood, L.B.*[1], , **Phillips, A. T.[2],** , **West, A. W.[3],** , **Black-Venegas, L.[4],** , **Hucks, C.S.[5],** , **Cox, J.M.[6],** , **Martin-Jones, R.[7],** , Stevens, J.[8],
[1] 4-H Agent, Clemson Ext, Rock Hill, SC, 29730
[2] 4-H Youth Development Agent, Clemson Cooperative Extension, Chester, SC, 29706
[3] 4-H Youth Development Agent, Clemson Cooperative Extension, Newberry, SC, 29108
[4] 4-H Youth Development Agent, Clemson Cooperative Extension, Saluda, SC, 29138
[5] 4-H Youth Development Agent, Clemson Cooperative Extension, Lancaster, SC, 29720
[6] 4-H Youth Development Agent, Clemson Cooperative Extension, Aiken, SC, 29801
[7] 4-H Youth Development Agent, Clemson Cooperative Extension, Columbia, SC, 29229
[8] 4-H Youth Development Agent, Clemson Cooperative Extension, Winnsboro, SC, 29180

With the COVID-19: Corona Virus pandemic closing all public schools and universities in South Carolina, 4-H Agents of Clemson Cooperative Extension were left without clients to serve. The Midlands 4-H Region Agents couldn't stand to sit

around and wait for a solution to how to serve the children of SC, so they came up with "4-H @ Home," a daily email with an activity that is fun and educational that also introduces 4-H. The program announcement was worded, "Are you scrambling to fill the day while schools are closed? Don't worry, we are here to help! 4-H @ Home is a daily activity delivered via e-mail. Topics include: Animals and Agriculture, Healthy Lifestyles, Civic Engagement and Leadership, Natural Resources, and STEM. This project is open to youth in any county. Sign up below to begin receiving weekday e-mails until schools re-open. Take care and wash your hands!" Little did the Midlands agents know their program would go viral! As of the latest update, the program had 1,708 participants registered from all 46 counties in SC, 24 additional states, plus children in Mexico, Canada, and South Africa! These numbers continue to increase daily! All lessons are developed by SC 4-H Agents (and a few other program area agents) from around the state in multiple program areas to help give children something to do while practicing social distancing. The lessons are geared to being able to utilize materials from around the home, so parents do not have to go out to purchase materials. Photo submissions are entered into a weekly drawing for SC 4-H prize packs.

National Finalists

Abby Schuft
Extension Educator, Poultry
University of Minnesota
Minnesota

Schuft, A.*[1],
[1] Extension Educator, Poultry, University of Minnesota, Willmar, MN, 56201

A collaboration between the University of Minnesota (UMN) Extension Equine and Poultry programs produced a six-week online certificate course to introduce horse owners to biosecurity concepts. The biosecurity course was one of five completely online courses offered through the UMN Equine Extension program and was promoted exclusively through the UMN Extension website and Equine Extension program Facebook page. A total of 18 horse owners and industry professionals from seven different states registered and participated in the inaugural course from January 13 - February 23, 2020.The enrolled students owned 61 horses of their own and influenced care for an additional 160 horses and donkeys. Each week, participants viewed a recorded topic lecture and either participated in assigned online forum discussions or took a topic quiz. Notes of PowerPoint slides and supplemental resources were provided with each module. Throughout the course, students also wrote biosecurity protocols for their unique farm or horse ownership situation, finally compiling them to create and submit a biosecurity plan. Completing these assignments were requirements for earning a certificate of completion. However, enrollees could participate in the course without intention of earning a certificate. In the end, 83% of the participants were successful in earning a certificate of completion. In a post-course evaluation, learners stated their knowledge of equine biosecurity increased 1.74 points on a 5-point Likert scale, indicating they knew "some" information about biosecurity at the beginning of the course and finished knowing "much" to "very much". Based on the information learned, 93% of the participants agreed or strongly agreed they planned to make at least one change in their horse operation or ownership with respect to biosecurity principles. The NACAA member who submitted this application was the curriculum developer and instructor for this online course. To view course modules, resources, discussions and quizzes, log in to the Equine Biosecurity Online Certificate Course, or type https://canvas.umn.edu/courses/167748 into any web browser. Once users arrive at the UMN Canvas Sign In page, enter aenschuft@gmail.com as your internet ID. Your password will be Communication2020.

S. Dee Jepsen

Ohio State University Extension

Jepsen, S.D.[1], , McGuire, Kent[2], , Hicks, Tim[3], , Vega, Shawnda[4], , Bell, Scott[5], , Stoddard, Elise[6], , Shaw, Victoria[7],
[1] Associate Professor, Ohio State University Extension, Columbus, OH, 43210
[2] , The Ohio State University, Columbus, OH, 43210
[3] , Ohio Farm Bureau, Columbus, OH, 43210
[4] , Nationwide, Columbus, OH, 43215
[5] , Nationwide, Columbus, OH, 43215
[6] , American Farm Bureau Federation, Washington, DC, 20024
[7] , Lady Business LLC, Columbus, OH, 43215

Creating a culture of farm safety to reduce injuries and fatalities is the ultimate purpose of occupational safety outreach education. Teaching injury prevention through an eLearning platform utilizes technology as the medium to convey safety and health practices to learners, anytime and anywhere. As agriculture becomes more technology based, so too should our training programs.

Agriculture continues to be a dangerous industry; the primary audience for this curriculum is Ohio farmers and farm families. The developed curriculum is engaging and accessible to a broad audience of 21st century farmers (part- and full-time), agricultural businesses, and youth farm workers – and non-discriminant of their age or experience level. Making use of eLearning platforms, agriculturalists can access training when and where it's convenient for them.

This online program consists of three independent, 40-minute modules, on the topics of: An Introduction to Agricultural

Safety, Tractor and Roadway Safety, and Equipment and Machinery Safety. Each module has its own set of learning objectives and chapter assessments. The trainings are focused on high injury-causing agents within our state and provide a self-paced environment with built-in interactive activities to keep the learners engaged.

Upon completion of the pilot tested program (where 75 farmers completed the training in 2019), the three modules were determined eligible for training credits through our state's worker's compensation program. With this designation, Ohio Farm Bureau members are able to participate in the eLearning environment to satisfy their education requirement for a group rating program. The successful launch of this online platform will be fully marketed in 2020 to other Ohio farmers and have the ability to provide focused training through the Farm Bureau University network.

The OSU Extension Agricultural Safety Program set a goal to provide evidence-based training programs to reduce farm injuries by 25% over the next three years. Collectively, tractors and machinery are responsible for 61% of our state's farm fatalities. By combining forces with a grass-roots membership driven organization (Farm Bureau) and an agricultural insurance company (Nationwide), we saw potential to reach thousands of rural and farm families each year with life-saving messages for safe tractor and machinery operation.

Andrea Davis
Extension Agent
Virginia Cooperative Extension
Virginia Beach

Davis, A.*[1],
[1] Extension Agent, Virginia Cooperative Extension, Virginia Beach, VA, 23456

The purpose of this online learning module was to provide a pre-packaged workshop curriculum for educating those interested in starting school gardens. Our City's School Sustainability Office promotes environmental projects including school gardens, but there are no resources for faculty, staff or volunteers on how to go about these projects. I saw a need in our city to assist teachers, staff and other volunteers in learning how to start, manage, and maintain a school garden. However, there are over 5000 teachers in 86 schools and centers within our city. Therefore, I needed a way to reach more constituents at a time. I developed a school garden workshop curriculum to accommodate group education versus individual consultations. I then digitized all materials and created a learning site for other agents to use in similar situations. This site contains learning modules with PowerPoint presentations, handouts, and publication links that would be useful in presenting this information. I have formally presented this online module to extension agents and Extension Master Gardener volunteers throughout Virginia at conferences and via webinar format. The URL for the site is https://canvas.vt.edu/courses/81008 and can be accessed by anyone once I have entered their name and email address into the course as a student user.

Regional Winners

Heather Schlesser
AGRICULTURE AGENT
UW-Extension
Marathon

Schlesser, H.*[1], , Sandra Stuttgen[2],
[1] AGRICULTURE AGENT, UW-Extension, Wausau, WI, 54403
[2] Agriculture Agent, UW-Extension, Medford, WI, 54451

This learning module was created to teach beef and dairy producers how to artificially inseminate their cattle. In 2012 artificial insemination companies stopped holding classes teaching farmers how to breed their own cattle. Since 2012 nine two-day artificial insemination programs have been held. For these clinics the following topics were taught to producers:

- Reproductive Anatomy and Physiology
- AI Technique
- Reproductive tracts and semen handling
- AI Equipment
- Heat Detection
- Estrous Synchronization Protocols
- Bull Selection
- Pregnancy Detection
- Practice in live animals.

Participants in this course were given a manual at the start of day one with all of the handouts and educational and reference materials needed for the course. The program consisted of lecture on both days, working with excised reproductive tracts, and semen handling . Once participants were able to pass the insemination gun through the excised reproductive tracts they had the opportunity to practice on live animals. Fact sheets on selection, interpreting sire summaries, and determining pregnancy were included in the manual that was given to attendees. 132 people attended the nine AI training sessions. Class size was capped at 15 people to allow everyone

adequate time with practice animals. Participants were from 88 different farms, with eight of the farms located in Michigan, and three farm located in Minnesota and two farms located in Illinois. Sixty-eight of the farms were dairy farms and sixty-four were beef farms. Participants were asked to evaluate the AI trainings with a post meeting evaluation and a long term evaluation to see what practices were implemented. Evaluations immediately after the program (n = 132) showed that on average participants increased their knowledge about AI from 2.01 to 3.51 on a Likert scale from 1 = very little knowledge to 4 = a lot of knowledge.

Successful completion of this program resulted in students that were able to inseminate their own cattle.

Elizabeth Bosak
Field & Forage Crops Educator
Penn State Extension
Dauphin & Perry Counties

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

Weed identification is a critical skill for livestock and crop producers, however, it is often ignored or the assumption is made that producers can already identify weeds. Prior to completing the activity, most if not all pesticide applicators can recognize many of the weeds and where they grow on their property but cannot associate the weed with the correct common name. In order to use herbicide efficacy charts and learn more about integrated weed management, producers need to know the common name.

Over the past three years, a weed identification activity was created to teach private pesticide applicators how to identify common weeds in central Pennsylvania. Most of the images were taken directly from Dauphin and Perry counties where the producers live and operate farm businesses. At the beginning of the session, small groups form and each group receives a binder with weed images and a list of common names to match to the numbered images. At the end of the group activity, each set of images is reviewed and weed life history and management strategies are discussed. At the outset, there is some grumbling but typically by the end of the activity, the feedback is overwhelmingly positive. This activity has also been adapted for vineyard pests to accommodate a small sub-set of wine producers that attend the field crops pesticide update meeting. Based upon the success of this activity over the last three years, the activity will be revamped to include problem diseases and insect pests of field crops for 2021.

William Lester
Urban/Commercial Horticulture
UF/IFAS
Hernando

Lester, W.*[1],
[1] Urban/Commercial Horticulture, UF/IFAS, Spring Hill, Fl, 34608

Recruiting and training new volunteers for the Master Gardener program is an important component of a successful organization. Merging opportunities offered by the improved technology of an on-line learning management system, and a desire to create a stronger horticulture program, a flipped classroom program of new Master Gardener training was created. Master Gardener training in Florida normally requires students to spend an entire day in training each week; but by offering much of the instruction on-line, the training can be offered to a much wider cross section of the community. This is the first occasion where on-line training of new Master Gardeners has been offered by UF/IFAS Extension in Florida.

The current curriculum, previously taught in-person, was transformed into an on-line course offered on the University of Florida Canvas E-Learning Platform. Presentations normally given by me personally or guest lecturers were recorded, uploaded to a YouTube page and placed in Canvas. Learning objectives, quizzes, a variety of assignments and additional resources were all added to the Canvas course.

Students are required to attend an in-person session once a week for three hours, where hands-on activities that reinforce the week's video lessons are performed. By offering the lectures on-line, more of these hands-on activities are covered without requiring students to spend an entire day at our office. The students are also required to participate in discussions posted in Canvas and a small group exercise in plant diagnostics on the site.

The first group of 12 students was trained from September-November of 2017 and expressed a high level of satisfaction on the format and quality of training materials based on surveys. Approximately 50% of the trainees would not have been able to participate in a traditional all-day course.

Seven classes of Master Gardeners have been taught using this flipped classroom format, where participants do most of their learning online. Because of the additional experiential learning included in the evening sessions, these trainees are more confident that they can offer residents a measurable economic benefit through the services Extension offers.

Lynda A. Garvin
County Extension Agent/Agriculture
New Mexico State University
Sandoval County

Garvin, L.A.*[1],
[1] County Extension Agent/Agriculture, New Mexico State University, Bernalillo, NM, 87004

As consumers, the food choices we make have significant impacts on our local and global food systems, economies, and environment. The food dollars spent on local agriculture supports the local economy and helps family farms and small producers stay in business. "It's clear that what we put on our plates has a big impact on the environment. Eating more healthfully and more sustainably go hand-in-hand, meaning we can develop sustainable eating practices that improve our own health while also benefiting the health of the planet." Harvard School of Public Health, "The Nutrition Source." www.hsph.harvard.edu/nutritionsource. The class focuses on 4 simple practices to reduce our carbon food footprint, support local producers, and increase growing our own food at home.

The class was presented to the Sandoval Extension Master Gardener training in a PowerPoint format (39 slides) with a hands- on "Calculate Your Food Miles" worksheet, and online quiz and class evaluation.

State Winners

State Winner	
North Central Region	
Kansas	Frannie Miller
Southern Region	
Alabama	Ayanava Majumdar
Georgia	Gary L. Hawkins
Kentucky	Adam Huber & Jason Phillips
Mississippi	Brady Self
North Carolina	Matt Lenhardt, Sam Marshall, Dr. Lucy Bradley, Cyndi Lauderdale

Bound Book

National Winner

Linda Chalker-Scott
Extension Specialist and Associate Professor
Washington State University
WSU Puyallup

Chalker-Scott, L.*[1],
[1] Extension Specialist and Associate Professor, Washington State University, Puyallup, WA, 98371

Co-authored by Dr. Linda Chalker-Scott (WSU's Urban Horticulture Extension Specialist), the newest edition of this book presents a curated collection of garden-worthy native plants that tolerate cultivated conditions. Below is the publisher's description for the new edition on Amazon. (https://smile.amazon.com/Gardening-Native-Plants-Pacific-Northwest/dp/0295744154/ref=pd_rhf_dp_p_img_1?_encoding=UTF8&psc=1&refRID=W4DBNZEFZECDRHMS2Q18)

The Pacific Northwest abounds with native plants that bring beauty to the home garden while offering food and shelter to birds, bees, butterflies, and other wildlife. Elegant trilliums thrive in woodland settings. Showy lewisias stand out in the rock garden. Hazel and huckleberry number among the delights of early spring, while serviceberry and creek dogwood provide a riot of fall color. *Gardening with Native Plants of the Pacific Northwest* is the essential resource for learning how to best use this stunning array.

The third edition to this science-based contains:

- close to 1,000 choices of trees, shrubs, perennials, annuals, and grasses for diverse terrain and conditions, from Canada to California, and east to the Rockies;
- 948 color photographs, with useful habitat icons;
- fully updated nomenclature, with an index of subjects and an index of plant names (common and scientific);
- new chapters on garden ecology and garden science;
- an appendix of Pacific Northwest botanical gardens and native plant societies; and
- a glossary of botanical, horticultural, and gardening terms.

With enthusiasm, easy wit, and expert knowledge, renowned botanist Art Kruckeberg and horticulturist Linda Chalker-Scott show Northwest gardeners, from novice to expert, how to imagine and realize their perfect sustainable landscape.

This book has been favorably reviewed in both the Western United States and British Columbia; a sample review can be found here: https://vancouversun.com/homes/gardening/brian-minter-kruckeberg-and-chalker-scotts-book-remains-one-of-the-best-sources-on-native-plants. To date, it has sold 3000 copies in the US and over 1200 copies in British Columbia. It has been purchased by gardeners, Master Gardeners, native plant nurseries, landscape architects and designers, and restoration ecologists.

Please note that the original author, Dr. Kruckeberg, passed away in 2016. Dr. Chalker-Scott was solely responsible for the update to create the 3rd edition, which included much of Dr. Kruckeberg's earlier material but required significant additional information as noted in the description.

National Finalists

Edwin M. Lentz
Extension Educator and Professor
The Ohio State University Extension
Hancock County

Lentz, E.M.*[1], , Ackley, B.A.[2], , Beegle, D.B.[3], , Collins, A.A.[4], , Culman, S. W.[5], , Curran, W.S.[6], , Dorrance, A.E.[7], , Duiker, S.W.[8], , **LaBarge, G.A.[9],** , Lindsey, A. J.[10], , Lindsey, L.E.[11], , Lingenfelter, D.D.[12], , Loux, M.M.[13], , Michel, A.P.[14], , Ozkan, H.E.[15], , Paul, P.A.[16], , Raudenbush, A.L.[17], , Roth, G.W.[18], , Sulc, R.M.[19], , Taylor, N.J.[20], , Thomison, P.R.[21], , Tilmon, K.J.[22], , Tooker, J.F.[23], , Watters, H.D.[24], , Williamson, J.A.[25],
[1] Professor and Extension Educator, The Ohio State University Extension, Findlay, OH, 45840
[2] Extension Program Associate, The Ohio State University Extension, Columbus, OH, 43210
[3] Emeritus Distinguished Professor, Pennsylvania State University, University Park, PA, 16802
[4] Assistant Professor, Pennsylvania State University, University Park, PA, 16802
[5] Assistant Professor, The Ohio State University, Wooster, OH, 44691
[6] Emeritus Professor, Pennsylvania State University, University Park, PA, 16802
[7] Professor, The Ohio State University, Wooster, OH, 44691
[8] Professor, Pennsylvania State University, University Park, PA, 16802
[9] Professor and Field Specialist, The Ohio State University Extension, London, OH, 43140
[10] Assistant Professor, The Ohio State University, Columbus, OH, 43210
[11] Associate Professor, The Ohio State University, Columbus, OH, 43210
[12] Extension Associate, Pennsylvania State University Extension, University Park, PA, 16802
[13] Professor, The Ohio State University, Columbus, OH, 43210
[14] Professor, The Ohio State University, Wooster, OH, 44691
[15] Professor, The Ohio State University, Columbus, OH, 43210
[16] Professor, The Ohio State University, Wooster, OH, 44691
[17] Research Associate, The Ohio State University, Wooster, OH, 44691
[18] Emeritus Professor, Pennsylvania State University, University Park, PA, 16802
[19] Professor, The Ohio State University, Columbus, OH, 43210
[20] Clinic Director, The Ohio State University, Reynoldsburg, OH, 43068
[21] Professor (retired), The Ohio State University, Columbus, OH, 43210
[22] Associate Professor, The Ohio State University, Wooster, OH, 44691
[23] Professor, Pennsylvania State University, University Park, PA, 16802
[24] Associate Professor and Extension Field Specialist, The Ohio State University Extension, Bellefontaine, OH, 43311
[25] Extension Specialist, Pennsylvania State University Extension, University Park, PA, 16802

The newly revised Corn, Soybean, Wheat, and Forages Field Guide is a compilation of the latest research by Extension specialists and educators from The Ohio State University in partnership with Pennsylvania State University. The guide is designed to be a scouting and diagnostic tool for industry agronomists, certified crop advisors, Extension agents and producers. This handy spiral-bound book contains information and images to aid with insect, disease, and weed identification and to assist with in-season management decisions. All sections have been revised and updated, including new pests and fertilizer recommendations. New sections have been added for broadleaf weed identification keys and manure sampling and manure applicator calibration. The guide is divided into seven sections: Corn Management, Soybean Management, Wheat Management, Forage Management, Weed Identification, Pesticide Application Technology, and General Crop Management. Each management category has a different color scheme for quick section searches and the index at the back of the book can be used to quickly locate page numbers for a specific topic. The book's dimension is designed to allow pictures large enough to assist in pest identification but still small enough to be easily carried to the field. The larger spiral-binding allows for quick page turning and the paper quality is strong enough to assist in windy field conditions. Ohio's book is different than many other state crop field guides because it includes wheat and forages. The guide is the number one requested non-regulatory agriculture publication from Ohio State University Extension. Of the 4,000 copies printed, 1,904 have already been distributed during its first year of release. The guide has been requested and distributed at the Ohio Agribusiness Association/Certified Crop Advisors annual meeting, the Conservation Tillage and Technology Conference and numerous state and county Extension programs. Penn State requested to be a part of the revision to benefit producers in Pennsylvania. The submitting author contributed to the crop growth and development and soil fertility content, as well as in general editing. The book is available for $15.70 from Ohio State Extension Publishing, extensionpubs.osu.edu/crops/.

Sherri Sanders
CEA-AGRI

WHITE

Sanders, S.*[1], , **Smith, Sherrie[2],** , **Hopkins, John[3],** , Hightower, Mary[4], , Boyd, John[5], , Meux, Chris[6],
[1] CEA-AGRI, University of Arkansas System Division of Agriculture, Searcy, AR, 72143
[2] Instructor - Plant Pathology, University of Arkansas System Division of Agriculture, Fayetteville, AR, 72704
[3] Professor - Entomology, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204
[4] Division Chief of Communications, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204
[5] Visiting Assistant Professor - Crop, Soil and Environmental Science, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204
[6] Design Specialist - Communications, University of Arkansas System Division of Agriculture, Little Rock, AR, 72204

Arkansans love their lawns and gardens and take great pride in ensuring the landscape surrounding their homes and businesses remain healthy and beautiful. As authors, editors and neighbors, our goal for this book was to provide a concise, easy-to-navigate guide to diagnosing and treating the 25 most common disease, insect and weed problems that can affect our green spaces in Arkansas. The team consisted of a county agent and specialists in the areas of horticulture, plant pathology, entomology, weed science and communications.

County agents were surveyed statewide to determine the most common landscape weeds, disease and insects in their area. As a result, specialists in each subject area were asked to assist by providing images and information on their specific topic of expertise.

It was vitally important to have the book printed in color, so that the photographs were high-quality, true to color and easy to distinguish. The team wanted the book to be user-friendly and easy to understand.

Each entry contains a color photograph and the following information: name, description, target plants, damage types and control recommendations. It was imperative that the recommendations were easy to read and understand, including cultural controls and trade names, for the convenience of the average homeowner horticulture enthusiast.

Our administration paid for the publication to be printed and distributed to every county agriculture agent in the state to use as a reference guide. Over 750 printed copies were distributed at flower and garden shows, horticulture meetings, Master Gardener events, and trainings. Another 1748 copies were downloaded from our website located here: https://www.uaex.edu/publications/pdf/MP468.pdf.

These numbers are quite remarkable since this is a "for-sale" publication ($5) unlike most of our publications which are free.

Additionally, excerpts from this publication were shared on social media platforms (Twitter and Facebook) during the year, resulting in 34879 indirect contacts and 2276 direct contacts.

Edward Olsen
Extension Agent
Virginia Cooperative Extension
Henrico County

Olsen, E.[1], , Durham, L.[2],
[1] Extension Agent, Virginia Cooperative Extension, Henrico, VA, 23273
[2] Office Administration/Education Specialist, Henricopolis Soil and Water Conservation District, Henrico, VA, 23228

In the fall of 2019 the agent hosted an entomological outreach event called the Henrico Bug Bizarre! This was an integrated program that incorporated youth, entomology and many partners. Sixteen different partners provided 26 exhibits, some of which included live insects for participants to see, touch and interact with. Very early in the planning process for this event, the agent was very interested in providing to attendees a bug themed coloring/activity book that would not just be a coloring book but align with the educational principles of an extension-based program. An exhaustive search of extension and government sites did not result in any significant potential publications. At that point a collaborative agreement was developed with the office administrator/education specialist with the Henricopolis Soil and Water Conservation District to locally produce a coloring/activity book. In producing the coloring/activity book, the agent conceptualized, wrote and designed the book. Ms. Durham was the illustrator of the book. The book was completed in June 2019. 500 copies of the twelve-page book were produced with funding provided by Henrico County. Over half of the books were distributed at the Henrico Bug Bizarre! event along with a four-pack of crayons that were donated by a local grocery store. Additional copies of the book have been distributed at other outreach events.

Regional Winners

Emily Pochubay
Tree Fruit IPM Extension Educator
Michigan State University

Wilson, Julianna*[1], , Carroll, Juliet[2], , **Pochubay, Emily[3],** , Agnello, Arthur[4], , William, Shane[5],
[1] Tree Fruit Integrator, Michigan State University, East Lansing, MI, 48823
[2] Fruit IPM Coordinator, Cornell University, , ,

[3] Tree Fruit IPM Extension Educator, Michigan State University, , ,
[4] Tree Fruit Entomologist, Cornell University, , ,
[5] Tree Fruit Educator, Michigan State University, , ,

Stone Fruit IPM for Beginners was a collaborative project among Extension specialists and educators from Michigan State University, Cornell University, and the Great Lakes Fruit Workers, a working group of the North Central Integrated Pest Management Center, to provide new cherry, plum, peach, and nectarine fruit growers and scouts in the Great Lakes Region with science-based integrated pest management (IPM) information. This book consists of 32 chapters with illustrations and pictures in full color that provide the concepts and fundamentals of stone fruit IPM, a list of "Must Dos" such as determining a market for end product and equipment needed for production and scouting, scouting calendars that include pictures of crop development stages and the orchard pests and diseases relevant to each stage, as well as detailed information on how to scout for and manage specific pests and diseases. Chapters also offer specific considerations of how weather impacts pest and disease development, and how to use predictive pest and disease models, when they are available.

As a new generation of stone fruit growers join the specialty crops industry, a concise, thorough, and up-to-date reference was needed to provide this sector with science-backed production and sustainable pest management information. This 70-page book is available online, free of charge, as individual fact sheets or as a full book at https://www.canr.msu.edu/ipm/agriculture/fruit/stone-fruit-ipm-for-beginners. A total of 500 hard copies of Stone Fruit IPM for Beginners were printed for distribution at regional grower meetings. This work was supported by the USDA National Institute of Food and Agriculture, Crop Protection and Pest Management Program through the North Central IPM Center (2014-70006-22486).

Shannon Potter Dill
Extension Educator - AGNR
University of Maryland Extension
TALBOT

Dill, S.P.*[1], , **Little, N.G.[2],** , Henley, S.[3], , **Beale, B.[4],** , **Myers, G.[5],** , Everhart, S.[6], , Todd, M.[7],
[1] Extension Educator - AGNR, University of Maryland Extension, Easton, MD, 21601
[2] Extension Educator - AGNR, University of Maryland Extension, Baltimore City, MD, 21215
[3] Extension Educator - FCS, University of Maryland Extension, Cockeysville, MD, 21030
[4] Extension Educator - AGNR, University of Maryland Extension, Leonardtown, MD, 20650
[5] Marketing Specialist - AGNR, University of Maryland Extension, Keedysville, MD, 21756
[6] Legal Specialist, UMD Law School, Easton, MD, 21601
[7] Legal Fellow, UMD Law School, , ,

The Beginning Farmer Guidebook was developed as part of the Maryland Collaborative for Beginning Farmer Success program and is intended to be a resource for agricultural service providers and farmers in the region. The guidebook should be used as a companion to the Beginning Farmer Success website which contains additional resource material to support new farmers in Maryland.

The guidebook contains various publications often requested by beginning farmers. Each publication may be used as a stand alone document or in conjunction with other material. Authorship of each publication is indicated on the actual document. It has been used in classroom, online and one on one with aspiring farmers and is known as a resources in the state.

Eve F. Brantley
EXTENSION SPECIALIST
ALABAMA COOPERATIVE EXTENSION SYSTEM
STATEWIDE

Brantley, Eve F.[1], , Dictson, Nikki[2], , Bell, Laura[3], , Graham, Andrew[4], , James, Alex[5], , Kuntz, Rachel[6],
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The Alabama Watershed Stewards Handbook was developed to support a new training program that increases participants' knowledge of watersheds and water quality while equipping them with resources to make a positive difference at a local level. The Alabama Watershed Stewards program is partnership among the Alabama Extension Water Program, Auburn University Water Resources Center and the Alabama Water Watch program. Funding to develop the handbook and training program was provided through an Alabama Department of Environmental Management Section 319 grant from the US Environmental Protection Agency.

State Winners

State Winner	
Southern Region	
Florida	Rebecca L. Jordi
North Carolina	Steve Pettis

NACAA Member Presentations

2020 NACAA

105th
Annual Meeting
and
Professional Improvement Conference

Virtual

4-H & Youth

UTILIZING COOPERATIVE UNITS TO FACILITATE 4-H MARKET SWINE PROJECTS

Proposed by: Alyssa M.Schortinghouse

Presenter: Schortinghouse, A. M., 4-H Youth Development/agriculture (livestock), UF/IFAS Extension, Cantonment, FL 32533

An estimated 70% (population estimates, July 1, 2017) of the county population is concentrated on the urban southern coast, with limited access to appropriate facilities. Escambia County 4-H utilizes a cooperative unit system to increase participation in market swine projects to alleviate the demand of resources, time, and knowledge on individual participants. All group participants house their animals in one location and agree to work chore shifts on specified days, which decreases the travel and time demand placed on the individual. The unit is led by a volunteer unit leader who coordinates and oversees the procurement of the resources needed to raise the swine. The development of life skills for the individual participant is still ensured as the individual is still responsible for the cost of raising their pigs and ensuring that they are ready for show day. Furthermore, youth are required to participate in clinics and seminars which focus on unit standard operating procedures and protocols, swine health, swine showmanship, and safety. From 2017 and 2019, 54 youth participated in the cooperative swine unit program. Record keeping, communication, and cooperation was demonstrated by 100% of the youth as evidenced by completion of market swine record books, verbal and written communication, and the sharing of observations of the health and progress of project animals. A species-specific survey in 2018 revealed that 28 of 29 (96%) of the youth demonstrated knowledge gain. It was also observed that 28 of 29 (96%) of youth demonstrated responsibility, and 25 of 29 (86%) demonstrated concern for others. One mother commented: "Without the coop unit here, we would not have been able to do a pig project". Informal interviews of cooperative unit participants found that 92% (n=50) of participants would not have been able to participate in a market swine project without the cooperative unit. One mother commented, "Without the coop unit here, we would not have been able to do a pig project". By lowering the barriers of entry for interested youth, this program creates a safe environment through which youth are introduced to swine production and provided the opportunity to develop life skills in a safe environment.

EXPOSING 4-H YOUTH TO ENVIRONMENTAL SCIENCES USING A GUIDED SCIENTIFIC INQUIRY APPROACH: CHESAPEAKE OUTDOOR DISCOVERY 4-H CAMP

Proposed by: Jacqueline Takacs

Presenters: Takacs, J., Watershed Restoration Specialist, University Of Maryland Sea Grant Extension Program, Upper Marlboro, MD 20774
Bailey, E., Senior Agent, 4-H, University Of Maryland Extension Program, Prince Frederick, MD 20678
Sefton, J., Program Assistant, University Of Maryland Extension Program, Prince Frederick, MD 20678
Strahl, A., Program Assistant, University Of Maryland Extension Program, Prince Frederick, MD 20678
Reed, H., Senior Agent Emeritus - AG, University Of Maryland Extension Program, Prince Frederick, MD 20678

Research shows that effective K-12 Science & Math Education is essential to develop a workforce with the skills required to meet the needs of technology-focused businesses. Maryland, like other states across the nation, has seen a drop in the number of students expressing interest in STEM careers and building those skills. Youth are surprisingly limited in their exposure to, and understanding of, the environment and outdoors. They often associate science with memorizing boring facts.

The Chesapeake Outdoor Discovery 4-H Camp was developed in 2013 by University of Maryland Extension. The week-long day-camp program guides youth ages 8-18 through scientific discovery using interactive, project-based, team-oriented activities that get participants outside and active. The program actively engages youth in STEM activities, and builds life skills like leadership, responsibility and public speaking.

At the onset of the program, campers are randomly divided into research teams. Teams are then given a different environmental puzzle to solve. Each day youth are introduced to new STEM concepts and technologies. Further, they meet professionals who give them the tools and understanding they need to make inferences and draw conclusions about the environment around them. Topics are varied each year, and have included watersheds, topography, properties of water, water quality, forestry, wildlife, native plants, entomology, soils, wetlands, and aquatic organisms. Daily, participants use hand-held GPS units to locate unique data sets, based on their new experiences. The data is provided to aid them in their quest to complete their puzzles. The week concludes with team presentations that describe each group's environmental challenge, and the camp members then work together to analyze how the individual puzzles relate.

Post camp surveys indicate that campers looked more favorably at science and became more comfortable answering questions based on real data collection. They also became more adept at working

together on teams and developed confidence speaking in public.

This presentation, using the Chesapeake Outdoor Discovery 4-H Camp as a model, will take participants through the process of creating a guided scientific inquiry-based camp experience for youth. Such a camp can be implemented at any location around any environmental topic.

PHEASANT 4-H PROJECT

Proposed by: Adriane Good

Presenter: Good, A., Agricultural Extension Agent, Montana State University Extension, Conrad, MT 59425

In recent years, populations of ring-necked pheasants in North Central Montana have been declining. Harsh winters have reduced the number of adult birds of breeding age, making population recovery difficult. Pheasant hunting has been an important industry for Pondera County and the low pheasant populations have hurt this industry. The purpose of the pheasant 4-H project was to give 4-H members a greater appreciation for wild birds and bolster wild ring-necked pheasant populations. The project consisted of project meetings and raising pheasants to 12 weeks of age and releasing them into the wild. I led each of the project meetings and taught the members about pheasant life cycles, habitat requirements, food requirements, and winter survival. 4-H members used what they learned about pheasant habitat to find release locations for their birds. Landowners with suitable habitat enrolled in Montana Fish Wildlife and Parks' Upland Game Bird Enhancement Program. In June, 4-H members went to a local pheasant hatchery to learn about hatching chicks and purchased 2 groups of 200 chicks. After 12 weeks of learning to brood chicks, manage predators, and manage pheasant behavior, we released the birds into the previously identified habitats. A total of 168 pheasants were released in three locations around Pondera County. At the conclusion of the project year, all members agreed that they had a better understanding of wild birds in north central Montana and had gained appreciation for pheasants and their habitat. Eighty percent of the members were more encouraged to work with Montana Fish Wildlife and Parks as a result of this project. The members gave the program an overall ranking of 4.6/5, indicating high satisfaction with the project. The members enjoyed learning how to hatch eggs and raise wild birds, the importance of blinders, and the nature of pheasants. All of the 4-H members were enthusiastic about continuing the project, beginning to do habitat improvement work, and continuing to help improve wild bird populations. During hunting season, we were notified of sightings or harvest of 10 4-H birds, suggesting we were successful in beginning to increase wild populations.

PROTECT OUR POLLINATORS, PLEASE!

Proposed by: Jennifer W. Davidson

Presenters: Davidson, J. W., County Extension Coordinator - Russell County, Alabama Cooperative Extension Sysytem, Phenix City, AL 36867
Payne, Geni, Regional Agent-4-H, Alabama Cooperative Extension System, Phenix City, Al 36867

The purpose of this educational program is the increase the awareness of the importance of our insect pollination to our food supply to school age youth. This task was accomplished by presenting one-hour special enrichment programs in school to youth ages pre-k to 5th grade. The objectives of this programs where as follows: 1. To educate youth on the act of pollination 2. To increase knowledge of insect body parts 3. To increase knowledge of the insect life cycle 4. To increase knowledge of the types of pollinators 5. To increase knowledge of parts of a beehive and beekeeping 6. To encourage youth to protect our pollinators and empower them to make a positive impact in pollinator populations. The in-school educational component was delivered to approximately 1000 youth, ages pre-k to 5th grade in early 2020. The tool-kit used for demonstration includes: a mock beehive with bee facts in each frame, beekeeper safety equipment, hive tool, bee life cycle replicas, mounted bee samples and a "perfect" flower replica to demonstrate pollination A sample of 80 youth in 2nd grade were polled. The pre-test results when as the question "What is pollination?" resulted in 28% of the youth answering correctly, and post-test resulted in 74% answering correctly, for a 46% increase in correct answers to the question. 66% were able to "Name three insect pollinators" before the program and 100% after. When asked, "What can you do to protect pollinators?' 58% answered correctly before the program and 74% after the program, with one child proclaiming loudly, "I want to make a pesticide free area in my yard!" Currently, the Bugs on Broad Initiative has been funded through multiple sources and the bronze sculpture is scheduled for display Summer 2020. The programs will continue to be offered in our local school systems, annually.

LEADERSHIP OPPORTUNITIES FOR ORGANIZATIONAL KNOWLEDGE (LOOK) TO OHIO YOUTH LEADERSHIP

Proposed By: Trevor Corboy

Corboy, T.*[1]; Neal, N.*[2]; Jenkins, M.*[3]; Royalty, K.*[4]

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[4] Extension Educator, 4-H Youth Development, Ohio State University Extension, Owensville, OH, 45160

The purpose of this educational program is to promote workforce preparation and networking with peers and organization/business leaders to prepare county's teens for leadership. The hope is that students will gain a sense of community and remain in the county or return one day to live and work. We accomplished this task by working collarboratively across Extension program areas as well as with local school districts and Job and Family Services. These organizations assist in identifying perspective youth that could benefit from a local leadership program to enhance their workforce development skills. In order to achieve the overall goal, a series of face-to-face sessions are tailored to fit the youth being taught. We utilized multiple teaching methods and activities understanding that youth learn in varied techniques. These educational activities included place-based education, a leadership course, and service learning. LOOK encompasses the motto "preparing tomorrows leaders today" and utilizes multiple Extension youth development programs for teens and young adults to accomplish the motto. Over 400 students currently serve as success stories of the LOOK program over the past three years. They have joined the workforce and practice their leadership skills in both the workplace and communities in which they reside. Each year we invite these graduates back to one or more class theme days to share their leadership insights with the current LOOK class. The total community support dollars for LOOK to Ohio equal $88,676, this does not include the economic impact of the retained youth living and working in their home communities. Overall, participants indicated they had favorable perceptions of the program and had benefited from participating. However, the increased knowledge of these youth is a much more valuable indicator of the programs true success and effectiveness.

FARM TO SCHOOL IN ACTION: THE GREAT LAKES APPLE CRUNCH

Proposed by: John Hawley

Presenter: Hawley, J., Extension Educator - Agriculture & Natural Resources, Purdue Extension, Aurora, IN 47001

The mission of the annual Great Lakes Apple Crunch is to celebrate local food and Farm to School Month across the Midwest by crunching into locally grown apples within schools and other institutions. Additional goals include providing educational programs and networking opportunities for farmers, teachers, and food service personnel. The program is accomplished as a collaboration across six Midwestern states and dozens of organizations. As a representative for Purdue Extension and the State of Indiana, I work with the Great Lakes Apple Crunch Team to offer the event across Indiana. The team works together on identifying and addressing regional priorities, such as planning, marketing and development of an annual Crunch Guide for participants to use. Each team member implements the program within their own state. Following roll-out, team members evaluate their participants to learn more about how the program was implemented. A majority of 2019 participants (65 percent) indicated they received apples for the program from a farmer, either directly or through a farmers market. The benefits of the program reported by participants varied, with the top response being education related to local food, healthy food, and nutrition. Additional benefits reported by participants included awareness and enthusiasm for farm to school and local food programs and new or strengthened relationships with farmers. One participant in the program remarked that "My students were excited to learn about the foods that are grown on local farms and the processes involved in getting foods from field to table." The Great Lakes Apple Crunch celebrated record breaking participation in 2019, with 1,815,331 total participants across six states. The event is primarily offered within K-12 schools, but farms, hospitals, colleges, and many other institutions take part in the program. As a signature regional event, the Great Lakes Apples Crunch allows for all components of Farm to School to be addressed by participating schools.

Agricultural Economics & Community Development

FACEBOOK 101 FOR DIRECT FARM MARKETERS WORKSHOPS

Proposed by: Megan Bruch Leffew

Presenter: Leffew, M.B., Extension Specialist III, University Of Tennessee Extension, Columbia, TN 38401

The number of farms offering products and services for sale directly to consumers is increasing in Tennessee and many states across the country. These direct farm marketers need efficient and effective marketing strategies to reach customers interested in these products and are seeking information about online marketing options, including social media. While many have been using platforms such as Facebook for years and need advanced level training, there are an entire crop of farmers who are just beginning to adopt online marketing techniques, some of which have not even delved into social media for personal use.

In response to this need of beginner education for social media, four, day-long, hands-on Facebook 101 for Direct Farm Marketers Workshops were offered to introduce

farmers to marketing through Facebook. Participants were asked to bring a computer or device to create a Facebook business page, if needed, and practice on their own pages during the workshop. Instructors discussed and demonstrated how to effectively complete the "About" section, choose and load profile and cover photos, manage page settings, develop effective page content, make various types of posts, schedule posts, schedule events, use hashtags, boost posts, create ads and assess Facebook Insights. Workshops were funded, in part, by a grant awarded by the Southern Risk Management Education Center and United States Department of Agriculture National Institute of Food and Agriculture.

Of 68 participants, 60 reported increased knowledge of marketing fundamentals, tools or techniques, and 58 developed goals for implementing new or improved marketing strategies. Three months after the workshop 36 follow-up evaluation respondents indicated they had implemented at least one practice or procedure learned in the workshop. Twenty-one participants entered or updated information about their businesses, checked their page analytics and/or created more effective content in posts. Eighteen respondents tried making a new type of post, and 16 improved their profile and/or cover photo. Ten scheduled a post, nine created an event, eight created a new Facebook business page, and four boosted a post.

INDUSTRIAL HEMP WORKSHOP

Proposed by: Patricia Barrett

Presenter: Barrett, P., County Engagement Specialist Ag Business, University Of Missouri Extension, Tuscumbia, MO 65082

The purpose of this educational program was to help potential industrial hemp producers gain a clear understanding of the legal issues, economics, market issues, risk profile, crop cultivation, weed control, harvest and processing involved in hemp production. There are many uses for industrial hemp. Some of those include: fibrous stem products (paper products, molded plastics, textiles, construction materials, etc.); seed products (food products for human consumption, culinary oil, body care products, fuel, etc.) and floral/foliar products (CBD extracts). As Missouri producers look for sustainable farming solutions to improve farm income, the lure of a high value crop in the marketplace is attractive. The Missouri Department of Agriculture developed regulations allowing industrial hemp processing and commercial industrial hemp cultivation in the 2020 planting season. In the Industrial Hemp Workshop, four speakers covered aspects of Industrial Hemp. Missouri Department of Agriculture's hemp program leader discussed permitting, regulatory structure, fees, storage, transportation and sampling tests for allowable THC levels. University of Missouri (MU) Extension Ag Economics specialists covered planning budgets, processing options, contracts, risk management and markets. Attendees received guide sheets developed by MU Extension. The guide sheets included planning budgets for hemp fiber, hemp seed, and CBD oil production, market opportunities and value chains for the hemp industry. MU research farms grew hemp in 2019. Results of the test plots were presented, including seed cost, agronomy, pest control, harvest processes and yields. A Illinois hemp producer in 2019 shared information about the vertical integration of his hemp production, from seed sourcing, production of transplants, the actual transplanting process, labor to cultivate, water needs, harvesting and drying, and finally the production, processing and marketing of hemp oil (CBD) products. This producer shared information about crop insurance for hemp producers as a risk management tool. Attendees reported 75% likelihood to recommend this program to others. The topics and speakers drew them to the program. Not all attending the program intend to produce hemp this year in Missouri. They all came away with a knowledge increase of the various paths to success in hemp production.

LESSONS FROM THE NEW AMERICAN URBAN FARMER PROGRAM: STRATEGIES FOR REACHING AND ENGAGING REFUGEES AND IMMIGRANTS IN EXTENSION PROGRAMMING

Proposed by: John Porter

Presenter: Porter, J., Urban Agriculture Extension Educator, Nebraska Extension, Omaha, NE 68124

Nebraska is one of the top states for refugee resettlement in the US, many thanks to the involvement religious organizations. The growing population of immigrants in the Omaha metro area presents the opportunity of engaging new audiences in extension programs and the struggle of engaging individuals with a variety of different cultural norms and languages. The New American Urban Farmer Program, a partnership with Nebraska Extension and Refugee Women of Nebraska, engages refugees from a variety of countries in urban farm training and use of a collaborative growing space. The program focuses on production and marketing training through both training sessions and informal sharing. Over 30 individuals from 6 different countries have participated during the first two years of the program. Several hundreds of pounds of crops have been grown and shared among participants for personal use, and year three will see a focus on growing produce for market. According to participants, farming provides not only a possible income for participants, but also access to culturally relevant foods but also a sense of belonging and connection back to homeland customs. Needs for cultural competence, as well as strategies for engaging immigrants in shared planning, leadership, and implementation of programming will be discussed.

USING ON-FARM RESEARCH TO DOCUMENT ENERGY COSTS ON AN OHIO DAIRY

Proposed by: Chris Zoller

Presenters: Zoller, C., Associate Professor & Extension Educator Anr, Ohio State University Extension Tuscarawas County, New Philadelphia, OH 44663
Romich, Eric., Associate Professor & Field Specialist, Energy Education, Ohio State University Extension, Sandusky, OH 43351

Many dairy farms are on demand metering by their electricity provider and high demand charges can dramatically increase electricity prices for many commercial electrical consumers. According to USDA-ERS, energy accounts for one percent to six percent of total farm expenses. Research by Peterson (2008) showed milking and milk cooling accounts for almost 50% of the electricity costs on dairy farms. While demand charges are often significant, few consumers understand the costs, how they are calculated, and what impact their electrical usage has on their billing. The purpose of this Ohio State University Extension on-farm research project was to determine the electrical demand on dairy farms and identify energy management strategies and equipment farmers can implement to promote long-term sustainability for their farm. One dairy in our study averaged 78kW of electricity in a 12-month period and had a maximum demand of 105 kW. The total electric expenditures were roughly $39,000, with demand accounting for over 50% of the total cost. In addition, the dairy spent $21,000 on electricity generation cost, using over 311,000 kW of electricity. On this 300-cow dairy, the electricity cost alone equaled $130 per cow annually. In this study, on average, stir fans accounted for 42% of total demand, followed by the manure pump at 30%, and cooler compressor motors contributing 15% of total demand. Our preliminary findings indicate variable frequency fan drives and adjustments to thermostat settings could provide a reduction in peak demand savings. Additionally, load shifting of non-essential electric operations may provide significant savings. For example, every time the farm set its monthly peak demand, the manure pump was running while the stir fans were is use. We estimate running the manure pump at night when it gets cool enough for the stir fans to shit off could reduce the peak demand by an average of 23 kW, saving the farm over $1,800 annually in electric cost. This presentation will describe our study protocol, explain findings from our research, and discuss how Extension professionals can use the results in their own programming.

EXPANDING FARM MANAGEMENT PROGRAMMING THROUGH THE STATE FARM MANAGEMENT & AG-LAW IN-SERVICE

Proposed by: David L.Marrison

Presenters: Marrison, D. L., Associate Professor, The Ohio State University, Coshocton, OH 43812
Brown, B., Assistant Professor of Professional Practice-Agricultural Risk Management, The Ohio State University, Columbus, OH 43210
Hall, P., Associate Professor, Agricultural & Resource Law Director, OSU Agricultural & Resource Law Program, The Ohio State University, Marysville, OH 43040
Dianne Shoemaker, Field Specialist, Dairy Production Economics, The Ohio State University, Canfield, OH 44406
Ward, B., Director, OSU Income Tax Schools Leader, Production Business Management, The Ohio State University, Columbus, OH 43210
Bruynis, C., Associate Professor, The Ohio State University, Chillicothe, OH 45601

The Ohio State Farm Management & Ag Law In-service has been building professional capacity of Ohio State University Extension Educators since 2013. Two major cultural shifts happened creating the need for a state-wide farm management in-service. First, the number of state and regional farm management Extension specialists in Ohio declined drastically between 2008-2013. This left a large farm management education void, mitigated in part by county-based Extension Educators. The second shift was the hiring of a large number of Extension Educators over the past six years due to retirements. Over fifty-seven percent of the attendees this past year had less than 5 years of Extension experience. With so many new faces, a need also emerged for orientation and introductory training covering Educator responsibilities. In 2019, greater attention was placed on this form of professional development with great success. One of the new Educators commented "This has been one of the best events I have attended as an OSU Extension Professional." On average, 50 educators received training on topics such as grain marketing, tax management, farm succession, Farm Bill training, financial statements, record keeping, farmland leases, managing in times of financial stress, and farm legal issues. In addition, panel discussions from rural appraisers, producers and retired Educators provided broader application tips and depth to content understanding. This presentation will share the topics and formats covered, how funding has been secured to provide this in-service free to Educators, and how Educators use the material from the in-service to serve Ohio producers.

IMPROVING THE CUSTOMER EXPERIENCE AND INCREASE SALES AT FARMERS' MARKETS

Proposed by: Roberta M.Severson

Presenter: Severson, R. M., Cooperative Development Spec, Charles H. Dyson School of Applied Economics and Management, Ithaca, NY 14853

Schmit, T.M.[1], Severson, R.M.*[2], Sawaura, E.[3]
Associate Professor,* 2Extension Associate, 3Research Assistant, Cornell University, Ithaca, NY, 14853

Farmers' markets (FMs) could be considered the original flag bearers of the local foods movement. They represent one avenue in addressing customer demand for "locally grown" and provide a means for farmers to capture 100% of the customer dollar. FMs may also increase customer loyalty and create non-economic benefits and ties between farmers, consumers, and communities. Research conducted by the USDA documents an explosion in the number of FMs and sales via these outlets over the past 15 years. Late in the last decade, USDA research found a flattening trend in the development of new markets, decline in farmer participation and lower customer sales. Anecdotally FM managers and farmers attested to a marked decline in customer participation and sales; creating uncertainty regarding the viability of FMs themselves and as a sales venue to sustain farming operations in the long term. Project partners were interested in learning about how to retain the current and active customer base at FMs, how to entice persons whose shopping frequency had declined to return more frequently, and how to encourage consumers who do not shop at FMs to participate. An online Qualtrics survey was developed and completed by 3,800 persons located throughout the US. Average scores (Likert scale) were calculated and frequencies were counted to determine rank and magnitude of various barriers. Means difference tests analyzed statistical significance defined as a p value less than 0.05. The results of the research were used to develop marketing strategies to overcome customer barriers and further refined based on demographic characteristics. The research findings are shared through conferences and publications by project partners: the Farmers Market Federation of NY, Cornell University Cooperative Extension, Maryland Farmers Market Association, Community Involved in Sustaining Agriculture, Maryland Rural Enterprise Development Center, and the Northeast Organic Farming Association. The research serves as a foundation for the development of an extension bulletin, a toolkit and webinar series available for FM managers, producers, and vendors to improve the customer experience when shopping at a farmers market.

ANNIE'S PROJECT: FARMING IN NEW JERSEY'S CITIES AND THE URBAN FRINGE

Proposed by: Madeline Flahive Dinardo

Presenters: Flahive Dinardo, M., County Agent, Rutgers Cooperative Extension of Union County, Westfield, NJ 07090
Brumfield, R., Extension Specialist in Farm Management, Rutgers Cooperative Extension, New Brunswick , NJ 08901
Polanin,N., County Agent, Rutgers Cooperative Extension of Somerset County, Bridgewater, NJ 08807
VanVranken, R., County Agent, Rutgers Cooperative Extension of Atlantic County, Mays Landing, NJ 08330
Zientek, J., Program Cooridinator, Rutgers Cooperative Extension of Essex County, Roseland, NJ 07068
Rowe, A., County Agent, Rutgers Cooperative Extension of Essex County, Roseland, NJ 07068
Greenwood, D., Project Coordinator, Rutgers Cooperative Extension, New Brunswick, NJ 08901

Farming in densely populated areas brings opportunities and challenges to agricultural entrepreneurs. The objective of this Annie's Project program was to provide new and potential female producers, beginning farmers and military veterans with an overview of production and business management skills that farmers in urban areas need to utilize for success. The program, funded by USDA Northeast Risk Management Education, was offered as three hour evening sessions for six weeks. Each session focused on one or more of the five primary areas of risk: marketing, production, financial, legal, and human. The first class was devoted to a keynote speaker on Marketing. At the beginning of the remaining sessions, facilitators lead group discussions about the weekly homework assignment – working on a section of a business plan. The remaining sessions featured an average of six speakers giving 20 minute presentations on their area of expertise. Topics ranged from: metal contamination in urban soils; right-to – farm issues; to improving food access for WIC and SNAP recipients. Twenty-three entrepreneurs participated in the program which was recorded live at Rutgers University and simultaneously broadcasted to audiences in southern Atlantic County and northern Essex County. To evaluate the program, participants completed a survey at the end of the course. For each primary area of risk, a list of concepts covered in the course was listed. Participants were asked to indicate their level of understanding/knowledge of the topic both before and after completing the course based on a Likert Scale, 1=no understanding, 2=very little, 3= moderate, basic understanding with more to learn, 4=advance, working knowledge, 5= complete understanding. In the area of marketing, participants rated their before knowledge of government programs such as "Farm to School" and WIC/SNAP as a potential market" as 1.95 and after 3.60. A financial risk management question

was "Secure a business loan" with a before score of 2.23 and after 3.67. A production risk question about "assessing for metal contamination" was rated 2.47 before and 3.63 after the program. A legal risk question, "Understand lease agreements" rated 2.70 before and 3.65 after the course. For human risk management, participants gave a before rating of 3.17 to "manage personal finances" and 4.10 after rating. Future topic requests were livestock and hydroponic production.

ECONOMIC IMPACT OF UT GARDEN & EXTENSION MASTER GARDENER PLANT SALES

Proposed by: Celeste Scott

Presenters: Scott, C., Extension Agent, University of Tennessee, Jackson, TN 38305
Upchurch, W.G., Extension Agent, University of Tennessee, Crossville, TN 38557

With interest in horticulture on the rise, making a connection between UT Garden/EMG Plant Sales and their impact on consumer decisions is essential to correlating economic impact. The first step was to develop simple survey that could be given on site at plant sale events. Each garden location had access to tablets, mobile devices, internet, and volunteers who administered the survey. The 12 question survey was developed collaboratively by agents from across the state, and 516 responses were recorded. The questions broadly addressed three areas: what we learned from the consumer, what the consumer learned from us, and economic impact. Survey results helped us to develop more centralized marketing efforts shedding light on who our customers are, how they found us, and why they come to the plant sales. 31% were new customers, 41% found plant sale information on social media, and the primary reason for attending was the draw of unique plants for 46% of shoppers. Stakeholder/Donor development opportunities were also highlighted by the response that 68% were not UT Garden Members. This audience is routinely using the Gardens and their services but not regularly supporting. Education plays a major role in our plant sales, from social media plant spotlights, to classes and demonstrations given during sales. Of those surveyed, 83% enhanced their knowledge of plant material by simply attending, and 66% gained knowledge that influenced their purchase that day. Finally, 72% indicated that they use the Gardens as a source of information for making plant and garden related purchases. This information, coupled with consumers' desire for unique plant options, shows that our Gardens have the ability to set trends and create demand for specific products. The potential economic impact from this evaluation is vast. Participants reported spending an annual average of $330 on plants and related purchases. This trend aligns closely with national averages and presents a strong case in the establishment of a statewide economic impact in relation to the Gardens, Extension programming, and the positive impact for local growers and retailers if utilizing the information.

Ag Issues & Public Relations

INDUSTRIAL HEMP ECONOMICS, WILL IT BE A SUSTAINABLE ALTERNATIVE CROP?

Proposed by: Xiurui 'Iris' Cui

Presenter: Cui, X., Extension Area Specialist, University of Tennessee, Clarksville, TN 37040

Issue & Goal:

Since the approval of 2018 Farm Bill, hemp has become an alternative crop to many including TN tobacco producers. However, there has been very limited research available for the growers and extension educators. Because of the low commodity price of the traditional crops and the continuous downsizing of the tobacco industry, growers hope an alternative crop such as hemp will work. However, the market has been flooded with more than 100,000 acres of hemp grown in 2019 and the future of hemp is still uncertain. Price of hemp has been declining from a thousand dollars per pound to less than ten dollars. Less than 10% TN producers had sold their crop in 2019. It is important to warn growers of the risk involved with hemp production. And it's also important have a necessary discussion among the extension educators about whether hemp will become a sustainable alternative crop.

Methodology

Published the 2019 Industrial Hemp Extract (CBD) Production Budget (1 acre) in PDF and Excel. Conducted 17 hemp farm visits, and 15 one-on-one consultations related to hemp business planning and budgeting. Presented Hemp economics at 6 hemp meetings state wide in collaborations with local county agents, Tennessee State University Extension, Southern Extension Economics Committee and USDA Farmer Service Agency. These programs include hemp production workshops, hemp field days, and regional hemp conferences.

Results

The budget has been downloaded 711 unique times in 2019. 422 producers participated the hemp meetings I presented at.

Impact Statement

More than 58 hemp growers or processors have reached out in regards to the 2019 hemp budget, who are from Tennessee, Florida, North Carolina, Missouri, Vermont and Zimbabwe. The meetings have reached a diverse audience. Of these meetings I presented at, the National Women in Agriculture

Conference had a participation of 140 women farmers with 46% black women farmers. 10% of the participants responded to the follow-up surveys at the end of each meeting; 39 increased their knowledge in hemp business planning, with 27 indicating the information increased their profitability by a total amount of $60,000.

4-H FOOD CHALLENGE MEETS LOCAL FOODIES

Proposed by: Sarah Sharpe

Presenter: Sharpe, S., Extension Agent, Virginia Cooperative Extension, Stanardsville, VA 22973

Greene County is just on the outskirts of one of the local food "hubs" in Central Virginia. As an Ag Agent with a focus on local foods and commercial horticulture, I, along with the 4-H Agent in the county, saw a need to continue to expose Greene County residents to the "local foods movement" in the area. USDA Ag Census data shows that the number of farms is decreasing in the county; however, there are more small homestead type farmers that are beginning businesses with the goal of selling locally directly to consumers. We also are on the outskirts of a moderately urban area that does not understand where their food may come from or the production systems used.

Since 2016, we have held an annual "Local Food Challenge," using the rules of the 4-H Food Challenge contest in a contest for families, friends, and more. In 2019, we were able to make this event even more unique by holding the contest at the newly established Greene Farmers Market. Participants were able to purchase seasonal produce and food items directly from the vendors to make a dish for competition. We also increased visibility for the farmers market and the market vendors.

The event has had over 40 participants in the 4 years and has been incredibly well received. We have had teams of all youth, all adults, families with both youth and adults, friends, and more! The challenge was advertised using social media, local fliers, mailings, e-mails, and more. Contestants go home with local food as prizes as well as up to $100 in prizes from local businesses. Every year, contestants have indicated that they have increased their knowledge of local food. The event has allowed for a very unique partnership between the Agriculture, 4-H, and Family and Consumer Sciences programming efforts for the county.

WASHINGTON STATE UNIVERSITY: ADDRESSING TOTAL FARMER HEALTH

Proposed by: Don W Mcmoran

Presenter: Mcmoran, D. W., Agriculture And Natural Resources Extension Faculty-Director, Washington State University, Burlington, WA 98233

Agriculture is known to be both a difficult and dangerous occupation. Washington State University (WSU) Skagit County Extension seeks to address various dimensions of Total Farmer Health®, including physical, mental, emotional, and social, through three programs. Funded by USDA NIFA under the National AgrAbility Project, the Washington State AgrAbility Project (WSAP) supports farmers and farmworkers with injuries and ailments in adopting tools, techniques, and equipment to return to work safely and enhance overall quality of life. WSAP provides worksite assessments for injured farmers and farmworkers, builds assistive technology Lending Library Kits for distribution throughout the state, offers low-interest loans and financial training through partner Northwest Access Fund, and will establish a web-based Pathway to Services network. Additionally, WSU Skagit County Extension is the lead agency in the Western Regional Agricultural Stress Assistance Program (WRASAP) with partners Oregon State University Extension and Volunteers of America of Western Washington. WRASAP is establishing a region-specific clearinghouse of resources available to farmers and farmworkers which address various stressors in agriculture. The program will also offer suicide prevention trainings and seek to support agriculture-specific suicide prevention crisis lines. Furthermore, the WSU Agricultural Suicide Prevention Pilot Program funded by the WA State Department of Health under House Bill 2671 provides education on the farmer health crisis, suicide risk factors and warning signs, and evidence-based suicide prevention approaches. In its pilot year the program created and distributed model marketing materials and leveraged Extension platforms to provide suicide prevention training and messaging through presentations, agricultural events, and Extension programs. A priority of the three programs is to ensure resources are accessible to all farmers, including Spanish-speaking farmers and farmworkers. IMPACT: Combined, these programs reached over 60,000 people in less than one year through presence at agricultural events across the state. Additionally, television, radio, and newspaper coverage has reached over a million people across the state.

ADDRESSING CONTROVERSIAL ISSUES WITH SCIENCE AND HUMOR

Proposed by: Jennifer Bearden

Presenter: Bearden, J., Agriculture Agent, UF/IFAS, Crestview, FL 32539

There are several controversial issues affecting farmers today. Public perceptions of genetically modified organisms and pesticides are generally negative. In 2017, a local need was identified to address these negative perceptions with public speaking opportunities at community club meetings in the county. To date, the agent has given seven presentations in the county on controversial topics such as "GMO-Fact or Fiction" and "Glyphosate Myths". The agent uses science and humor to communicate facts on these topics. The change in attitudes of participants has been measured through post-reflective surveys. Ten percent of the audiences admitted to having a negative perception of these topics prior to the talks with 90% of that ten percent having a positive perception after the presentations. This presentation will give insight into communicating science in a humorous and fun manner to change public perceptions of controversial issues.

WHOSE FARM IS IT - A PICTORAL TRIBUTE TO OUR LOCAL ICONIC FARMSTEADS AND THEIR FAMILY STORY

Proposed by: Wm Bruce Clevenger

Presenter: Clevenger, W. B., Associate Professor And Extension Educator, Ohio State University Extension, Defiance, OH 43512

The image of the agricultural industry, at times, is marred by isolated issues and behaviors that can negatively impact the reputation of all farmers and ranchers. It is human nature for the public to remember the negative as the only image of agriculture unless accurate and local information is consistently available. Agriculture is highly visible across the rural landscape because of the farmsteads that have stood for generations, but the local story is often not told. The purpose of this educational program was to give an annual, community tribute of local farmsteads that are iconic and visible identifiers of an agrarian society. The tribute pictorially introduces the general public to local farmers and provides agricultural education and awareness. I accomplished this task by working in my home county with local farm families that were nominated and willing to have their farmstead photographed and complete a background information survey. Twelve farmsteads were entered into the annual tribute: one farmstead for each county township per year. In order to achieve the overall goal of the tribute, the farmstead photographs and a summary of the family background were published on twelve educational panels for display. The background summary included: family members and generations involved on the farm, favorite equipment brand, commodities sold, memorable events, and most proud accomplishments. Twelve educational panels were displayed gallery style each year at multiple locations around the county: county fair, local shopping mall, community agriculture appreciation and agriculture hall of fame breakfast. Over three years, 36 farms entered the tribute representing first to fifth generation farms, 45 to 2,300-acre farms, and grain to dairy to equine production. The tribute has reached an estimated audience of 12,000 people in three years. The tribute was additionally presented on social media: Facebook and the county Extension website. The farm tribute participants indicated the experience stimulated generational conversations, family pride, and pleasure in providing public education about agriculture. Public education was measured by the adults and youth engaging with the tribute gallery display and provided a valuable indication on the success of this program in the community.

FARMERS, RANCHERS, UF/IFAS EXTENSION AGENTS AND FGCU NURSES PARTNER FOR A SAFER TOMORROW

Proposed by: Lindsey Wiggins

Presenter: Wiggins, L., Extension Agent Ii, Ms, Hendry County Extension Service, Labelle, FL 33975

Agriculture in Southwest Florida takes place on a desolate landscape, far from most amenities; including medical care. Should there be a medical emergency on a farm/ranch, the patient would be transported to a facility on the coast. Along with medical emergencies there are also progressive diseases that plague farmers, ranchers, and their employees; such as melanoma and mouth cancer from prolonged tobacco use. Furthermore, the cultural behavior of agriculturalists putting off and/or avoiding medical attention for many conditions is alarming. The FGCU faculty recognize that their graduates will treat numerous agriculture related injuries throughout their career in Southwest Florida and sought a means to prepare and familiarize them with area. UF Agriculture Extension Agents and the Florida Gulf Coast University Nurse faculty collaborate to provide graduating nurse classes with a quality, on farm/ranch experience – every semester. Extension Agents coordinate and teach the nursing students during an intimate tour; incorporating citrus, cattle, bee keeping, horticulture, and sugarcane. The nurses visit with management and employees to learn the types of injuries experienced on each operation; including, heat exhaustion, bucked off a horse, ran over by large equipment, attacked by a swarm of bees, chemical exposure, etc. The nurses and

FGCU faculty communicate with the agriculturalists about the importance of immediate medical attention VS self-treating or waiting too long for treatment and also about impacts of tobacco use. Objectives: 1.) Educate and familiarize nurses about potential injuries they may treat. 2.) Educate agriculturalists to be diligent in receiving medical attention. 3.) Bring agriculture awareness to the city-dwelling nurse students and faculty. Impacts: In 2019 & 2020, thirty students and faculty toured a variety of agriculture operations with 100% of them learning something new about agriculture and sharing their experience and new knowledge with others. FGCU faculty have made these tours part of their syllabus and arranged for the tours to take place, indefinitely.

SUMTER LIFE: CONNECTING WELLNESS DOMAINS TO MULTIPLE EXTENSION PROGRAM AREAS

Proposed by: Norma Samuel

Presenter: Samuel, N., Urban Horticulture Agent, UF/IFAS Extension, The Villages, FL 32162

Samuel, N.*[1], Duncan, L. *[2], Sanderson, L. *[3], Taylor, K. *[4], Bennett, L. *[5], & Scharf, B. *[6]
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Extension programs are often offered in silos, making program crossover of clientele rare. The Sumter Life: Healthy Lifestyles Project was designed and piloted by six University of Florida Institute of Food and Agriculture Sciences (UF-IFAS) Extension faculty members from five program areas. The goal of this pilot program was to introduce participants to five wellness domains (social, mind, physical, financial, and environmental) with food/agriculture being the cohesive element to achieve outcomes and impacts associated with each domain. The program was offered in fall 2019 in four two-hour sessions over four weeks. Participants were introduced to: edible landscaping and gardening as physical activity; how to identify and access locally grown food; myths surrounding food; how beef is produced and inspected to ensure safety; mislabeling of foods; easy meal planning; work life family balance; and a field trip to the local farmer's market. A total of ten persons participated in the pilot. Sixty-seven percent were familiar with Extension and had only participated in Master Gardener or FCS Program activities. The other 33 % were Extension newcomers. Each week participants indicated goals they intended to adopt based on the concepts taught. A retrospective pre/post-test was administered. Post session evaluations on the wellness domains will follow at six and 12 months. Overall knowledge gain ranged from 35% for Stress Less and Meal Planning session to 165% for Savvy Consumer and Mislabeling of Foods session. The team concluded that Extension has enormous work do in educating residents on how their food is produced and that there is need for agents to get out of their comfort zones to make components of their programs relevant to non-traditional clientele.

LEARNING BY EXPERIENCE: THE SOUTH DAKOTA SOIL HEALTH SCHOOL

Proposed by: Sara Bauder

Presenter: Bauder, S., Sdsu Extension Agronomy Field Specialist, Sdsu Extension, Tyndall, SD 57066

The South Dakota Soil Health Coalition (SDSHC) was founded in 2015 when seven board members collaborated with SDSU Extension, the USDA-Natural Resources Conservation Service (NRCS), and several local and state NGO groups to address growing concerns of poor soil management in South Dakota. The mission of the SDSHC is to "Promote Improved Soil Health". According to the USDA-NRCS 2019 Cropping Systems Inventory, 50% of South Dakota cropping systems acres utilized no-till practices in 2019. Although this is great progress, there is still room for improvement to encourage and enable healthy soil management. The SDSHC continues to grow and add new programming to carry out its mission. The Coalition currently has over 540 members, and hosted or participated in more than 75 events reaching over 10,000 contacts in 2019 alone. One of its most successful programs to-date is the annual Soil Health School, a three-day interactive learning experience for agriculture producers and business people with an interest in soil health. Each year the SDSHC selects ~40 applicants to take part in the school, which focuses on South Dakota's five principles of soil health: keep soils covered, limit disturbance, use plant diversity, keep a living root in the soil, and livestock/cropping system integration. A combination of field and classroom experiences keep participants engaged for the extent of the program. Learning units include a group grazing/fencing allocation activity, soil pit demonstrations, erosion and soil infiltration demonstrations, a planter setting workshop, and more. Of the 2019 surveyed participants, 95% reported that they will make changes to their operation as a result of what they learned at the Soil Health School; listed changes included: cover crop selection, monitoring annual soil

test results, transitioning to no-till, and livestock integration. The Soil Health School is the first of its kind in the Midwest. As it evolves, the SDSHC envisions an increasing number of producers adding or continuing to improve soil conservation practices on their operations, creating a better South Dakota. As a partner to the SDSHC, I assist on the event planning committee and serve as the moderator each year for the Soil Health School.

HOW TO ENGAGE FARMERS ON EMERGING AG ISSUES AT LARGE AG SHOWS

Proposed by: David L.Marrison

Presenters: Marrison, D. L., Associate Professor, The Ohio State University, Coshocton, OH 43812
Bruynis, C., Associate Professor, The Ohio State University, Chillicothe, OH 4560
Workman, Jeff, Extension Program Coordinator Ohio State University Extension Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, OH 43210

Extension Educators are always searching for creative ways to teach farm managers about emerging issues. Typically, management education is provided through traditional workshops, but there are other creative ways to provide. One such way which OSU Extension and the College of Veterinary Medicine have found is through the "Ask the Expert" area at Ohio State's Farm Science Review. The review, held each September, is known as Ohio's premier agricultural event. It attracts nearly 115,000 farmers and agribusiness personnel where they can visit over 600 commercial exhibitors, view field demonstrations, and educational presentations. Each day the "Ask the Expert" area highlights 15 experts being interviewed in 20 minutes increments about the hottest risk management challenges facing farmers. Average attendance during the past four years has been 1,220 persons annually. Some of the topics included: farm bill decision making, farm stress, farm legal issues, hemp legislation, farm trade and policy, farm taxes, crop budgeting, farm succession, genetically modified crops, grain marketing, and antibiotic use in livestock. Each speaker is available to meet with the public to answer specific questions and educational materials relating to the topics are provided. The response to these sessions has been tremendous. A farmer from Indiana commented the information he learned about the new Qualified Business Income was worth the drive over and price of admission. The media also uses these sessions to publish featured articles. A Farm World reporter quipped in 2017 the "Ask the Expert" sessions are the best thing at the Farm Science Review.

Agronomy & Pest Management

EVALUATING BRUNSWICKGRASS RESPONSE TO TIMED HEXAZINONE APPLICATIONS IN BAHIAGRASS PASTURES

Proposed by: Clay Cooper

Presenters: Cooper, C., Agriculture And Natural Resource Agent, UF/IFAS Extension Citrus County, Lecanto, FL 34461
Sellers, B., Professor and Interim Center 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, Sumter and Pasco counties in 2018 to address Brunswickgrass response to the application of hexazinone at 0.14, 0.28, 0.56, 0.84, and 112 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 an application of 0.56 kg ha-1 e 80% Brunswickgrass control was achieved. When the rate was increased to at least 0.84 kg ha-1 control increased to at least 94%. During the timing study, percent control increased as application timing was delayed. In May 64% control was achieved across all treatment rates and locations, while percent control increased to 95% in September.

WATCHING THE GRASS GROW IN EASTERN IDAHO

Proposed by: Joseph Sagers

Presenter: Sagers, J., Extension Educator, University Of Idaho, Rigby, ID 83442

Approximately 25% of hay production in Idaho is non-alfalfa grass hay, yet many producers are still don't fully understand the basics of growing grass hay in Idaho. Field plots were established to provide growers with data needed to grow grass

in their local setting. 5 different Species were planted in the spring of 2017; orchard grass, intermediate wheatgrass, tall wheatgrass, perennial ryegrass, meadow brome, and tall fescue. Data were collected from field plots grown in Tetonia, Idaho in 2017 and 2018. Plots were harvested twice, and were measured for yield. Quality was determined using an Near Infrared (NIR) spectrometer to determine dry matter, crude protein, acid detergent fiber (ADF), neutral detergent fiber (aNDF), Calcium, Phosphorus, Potassium, Magnesium, in vitro dry matter digestability (IVTDMD30), ash, fat, lignin, digestable NDF (NDFD48), relative feed value (RFV), total digestible nutrients (TDN), and relative forage quality (RFQ). Results show a general trend of average yields increasing as ADF, aNDF and ash increase while protien and RFQ decrease.

HOW DOES NITROGEN RATE AND TIMING AFFECT CORN YIELD?

Proposed by: Stewart Runsick

Presenter: Runsick, S., County Extension Agent - Staff Chair, University Of Arkansas Cooperative Extension Service, Corning, AR 72422

Urea is a widely used Nitrogen source in Arkansas due to its ease of application and availability. Getting the correct amount of nitrogen applied timely is difficult some years when wet weather delays sidedress applications. Urea also has a high risk of nitrogen loss to the environment due to high rainfall, irrigation, or adverse environmental conditions. Corn producers in Clay County Arkansas are cutting back on preplant nitrogen in corn and making multiple applications throughout the season due to research and education provided by the cooperative extension service. In past years producers were using up to 90 units of nitrogen preplant. Recent research has proven that corn, especially following soybeans only requires 40 units or less nitrogen preplant as plant nitrogen uptake is minimal during the few weeks of growth. The Clay County Extension Service utilized on farm demonstrations, educational meetings, and field days to educate producers on nitrogen best management practices in corn and other crops. The Corn Research Verification Program (CRVP) is one of the demonstrations utilized. The CRVP Program is an interdisciplinary effort between growers, county Extension agents, Extension specialists, and researchers. The CRVP is an on-farm demonstration of all the research-based recommendations required to grow corn profitably in Arkansas. In 2018 and 2019 Tyler and Tanner Huckaby were Clay county corn producers who participated in the program. They followed extension recommendations using 220 units on nitrogen per acre split into three applications 40 units preplant, 135 units sidedress and 45 units pretassel. Yield was excellent both years with 217.5 and 232.2 bu/acre with high nitrogen use efficiency. Research conducted by Dr. Trent Roberts in 2019 indicated that the highest yield in four research locations resulted from a 30-145-45 split of preplant, sidedress, and pretassel. Additional treatments of varying amounts preplant, sidedress and pretassel will be discussed. Results were shared during production meetings, in newsletters, in a demonstration book, and online. Total growers educated 150 representing 35,000 acres of corn.

INVESTIGATING CLIENTELE QUESTIONS THROUGH ON-FARM RESEARCH

Proposed by: Chris Zoller

Presenter: Zoller, C., Associate Professor & Extension Educator ANR, Ohio State University Extension Tuscarawas County, New Philadelphia, OH 44663

As a Land Grant, Ohio State University has a 150-year history of conducting small plot research. This concept has been applied in Tuscarawas County with field-scale research. Projects conducted have included: variable rate soybean seeding, variable rate corn seeding, and narrow row and variable seeding rates of corn. The purpose of the seeding rate trials was to evaluate which rate maximizes profitability. The studies included at least four treatments and four replications in a randomized complete block design. The following study information was collected: seed variety, field size, treatment width, tillage, chemicals, row spacing, soil type, precipitation, and Growing Degree Days. Average plant emergence, plant moisture at harvest, and yield per acre were collected for each trial. The net return over seed cost per acre was calculated for each seeding rate. Each trial included statistical analysis to determine Least Significant Difference and coefficient of variation. Three years of variable rate soybean seeding revealed rates between 80,000 and 125,000 seeds per acre maximized yield and net return over seed costs. If Tuscarawas County soybean growers reduced their seeding rate from 160,000 seeds per acre to 120,000 seeds per acre, assuming no yield loss, this would result in a savings of $246,528. Corn seeding rates between 22,000 seeds per acre and 38,000 seeds per acre have been evaluated three consecutive years. Results indicated that rates between 32,000 seeds per acre and 34,000 seeds per acre provided the highest yield and return over seed cost. The narrow row and variable rate seeding of corn examined 15-inch rows (16,200 seeds per acre and 18,128 seeds per acre) and 30-inch rows (32,400 seeds per acre and 36,256 seeds per acre). The highest yielding rate was the 15-inch rows at 18,128 seeds per acre. Cooperating farmers and other farmers have used the results of this research to make management changes. Research results have been shared locally and statewide and distributed in the annual Ohio State University eFields Report in online (https://digitalag.osu.edu/efields/efields-reports) and print versions.

DEVELOPING PRACTICAL PHOSPHORUS AND POTASSIUM TISSUE TEST RECOMMENDATIONS AND UTILIZING STRUVITE IN MODERN ALFALFA SYSTEMS

Proposed by: Dr.Steve Norberg

Presenters: Norberg, S., Regional Forage Specialist, Washington State University, Pasco, WA 99301
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Tissues testing whole alfalfa plants at harvest can more accurately direct nutrient decisions. Developing critical nutrient levels in-season improves recommendations and applications, saving producers time, expense and effort since many growers take samples for hay quality. These three experiments were designed as follows: 1) Phosphorus Rate study with differing rates of P2O5 using monoammonium phosphate (MAP); including: 0, 30, 60, 120, 240 lbs P2O5/acre on an 6.7 ppm P soil (Olsen P method); 2) Potassium Rate study with differing rates of K2O using potassium sulfate: 0, 40, 80, 160, 240, 320 lbs K2O/acre; 3) Struvite study (magnesium ammonium phosphate, $MgNH4PO4 \cdot 6 H2O$) application at 144 lbs. of P2O5 /acre in differing ratios of MAP:Struvite in alfalfa including: 100:0, 75:25, 50:50, 37.5:62.5, 25:75, 12.5: 87.5, 0:100 and an unfertilized check. The following is second year results. The Phosphorus Rate study showed that 150 and 160 lbs P2O5/acre maximized gross revenue after fertilizer costs for $150 and $200/ton alfalfa, respectively. When the hay price is $150/ton the optimum P alfalfa tissue content was 0.34, 0.40, 0.36, 0.34, and 0.32 percent for first through fifth cut, respectively, and at $200/ton was 0.35, 0.41, 0.37, 0.34, and 0.32 for first through fifth cut, respectively. Cutting interacted with Potassium rate, where the 80 lbs/acre rate ranged from 1.6 to 2.3% K from the first to second cuts, respectively. Due to variation, >2.4% K at second cutting is recommended. Replacing or supplementing MAP with struvite had no effect on first cut or second year yield, but had a quadratic influence on phosphorus content. The Struvite study showed that even under very low phosphorus situations, MAP could be replaced with struvite on a P2O5 basis. Collectively, these studies provide second year alfalfa recommendations for phosphorus and potassium.

QUANTIFYING THE POTENTIAL INCREASE IN ALFALFA VALUE AND IDENTIFYING MOLECULAR MARKERS THAT INFLUENCE QUALITY

Proposed by: Dr.Steve Norberg

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Dairy producers purchase feed to meet protein, energy, and fiber requirements for their cows and alfalfa is a viable feed to contribute to their nutrient needs. NIFA funded research calculated nutrient values using information from Northwest United States from November 2017 to August 2019 to determine dollar value Mg-1 of first cut alfalfa produced 2018 at Prosser, WA, Union, OR, and Kimberly, ID on 200 diverse alfalfa selections ranging in fall dormancy from 2 to 6. Optimum forage quality constituents found in the trial were placed one at a time into calculations which showed genetic manipulations that decreased neutral detergent fiber had the greatest potential to increase dollar Ton-1 of hay followed sequentially in order of importance by: increasing metabolizable protein, decreasing ash content, decreasing lignin, increasing fat, decreasing acid detergent insoluble crude protein, and increasing neutral detergent crude protein. Data for quality traits was analyzed using best linear unbiased prediction (BLUP). They were used for marker-trait association analysis. Significant genetic regions have been found for fiber quality from preliminary results including Total Tract Neutral Detergent Fiber Digestibility (TTNDFD). The most significant markers associated with fiber were identified on chromosomes 2, 4 and 8. For loci with fiber digestion, most significant loci were detected on chromosome 8 for almost all the traits analyzed, suggesting a common genetic mechanism among them. However, different genetic loci were identified among them, indicating their genetic specificities.

INVIGORATING IPM WITH PHEROMONE MATING DISRUPTION OF SAN JOSE SCALE, A PEST OF MICHIGAN TREE FRUIT

Proposed by: Emily Pochubay

Presenter: Pochubay, Emily, Tree Fruit IPM Extension Educator, Michigan State University, Traverse City, MI 49684

San José scale (SJS) was brought into California from China in the early 1870s and quickly became a serious pest of apples, peaches and plums in nearly all U.S. production regions. The impact of SJS declined substantially with the introduction of modern insecticides into control programs in the 1950s. Changes in insecticide-centric programs over the last seven decades have resulted in SJS resurgences in Michigan tree fruits, particularly sweet cherries, apples, and peaches. In recent years, this pest has caused substantial tree health decline, death, and loss of production in these fruit crops, and economic losses in apples as SJS feeding damage can make fresh apples unmarketable. Our study explored pheromone mating disruption as an alternative to insecticides for SJS control that could improve management efficacy. Our first year of data in sweet cherries demonstrated that mating disruption was effective and reduced populations by 500-fold in orchard blocks treated with disruption tools. Preliminary mating disruption results in apples were less discernible for 2019, and evidence from a dose-dependence study suggested that SJS pest populations in experimental apple blocks were too high for mating disruption to be effective. This study will be repeated and expanded on during the 2020 season.

CONTROLLING VOLUNTEER PEANUTS IN CONSERVATION TILLAGE SYSTEMS

Proposed by: James D.Jones

Presenters: Jones, J., County Extension Coordinator, Auburn University, Abbeville, AL 36310
Kelton, J., Regional Extension Agent, Auburn University, Headland, AL 36345

The purpose of this Field Demonstration was to determine effective control options for volunteer peanuts in conservation tillage programs using burndown herbicides following abandonment of the previous years' peanut crop. Burndown programs can be variable in their control of volunteer peanuts in the following cropping season and especially difficult where the peanuts were never dug the previous year. Disking controls some volunteer peanuts prior to strip tilling or minimum tillage; however an effective herbicide program is needed prior to planting. In Alabama, Cotton is the preferred rotational crop following peanut. Following Hurricane Michael's race through Florida, Georgia and parts of South Alabama, many peanut fields were left too wet to harvest for up to six weeks. These conditions left peanuts in the ground past frost and unharvestable. A demonstration plot was established in one of the abandoned plots at one of our demonstration farms in the Wiregrass Region of Alabama to determine if present herbicide programs were sufficient to control abandoned volunteer peanuts prior to strip tillage and planting the next spring. Applications of traditional herbicide programs were applied to four row volunteer peanut plots and hard to control weed species in each plot. The results showed after multiple volunteer peanut and weed ratings that one application of traditional combinations of glyphosate, paraquat, flumioxazin and glufonsinate-sodium were deemed to provide insufficient control of volunteer peanuts and that a second application was necessary prior to planting cotton. High rates of glyphosate were needed to provide excellent control and a second application in most cases. These results were documented and shared with growers in Extension meetings across the Wiregrass. It was expressed that it is important to destroy the previous years' abandoned crop of peanuts early in the Fall and before the following years' burndown programs.

IMPACTS OF DRAINAGE WATER MANAGEMENT ON THE EASTERN SHORE OF MARYLAND

Proposed by: James W. Lewis, Jr.

Presenters: Lewis, J, Ag Agent, University Of Maryland, Denton, MD 21629
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Drainage water management has been a best management practice (BMP) in Maryland for over 10 years. Water control structures have been installed on many farms to slow the discharge of nutrient laden water, allowing bacteria to transform nitrogen to N2 gas. Many studies have demonstrated the nitrate reductions, but there is limited research on N2O (greenhouse gas) emissions. This study was designed to ensure the BMP's effectiveness at reducing nitrate export without

unintended consequences of increasing N2O emissions. Water (nitrogen and phosphorus) and Air samples were taken throughout 3 growing seasons (Corn, fall/winter Radish cover crop, Soybeans, fall/winter Radish cover crop, Corn) from fields with and without drainage water management. In the treatment areas, the water was "backed up" or kept in the field during the winter after harvest and summer after crop establishment. Total dissolved nitrogen in water leaving the field was significantly lower in the water management area with a very little increase in greenhouse gas emissions. As other studies have shown, raising the water level in the soil profile to create anaerobic conditions, has the negative impact of increasing disolved phosphorus in the water solution that can leave the field. These results have not only led to the continued use of the BMP, but also spurred future research interest on strategies to reduce phosphorus losses with drainage water management . This research has been shared with farmers/ landowners using BMPs and organizations funding them.

CORN AND SOYBEANS PLANTED INTO WINTER-HARDY VS WINTER TERMINATED COVER CROP

Proposed by: Gary W Lesoing

Presenters: Lesoing, G. W., Extension Educator, University Of Nebraska-Lincoln Extension, Auburn, NE 68305
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The Nebraska On-farm Research Network and USDA NRCS have developed a partnership to conduct Cover Crop/Soil Health Research across Nebraska. There are currently 17 of these projects across Nebraska. One of these projects was initiated on-farm in southeast Nebraska where the effect of a winter-hardy cover crop or a winter-terminated cover crop on corn and soybeans yields was evaluated. A three-year corn-soybean-wheat crop rotation is being utilized, with a cover crop planted following winter wheat or corn. A winter-hardy cover crop mix of cereal rye, purple top turnips and rapeseed or a winter-terminated mix of oats, purple top turnips and rapeseed were planted. Cattle were grazed on the cover crops if soil conditions were favorable. Cover crop above ground biomass was measured in the fall and spring whenever possible. In 2018 above ground biomass was measured for the cover crops planted following wheat in the fall following a killing frost. The winter-hardy cover crop mix yielded 1820 lbs/ac compared to 2920 lbs/ac for the winter-terminated cover crop mix. The above ground biomass for the winter-hardy cover crop mix was measured in the spring of 2019 prior to chemical termination. The cereal rye cover crop biomass only yielded 740 lbs/ac for the April spring measurement. In 2017 corn following the winter-hardy cover crop mix yielded significantly less than corn following the winter- terminated cover crop mix (168 vs 183 bu/ac). In 2018 and 2019 corn yields were similar following winter-hardy vs winter-terminated cover crops, (240 vs 243 bu/ac) and (214 vs 217 bu/ac),respectively. In 2018, soybeans following the winter-hardy cover crop mix yielded significantly less than soybeans following winter-terminated cover crop mix (59 vs 65 bu/ac). This area of the field where both the corn and soybean yields following winter-hardy cover crops were lower is on the hillside where the crop may be impacted more by moisture stress. In 2017 and 2019, when soybeans were on the bottom part of the field, similar to corn,yields were similar following both winter-hardy and winter-terminated cover crops; (61 vs 62 bu/ac) in 2017 and (86 vs 84 bu/ac) for 2019,respectively. Winter wheat is planted following soybean harvest, usually in late September or early October. Wheat yields were 91, 89 and 65 bu/ac for 2017, 2018 and 2019, respectively. Base soil samples were collected at the beginning of this project and are being monitored annually for soil health measurements.

EVALUATING BIOLOGICAL CONTROL OF INVASIVE BRAZILIAN PEPPERTREES ON RESERVATIONS AND PRIVATE RANCHES

Proposed by: Lindsey Wiggins

Presenter:
Wiggins, L.*[1], Stam, A. [2], Minteer, C. [3], and Wheeler, G. [4]
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[4] Research Entomologist, United States Department of Agriculture, Ft. Lauderdale, FL 33314

Brazilian peppertree (Schinus terebinthifolia) is one of the most troublesome, invasive weeds on the central and south Florida landscape. Recognizable by its display of red berries every winter – some may even call it pretty, which is likely how it got introduced to Florida as an ornamental plant in the 1840's (Barkley 1944). Dense Brazilian peppertree (BP) colonies have invaded native woodlands, roadsides, ditch banks, and valuable grazing land. This tree can reach heights as high as 33 feet tall making chemical control difficult and costly, leaving many land managers desiring additional control methods; such as biological control.

UF/IFAS and USDA have worked diligently the last two decades to determine the best host, specific insect to release on the South Florida landscape to control BP and earned clearance to do so on private beef cattle ranches and Seminole Tribe Reservations. Objectives: 1.) Educate the host ranchers about benefits of the newly released insect (Pseudophilothrips ichini) to solicit industry support, from within. 2.) Determine how the insects will perform in a natural environment VS the laboratory. 3.) Educate all ranchers and extension agents about the insect and damage it causes. Impacts: Insects were released on 4 private, cattle ranches and 2 Seminole Reservations and are evaluated monthly. 12 ranchers and Seminole Indians representing 14,600 head of cattle on 146,700 acres attended field demonstrations. There was a 75% knowledge increase of insect identification and insect damage to BP. One hundred-percent (100%) of participants shared the learned knowledge with other ranchers resulting in industry support and additional ranchers requesting the insects be released on their land. Additionally, a formal group teaching event with a hands-on, field demonstration is planned for April 2020 due to increased interest.

LYGUS BUG CONTROL - COMPARISONS OF POTENTIALLY NEW AND ESTABLISHED INSECTICIDES

Proposed by: Michael D Rethwisch

Presenter: Rethwisch, M. D., Farm Advisor - Crop Production And Entomology, University Of California Cooperative Extension, Blythe, CA 92225

Lygus bugs can cause economic damage across a wide range of crops, and control difficulty is not uncommon due to various reasons. These factors have resulted in high interest in lygus bug control and/or management by many involved in agricultural crop production. Several new insecticides and insecticide classes have recently become available and/or will soon have new crop registrations. A number of insecticide trials have been completed for control of western lygus bug (Lygus hesperus) in southeastern California on alfalfa and alfalfa seed comparing various insecticides and rates. These trials have resulted in a robust set of data allowing high confidence comparisons for various established and potentially new insecticides and classes. Two insecticide active ingredients (Sulfoxaflor/Isoclast, and Flonicamid) have provided outstanding control of lygus bugs in trials. Insecticide products in these classes are known as Transform/Sequoia and Beleaf/Carbyne. Several combination treatments involving multiple modes of action have also been successful, but additional testing is necessary for higher confidence in these results.

A NEW SEED APPLIED INSECTICIDE FOR WIREWORM CONTROL IN CEREAL GRAINS

Proposed by: Aaron D Esser

Presenter: Esser, A. D., Extension Agronomist, Washington State University, Ritzville, WA 99169

Wireworm (Limonius spp.) populations and crop damage continues in cereal grain (wheat: Triticum aestivum L. and barley: Hordeum vulgare L.) production across eastern Washington. Currently thiamethoxam, imidacloprid and clothianidin seed applied neonicotinoid insecticides are commonly used to manage wireworms in cereal grain cropping systems. Farmers are also increasing the use of summer fallow and planting legumes (chickpea: Cicer arietinum, lentil: Lens culinaris, and field pea: Pisum sativum) with Bifenthrin (Capture LFR) in-furrow insecticide to further manage this pest. Broflanilide (Teraxxa) is a new mode of action seed applied insecticide developed by BASF, and is currently being assessed for EPA registration in the United States. This insecticide has the potential to greatly enhance wireworm control. Spring wheat treated with Broflanilide yielded 13% greater than spring wheat treated with 1.33 oz/cwt thiamethoxam treatment, and wireworm populations the following spring was 97% less as well.

HANDS-ON DIAGNOSTIC TRAINING IMPROVES CROP SCOUTING SKILLS FOR AG PROFESSIONALS

Proposed by: Kevin Korus

Presenter: Korus, K., Ag & Natural Resource Agent, University of Florida, Gainesville, FL 32609

The purpose of this training was to increase the corn disease diagnostic capability of Extension agents, producers, and crop consultants in northeast Florida. By training first detectors, consultants are able to work with producers to create more timely and appropriate disease management strategies to minimize yield loss and prevent unnecessary fungicide treatments. Together, the ten program attendees consulted on over 2,850 acres of corn. Diagnostic training occurred by providing both in field recognition of disease symptoms as well as lab based microscopic confirmation of pathogen presence. Dissecting and compound microscopes borrowed from the University of Florida's Plant Diagnostic Clinic allowed every attendee the chance to work with a microscope. A post-program survey revealed the percentage of attendees (n=10) that gained knowledge in the following areas: The definition of plant diseases, 70%; the factors necessary for disease onset, 70%; the types of plant pathogens that affect corn, 100%; the difference between disease signs and symptoms,

70%; diagnostic procedures, 100% and disease management strategies, 80%. Sixty percent of program participants said that they felt confident in assisting corn growers in identifying disease issues. Eighty percent of participants said that they felt confident developing disease management strategies to mitigate yield loss and 80% said they felt confident finding additional resources for disease diagnostics if they could not themselves come up with a diagnosis. Regional specialized agents in Florida have asked that I deliver this course in other areas of the state.

FUMIGATION OPTIONS TO MANAGE NEMATODES IN SWEET POTATO

Proposed by: Dr.Bill Burdine

Presenter: Burdine, B., Extension Agronomy Specialist, Mississippi State University, New Albany, MS 38652

Sweet potato is a high input, high value crop that is grown on specific soil types and produced on approximately 175,000 acres nationwide. One area where producers are deficient is proper management of nematodes. Multiple species affect sweet potatoes with the top three being southern root knot, reniform, and guava root knot. A series of replicated field studies attempted to 1) assess fumigation products for nematode control, 2) conduct a partial cost analysis to determine profitability, and 3) demonstrate overall fumigation effectiveness to producers. Replicated studies were conducted over multiple years and locations. Temik shows favorable nematode control however the active ingredient is being phased out of vegetable production. Telone has excellent control rating but costs are prohibitive and the equipment and training requirements prevent widespread acceptance. K-Pam shows the greatest potential as it provided adequate control and costs are reasonable. Another positive for K-Pam is that it is a biocide that helps manage many weeds.

Animal Science

SOUTHWEST ARKANSAS SMALL RUMINANT COLLEGE

Proposed by: Sherry Beaty-Sullivan

Presenter: Beaty-Sullivan, S., Cea-Agri/staffChair, , Mena, AR 71953

The purpose of this educational program was to educate goat and sheep producers in Southwest Arkansas. A team of nine agents invited up to three producers from each of the nine counties. We targeted small flock owners or those who were seriously considering starting a new flock. In order to achieve our goal of conducting a meaningful educational experience for our producers, we used multiple teaching methods and experiential learning activities to enhance the learning experience for our audience. When possible, we used live animals to demonstrate and allow for hands-on learning. We conducted four one-day sessions over four months. Each session had a classroom component along with a hands-on activity. Session 1 was an introduction to small ruminants in Arkansas, Pasture & Forage systems, Facilities and Handling, and a producer panel made up of well established small ruminant producers from across the state. Hands-on activities included basic handling with live animals and hoof trimming. Session 2 covered health and parasite control with the hands-on activities of FAMACHA and conducting a fecal egg count. Session 3 covered breeding seasons, marketing, scrappies, and guardian animals. The hands-on activity included: establishing an electric fence and guardian dog selection. In the final session, we discussed small flock marketing allowed for producers' choice, which was grading live animals. The hands-on portion included breeding soundness evaluation of males and females and demonstrating ultrasound usage to detect pregnancy and loin eye measurement. Each session had an average of 23 in attendance. The impact of this program as indicated by the evaluations include: 100% of the participants planned to implement 2 or more practices they learned through the Small Ruminant College. 92% increased their knowledge on pasture and forage systems for small ruminants; 92% increased their knowledge on health and parasites; 100% certified to use FAMACHA.

DEEP SOUTH CATTLEMEN'S SUMMIT & HERDBUILDER SHOWCASE PROVIDES PROGRESSIVE EDUCATION TO CATTLE PRODUCERS

Proposed by: Nicholas Simmons

Presenters: Simmons, N., County Extension Director And Commercial Livestock Agent Ii, UF/IFAS Extension Escambia County, Cantonment, FL 32533
Waters, K., County Extension Director, UF/IFAS Extension Holmes County, Bonifay, FL 32425
Mayo, D., County Extension Director, UF/IFAS Extension Jackson County, Marianna, FL 32446
Bearden, J., Extension Agent, UF/IFAS Extension Okaloosa County, Crestview, FL 32536
Bodrey, R., County Extension Director, UF/IFAS Extension Gulf County, Wewahitchka, FL 32465

The Deep South Cattlemen's Summit (DSCS) is a multi-state, multi-county collaboration of UF/IFAS Extension Agents, cattle industry professionals and livestock producers to deliver cutting edge information to livestock producers in north Florida. Objectives: The objectives of the DSCS were 1. To Develop a platform for producer dialogue to discuss

progressive cattle management, 2. To increase knowledge through a premier educational session for cattle producers 3. To showcase producer success in management practices through a pen heifer show. Methods: The DSCS and Herdbuilder Showcase (HBS) took place on April 12-13, 2019 at Southern Cattle Company in Marianna, Florida. Presentations and rotational breakout sessions were taught by Extension faculty and industry professionals. Producers consigned registered and commercial heifers to compete in the HBS Show and were evaluated on reproductive potential, phenotype, and beef quality. A six-question survey was created to capture knowledge gain and impacts. Results: Sixty-two individuals attended the two-day event. Exit surveys were disseminated to attendees and data were gathered on thirty-one returned surveys. 31 of 31 (100%) of attendees rated the program as excellent or good, 20/31 (66%) of attendees planned to make a management or practice change. Some comments from attendees included "great program, I learned so much about record keeping and genetic monitoring," and "I learned to better develop my ranch and met future suppliers." Conclusions: The DSCS and HBS demonstrated the full spectrum of Extension livestock programming. This includes educating cattle producers and highlighting producer success from skills and knowledge gained at previous Extension events.

ON-FARM FORAGE DEMONSTRATIONS IMPROVE THE BOTTOM LINE FOR SOUTHEAST BEEF CATTLE PRODUCERS

Proposed by: Caitlin Bainum

Presenter: Bainum, C., Livestock Extension Agent, University Of Florida, Ocala, FL 34470

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 project was a collaboration with University of Florida Agronomy Specialists who provided the Marion County Extension agent with cool-season forage seeds for both beef cattle production interests and wildlife food plot interests. The agent worked with a local cattle producer and deer farmer to plant the cool-season forage demonstration plots on the cooperators land. The primary objective was to showcase the results of the forages adapted to the region for the 120-day cool season, the planting and establishment methods, fertilization regime, and grazing management best suited for maximum forage production. 90 days post planting the agent held a field day for ranchers in the area. 54 people attended the program, representing over 3,500 acres, 1,000 head of beef cattle, and 1,500 deer in Marion County. The agent partnered with University of Florida wildlife researchers to provide deer health topics at the field day, an ancillary benefit of many of these forages used in the demonstration. Post program surveys were conducted, of which 80% of respondents 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 with 30% already utilizing annuals, and 80% reported a better understanding of forage management to achieve greater yield from their pastures. With an average daily gain of at least 1 lb. / cow per day to be expected from cool-season forages, 120,000 pounds of gain can be expected from this group of producers.

SO YOU WANT TO RAISE SHEEP OR GOATS

Proposed by: Melanie Barkley

Presenter: Barkley, M., Extension Educator, Penn State University, Bedford, PA 15522

The first So You Want to Raise Sheep or Goats workshop was developed to provide landowners with skills to increase income opportunities from their land and expand employment opportunities for former coal industry workers and others looking for new careers in agriculture in southwestern Pennsylvania. The first workshop was held in September 2017 to support the governor's initiative for workforce development in this area of the state. The objectives of the workshop were to teach landowners skills for raising livestock, connect producers with local marketing outlets, and foster innovative technology in value-added business practices. So You Want to Raise Sheep or Goats workshops give an overview of sheep and goat production principles and are designed for people considering entering the sheep or goat industry and for those with new operations. After attending this workshop, participants are then invited to attend all-day workshops that address more in-depth topics related to sheep and goat production. In addition to developing the workshop presentation, I wrote the "So You Want to Raise Sheep or Goats" publication that serves as a handout for the workshops. These sheep and goat workshops expanded across the state in 2018 and 2019. As a result of the demand for these workshops new workshops were developed to provide basic production on beef cattle and swine production. The purpose of expanding these workshops was to address additional income options for the declining dairy industry and the interest in small farm food production. A total of 11 sheep and goat workshops have been held across the state in the past three years with 234 participants. Results of a post evaluation indicated that 93% of participants learned a moderate to significant amount of information and 55% planned to use the information if they decided to start a new sheep or goat operation or with their current new operation.

DAIRY IN ISRAEL

Proposed by: Phillip Durst

Presenter: Durst, P., Sr. Extension Dairy & Beef Educator, MSU Extension, West Branch, MI 48661

Invited, along with two colleagues, as a guest instructor for "Dairy School: The Israeli Experience", I went to Israel to learn as well as to share. The Israeli dairy industry is remarkable in some important ways, including leading all nations in average production per cow. What accounts for that? What challenges have they overcome? What can we learn from them? These questions were on my mind as well as those of US farmers and ag professionals who attended. We toured farms and spoke with ag business professionals, and came to understand more about feed limitations, heat stress mediation and housing choice. We also learned some of what separates these farmers from others. In this presentation I will share about the challenges faced and overcome, reasons for the high national production and lessons for US farmers, as well as sharing some unique constraints impacting dairy consumption as well as production. In the process, I will share the value of the NACAA scholarship program and how we have received invitations for international presentations.

UF/IFAS SOUTH FLORIDA BEEF FORAGE PROGRAM

Proposed by: Lindsey Wiggins

Presenter:

Wiggins, L.*[1], Butler, L.*[2], Crawford, S.[3], Kirby, C.[4], and Stice, B.[5]
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[5] Polk County Livestock Agent, University of Florida, Bartow, FL 33831

The county-based network is the foundation for extension program delivery since its establishment in 1914; however, major changes in transportation, communication, and technology have had a great impact on adult education today. Today's extension clientele have more years of schooling and access to more sources of information than ever before. A group of extension agents, specialists, and professors founded the South Florida Beef Forage Program (SFBFP) to provide specialized expertise, on a regional scale, with a balanced approach of educational delivery combining established methods and innovative technology. The diversity of expertise includes: beef & dairy cattle, equine, wildlife management, forages, weed science, soils, and 4-H/youth. The SFBFP executes 7 regional programs/year, convenes monthly, and proceeds with counsel from advisory members. Objectives: 1.) Coordinate extension and research activities for enhanced forage and cattle production in Southern Florida. 2.) Combine tangible resources and specialized expertise for increased program attendance and maximum impact. 3.) Provide networking and mentorship to collaborators, improving individual successes. Impacts: In 2019 SFBFP taught 398 producers, representing 40,000 cattle and 200,000 acres. There was a 55% increase in knowledge of reproduction, forages, herd nutrition and health management. Sixty-nine percent (69%) of participants adopted one or more, learned, production practices.

At the conclusion of this interactive presentation: 1. Participants will increase their knowledge of developing collaborations based on the efficacy of the South Florida Beef Forage Program. 2.Participants will adopt several teaching demonstrations applicable to a variety of programmatic areas, which will enable NACAA members to reach more livestock clientele, with fewer resources. 3. Participants will be motivated by the gradual progression of technology, teaching methods and collaboration the program has demonstrated over its tenure.

PERFORMANCE AND EXPENSES FOR THE SAND MOUNTAIN HEIFER DEVELOPMENT PROJECT

Proposed by: M.Kent Stanford

Presenters: Stanford, M. K., Associate Extension Professor & Extension Specialist, Alabama Extension, Crossville, AL 35962
Marks, M.L., Regional Extension Agent - Animal Science & Forages, Alabama Extension, Centre, AL 35960
Kriese, L.A., Professor Emeritus, Auburn University, Auburn University, AL 36849
Mullenix, M.K., Associate Professor & Extension Specialist, Auburn University, Auburn University, AL 36849

Since 2017, 7,109 acres, 107 heifers, and eleven unique producers have been impacted by the Sand Mountain Elite Heifer Development (SMEHD) program. The overall purpose of SMEHD is to demonstrate research-based winter grazing and beef heifer management techniques for Northeast Alabama commercial beef producers. The end goal is to return a bred replacement heifer to the herd that has met growth targets on a forage-based diet. Cool season annuals were planted on a total of 50 acres at the Sand Mountain Research and Extension Center in Crossville, AL. A total of 107 heifers were consigned

from 2017 to 2019. Due to drought conditions in fall 2016, annual ryegrass varieties were not planted until December. Late planted winter annuals produced 65% of the yield compared to annual forages planted earlier during recommended planting times and provided approximately half of the number of grazing days. In 2018 and 2019, ryegrass and crimson clover mixes produced significantly more ($P<0.05$) pounds of dry matter per acre compared to the other planted forages. Heifers also consumed significantly more ($P<0.05$) pounds of ryegrass mixed with crimson clover per day than other forages in 2018. Heifer average daily gains from January to June were in the program target window of 1.5 to 2.0 lbs./day for 2017 and 2019 (1.58 and 1.69 lbs./day). However, all heifers reached 60% of their projected mature body weight prior to breeding in all years. Heifers were synchronized for timed artificial insemination (AI) using the Select Synch + CIDR protocol. Overall, 76 of 96 heifers bred were diagnosed pregnant in mid-June (35 AI; 41 natural service). Heifers artificially inseminated 12 hours after observed estrus were 26.5% more likely to settle to the AI bull compared to heifers bred without visual estrus at 72 hours. Costs to develop replacement heifers were highly dependent on whether stored feed was required (2017: $324.0; 2018:$259.83; 2019:$226.96). Costs per heifer for grazing and breeding averaged $77 and $63/heifer, respectively, while cost of minerals, health and ultrasound data averaged $45/heifer.

WSU AND UI SHEEP AND GOAT JUDGES SCHOOL AND SHOW MANAGEMENT CONFERENCE

Proposed by: Janet L Schmidt

Presenters: Schmidt, J. L., County Director And 4-HYouth Educator, Washington State University Extension Whitman County, Colfax, WA 99111
Heitstuman, M.D., County Director and Extension Educator, Washington State University Extension Asotin & Garfield Counties, Asotin, WA 99402

With an aging demographic of current livestock judges in the Pacific Northwest, and an increasing number of 4-H and FFA youth showing meat goats, there is a need for trained individuals to evaluate livestock projects at our county fairs and junior livestock shows. In addition, youth livestock shows, and sales committee frequently experience conflict that could be avoided or minimized if show management had a broader understanding of current issues affecting the livestock industry. Considering these factors, the planning committee offered two separate tracks at the 2019 PNW Judges School and Show Management Conference.

Since it is expensive and complex to offer a multi-species judging school, the committee focused on organizing a high-quality sheep and goat judges' school; with plans to offer a WSU/UI beef and swine judging school in the future. The Judges track focused on evaluating sheep and goat market projects both live and on the rail. Participants also had the opportunity to judge several classes of breeding sheep and goats; evaluate fitting and showing classes; discuss show ring management; practice giving oral reasons; learn about the role of the judge as an educator; and a packer's expectation of youth livestock projects.

The Show Management track focused on financial management and accounting for market livestock sales committees; bio-security; livestock handling procedures; youth quality assurance programs; selecting and hiring qualified judges; fair management software; emergency management and show ring procedures.

At the conclusion of the program, participants completed a Qualtrics survey to provide feedback on the judges' school and show management conference. Seventy-five percent of the judge's school survey respondents stated that the school contributed significantly to their knowledge of youth livestock shows in contrast to sixty-seven percent of the show management respondents who said the same. Ninety percent rated the judges' school as good or excellent while one hundred percent of show management respondents rated the quality of the conference as excellent or good. One hundred percent of both groups indicated they would like to attend a future PNW Livestock Judges School or Show Management Conference.

OSU SHEEP TEAM- SERVING SHEPHERDS BY SHARING SCIENCE

Proposed by: Christine Gelley

Presenter: Gelley, C., Noble County ANR Extension Educator, The Ohio State University, Caldwell, OH 43724

The Ohio State University Sheep Team is a service team dedicated to meeting the needs of Ohio's shepherds by sharing timely and timeless knowledge with them in multiple ways. The team is a partnership between OSU Extension and the OSU Department of Animal Sciences. Composed of county educators, professors, specialists, and graduate students, the team strives to survey and meet the needs of clientele across the state and provide practical learning experiences to them in-person and online. Events including small ruminant management schools and workshops, shearing schools, field days, seminars, and an annual statewide symposium are held throughout the year in conjunction with the state's producer organization- the Ohio Sheep Improvement Association. Producers and sheep enthusiasts can explore the world of shepherding 24 hours a day, 7 days a week on the sheep team website- www.sheep.osu.edu. The articles posted there are both practical and scientifically sound. Those who subscribe to the web page receive an email once a week with new material to read. Through the revamp of the sheep team over the past five years we are proud to have interacted with hundreds of

shepherds in-person and thousands online. Despite not having an assigned state sheep specialist at this time, the members of the sheep team work together to serve shepherds in their local communities, their state, and the region. Clientele have poured out appreciative comments for receiving the attention they deserve on platforms that are accessible. We hope that by sharing our story at the 2020 NACAA AM/PIC our extension colleagues will be inspired to inquire to and more thoroughly meet the needs of the small ruminant clientele in their states.

IS DILUTION THE SOLUTION? ASSESSING TALL FECUE TOXICITY IN COOL SEASON PASTURE

Proposed by: John Benner

Presenter: Benner, J., Extension Agent, Virginia Cooperative Extension, Verona, VA 24482

Endophyte infected tall fescue is the most important and common cool season forage for Virginia livestock producers. The fungal endophyte presents a challenge, as it produces toxic ergot alkaloids that cause a myriad of problems including reduced weight gains, reduced milk production, and reproductive performance, among other issues. Recommendations for managing tall fescue toxicosis have included diluting fescue toxins by interseeding legumes, particularly red and white clover varieties. To evaluate this practice as well as interseeding alternative forages such as bermudagrass and alfalfa a demonstration was conducted frost seeding a normal broadcast rate (1X) and a double rate (2X) of a grazing type alfalfa, bermudagrass, and red and white clover mixture. Short term and long-term establishment of these forages were limited, fescue made an average of 60% of the pasture. Forage samples were collected for tall fescue in year 2 and 3 and total forage sward ergot alkaloid concentration in years 3 and 4. All tall fescue samples collected had a total ergot alkaloid concentration above 200 parts per billion (ppb). Total sward total ergots were lower ($P<0.05$) than tall fescue alone. Fescue total ergot alkaloids were not reduced when plots were rotational grazed early when compared to summer stockpiled fescue ($P<0.20$). However, total sward ergot alkaloids were reduced when plots were rotationally grazed early ($P<0.05$). Managing pastures for cool season species diversity and early spring grazing may reduce total pasture toxicity.

HELPING BULL BUYERS MORE EFFECTIVELY UTILIZE PERFORMANCE DATA

Proposed by: Mark D Mauldin

Presenter: Mauldin, M. D., Agriculture & Natural Resources Agent, University Of Florida, Chipley, FL 32428

Rationale: Bull selection can have a substantial impact on the economic sustainability of a cow-calf operation. Many cattle producers struggle with identifying which traits have the greatest economic significance to their operations and with how to effectively utilize available performance data to select bulls that excel in those significant traits. Objective: To help bull buyers more effectively utilize performance data to select bulls that have the highest genetic potential to improve the economic viability of their operations. Methods: For the past three years the agent has taught a class on effectively utilizing performance data for bull selection. The agent also included the topic as a part of a series he taught on general beef cattle production. Additionally, the agent created a Youtube video and published two articles on the topic. In conjunction with the 2020 Florida Bull Test Sale, the agent developed and shared a resource for potential bull buyers which visually represents the information in the sale catalog. It allows them to quickly and easily see how each bull in the sale compares to the other bulls in the sale and to the rest of the sires in the breed for any trait (EPD, index, etc.) addressed in the catalog. The system used to generate the resource can be applied to any sale catalog to help potential buyers make more informed decisions. Results: The agent directly interacted with approximately 147 individuals (classes and individual consultations) regarding how to more effectively utilize performance data for bull selection. The agent's articles have been viewed at least 200 times and the Youtube video has 1,170 views. Conclusion: There is much room for improvement for clients in relation to effectively utilizing performance data. Extension efforts in this area, even when they do not reach large numbers of clients, can be incredibly impactful. The limited number of interactions described above have generated multiple success stories – clients made better, more informed decisions and bought bulls that will benefit their operations for years. The new visual representation of sale catalogs was incredibly well received and should help many future bull buyers.

UF/IFAS EXTENSION BOOTH AT THE FLORIDA CATTLEMEN'S ASSOCIATION TRADE SHOW

Proposed by: Christopher Prevatt

Presenters: Prevatt, C., State Specialized Agent, UF/IFAS, Ona, FL 33865
Kirby, C., County Extension Agent, UF/IFAS, Palmetto, FL 34221
Stice, B., County Extension Agent, UF/IFAS, Bartow, FL 33830

To meet the needs of today's cattle and forage producers eighteen Extension agents and four Extension specialists from the University of Florida participated in the Florida Cattlemen's Trade Show at the 2019 Florida Cattlemen's Convention in Marco Island, Florida. The information and demonstrations presented to clientele at the trade show was designed to help producers increase herd production, performance, and profitability by exposing some of the potential risks occurring in cattle markets and presenting possible profit opportunities for the next year. Our extension outreach focused on the needs identified in the Florida Cattlemen's Association Research and Education Priority List. Key areas for the 2019 event were economics, agronomy, animal science, and soil fertility. Over the course of the two-day trade show our Extension professionals interacted with over 1,225 clientele contacts from around the state of Florida and the southeast. Topics that were discussed with producers included Long-Term Economic Trends in the Beef Cattle Industry, Beef Cattle Market Outlook, Marketing 2019 Feeder Calves, Impact that Shade has on Feeder Calf Performance, Drought Management, Weed Management and Identification, Reproductive Anatomy and Physiology, Dystocia, and Identifying the Factors Leading to Bahiagrass Decline in Florida's pastures. Our efforts are to continue to keep producers ahead of the challenging agricultural environment by providing timely production information to help them operate in this volatile marketplace. The continued success of this program has encouraged us to move forward with the planning and expansion of the 2020 UF/IFAS Trade Show Booth at the 2020 Florida Cattlemen's Annual Convention.

Early Career Development

PEER TO PEER TRAINING FOR COUNTY AGENTS IN ARKANSAS

Proposed by: Blair Griffin

Presenter: Griffin, B., Cea-StaffChair, University of Arkansas Cooperative Extension Service, Clarksville, AR 72830

In 1914 the Smith Lever Act created a Cooperative Extension Service associated with each land-grant institution to enable the dissemination of information on agricultural technologies and improved practices to farm families using a variety of communication methods and training programs. Never has the role of a county agent been more crucial to assist educating and raising the productive capacity of our farmers as it is today. It is through education and communication that agricultural agents can bring changes in farmers' knowledge, attitudes and skills thus helping farmers to adopt proven agricultural innovations. Our goal is to prepare our new, mid-career or struggling agents with skills which will allow them to assist our stakeholders and clientele with non-biased, research-based information that will increase farm productivity, farm revenue, reduce poverty and minimize food insecurity. Encouraged by our administration, we implemented a training to educate our new agricultural agents in three different disciplines – livestock/forages, row crop agriculture and horticulture through Peer-to-Peer training. Under the direction of our Area ANR Educators, seasoned agents were utilized to teach the participants about their experiences and what it takes to be successful in Extension in the state of Arkansas. Our agents are inundated with workshops and trainings conducted by specialists; however, we felt this was beneficial for our organization in retention of our new employees. This program has been ongoing for three years and has proven successful. Three years of evaluations revealed:
29 agents participated in trainings
85% stated that the trainings gave them considerable new information I could use in my county program
54% stated that the trainings provided them with resources needed to effectively answer crop specific calls
79% stated that they've improved their weed identification and pest control management skillset
73% learned new ideas for maximizing visibility of their county program through social and mass media
94% stated they felt more equipped to handle the calls and now know where/who to use as a resource

AVOIDING WORKPLACE VIOLENCE: HOW TO BE THE POPULAR NEW KID

Proposed by: Libbie Johnson

Presenters: Johnson, L., Ext Agt Ii, Agriculture, Uf, Cantonment, FL 32533
Warren, J., County Extension Coordinator, ANR agent, UGA Extension Camden County, Woodbine, GA 31569
Stevenson, C.T., Coastal Sustainability Agent, UF/IFAS Extension, Cantonment, FL 32533

Throughout the nation, Extension offices are experiencing agent turnover for various reasons. Often, younger agents straight from a university setting enter an Extension career and encounter senior agents and office staff with different work habits and personal needs. From the baby boomers who are

motivated by company loyalty, teamwork, and duty, to the Gen X'ers driven by diversity, work-life balance, and their personal-professional interests, to the millennials that care about responsibility, the quality of their manager, and unique work experiences, office dynamics can be a challenge. The objective of this talk is to provide insight to the newest members of the workforce as they enter and adjust to an office environment shaped by the life experiences of seasoned colleagues. Topics such as email etiquette, team expectations, humility, the art of listening, recognizing the value of every co-worker (regardless of rank), and appropriate workplace behavior will be covered. Agents will employ a variety of educational tools including role play, videos, and real world examples garnered through more than 40 years of trial and error experiences. The results will leave participants feeling more prepared to start conversations about workplace expectations and concerns. Additionally, it will provide an opportunity for newer agents to understand the needs of their professional counterparts and how to succeed in an Extension office setting.

USING TECHNOLOGY TO BUILD AN AUDIENCE

Proposed by: Terrell Davis

Presenter: Davis, T., CEA - Agriculture, UofA Division Of Agriculture Research & Extension, Murfreesboro, AR 71958

Following a long-time veteran agent at the beginning of your Extension career can be very intimidating. By using technology and social media, new county educators can build an audience to deliver educational programming and develop relationships with stakeholders. Utilizing technology such as video editing software, social media platforms, and web conferencing applications appeals to all age groups and fits into our fast paced, technology dependent society. This educator will share lessons learned through experiences in using technology to increase county contacts five-fold over the last five years. Learn how to make research-based videos, social media tips, and how to deliver programming via web conferencing.

NEW EDUCATORS: MAKING THE MOST OF YOUR MENTOR/MENTEE RELATIONSHIP

Proposed by: Chris Zoller

Presenter: Zoller, C., Associate Professor and Extension Educator, ANR, Ohio State University Extension, New Philadelphia, OH 44663

Many Extension organizations have formal mentorship programs where experienced educators/agents are paired with new educators/agents. The primary purpose of these mentorship programs is to help new employees be successful. These relationships can also benefit mentors. A successful program assists mentees by helping identify resources, understand the Land Grant mission, share knowledge, and encourage communication. In addition, positive relationships help mentees learn and grow as a professional, feel secure and confident, navigate their role and career, learn to communicate, and improve their teaching. As an Extension Educator for 28 years, I have had the opportunity to be assigned as a mentor for several newly hired agriculture and natural resources educators and have found the assignments to be fulfilling and satisfying. This presentation will discuss the mentor/mentee relationship, the role of the mentee, and what mentees should and should not do to make the experience most beneficial.

SUPPORTING YOUR PROFESSIONAL ASSOCIATION THROUGH COMMITTEE MEMBERSHIP

Proposed by: Chris Zoller

Presenters: Zoller, C., Associate Professor & Extension Educator ANR, Ohio State University Extension Tuscarawas County, New Philadelphia, OH 44663
Albertson, Amy-Lynn, County Extension Director & Extension Agent, Agriculture-Horticulture, North Carolina Cooperative Extension - Rowan County, Salisbury, NC 28146
McClanahan, Linda, Extension Agent, Agriculture and Natural Resources, University of Kentucky - Mercer County, Harrodsburg, KY 40330

NACAA committees are an important part of the organization. Member involvement in these committees at the state and/or national level provides opportunities for professional and personal growth, leadership, and collaboration. As a new or newer NACAA member, you may have heard about one of the councils or numerous NACAA committees. These councils and committees serve members of varying interests and include agronomy, agricultural economics, animal sciences, horticulture, natural resources, sustainable agriculture, youth development, and many more. In this presentation, experienced committee members will share their experiences and provide attendees the opportunity to learn about available leadership opportunities, reasons to consider committee membership, and how to apply for open positions.

ON-FARM HERBICIDE DEMONSTRATIONS - SUCCESSES AND LESSON LEARNED

Proposed by: Mark D Mauldin

Presenters: Mauldin, M. D., Agriculture & Natural Resources Agent, University Of Florida, Chipley, FL 32428
Carter, E.T., Regional Crop IPM Agent, University of Florida, Marianna, FL 32448

Rationale: Weed management, specifically herbicide selection, efficacy, and potential risk to desired crops are common concerns of Extension clients. Unfortunately, sometimes the best control option is not clear. When Extension faculty are faced with this type of situation, on-farm demonstrations can be a very effective solution. The demonstrations allow clients to try multiple herbicide options with minimal financial risk and provide excellent learning opportunities for clients and Extension faculty alike. A County Agent and a Regional Specialized Agent have cooperated on a series of on-farm herbicide demonstrations in these types of situations. Objective: To share experiences and lessons learned relating to demonstration methodology, client communication, and utilization of demonstration results with other agents in order to help them more effectively implement on-farm demonstrations as a part of their extension program(s). Methods: In the last three years the agents have completed six on-farm herbicide demonstrations, all designed to help the cooperating producer address a specific weed management situation. All demonstrations utilized a four-nozzle plot sprayer to apply a variety of herbicides/rates to weeds of concern in cooperating producers' fields. Herbicides were selected with a reasonable expectation of efficacy based on literature review and Specialist recommendations. All product label restrictions were followed. Results: Some demonstrations were very successful – they showed clear differences in product efficacy or crop tolerance. For various reasons, other demonstrations were not as effective at answering the question(s) they were designed to address. All demonstrations created learning opportunities. Some learning opportunities were related to weed management, others centered on how to better plan, conduct, and follow-through with an on-farm demonstration. Conclusion: When done correctly, on-farm demonstrations can be an incredibly valuable component of an extension program. They 1) facilitate lasting, meaningful relationships between agents and clients, 2) directly answer complex, site-specific questions for producers, and 3) provide agents with field experience which leads to increased knowledge and confidence for future recommendations. All agents should have the skills and confidence to conduct on-farm demonstrations, this is more easily achieved by learning from the experiences of others.

A TEAM APPROACH TO ANR PROGRAMMING: WORKING ACROSS COUNTY LINES

Proposed by: Ursula T. Deitch

Presenters: Deitch, U., Agriculture and Natural Resources Extension Agent, Virginia Cooperative Extension, Eastville, VA 23347
Pittman, T., Agriculture and Natural Resources Extension Agent, Virginia Cooperative Extension, Accomac, VA 23301

A Team Approach to ANR Programming: Working Across County Lines

New ANR agents are often overwhelmed when trying to get programming started in their county. This leads to agent burnout or feeling insufficient in their role. Partnering with agents in adjacent counties to offer programs to a broader audience creates stronger, more diverse programs which leads to better impacts in your community. A five-step approach to working with agents across county lines will be given to session attendees so that they may help facilitate these relationships and take their programming to the next level.

ESTABLISHING PARTNERSHIPS WITH OUTSIDE AGENCIES AND BENEFITS TO YOUR LOCAL PROGRAM

Proposed by: Ursula T.Deitch

Presenters: Deitch, U., Extension Agent, Virginia Cooperative Extension, Eastville, VA 23347
Pittman, T., Agriculture and Natural Resources Extension Agent, Virginia Cooperative Extension, Accomac, VA 23301

Working with agencies outside Cooperative Extension builds stronger programs and provides program support. It is easy to work with what you are familiar with, however other agencies open up additional resources and audiences that are not reached in Extension programming. Session attendees will learn about ANR related agencies to partner with and how these partnerships can improve their local programs.

PUBLISHING AN ARTICLE IN THE JOURNAL OF THE NACAA

Proposed by: Dr.Donald A.Llewellyn

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.

Horticulture & Turfgrass

THE IMPACT OF MINERAL PARTICLE FILM ON BLACKBERRY DISEASES AND INSECTS AND PRIMOCANE FRUIT QUALITY AND YIELD

Proposed by: Sherri Sanders

Presenter: Sanders, S., Cea-Agri, , Searcy, AR 72143

Blackberries are an important fruit crop in Arkansas. Although most varieties that are grown are traditional floricane-fruiting varieties, there is an interest in using primocane-fruiting types to provide berries at a time of year (late summer, early fall) when market prices are at a peak. Unfortunately, there is little information available on managing diseases and insect pests on plants that are fruiting at this time of year. Agent received a SARE Funded Grant in the amount of $174,290 to implement this project. Experiments were established on two commercial farms in northern and central Arkansas, and on one farm in eastern Texas to evaluate the effects of mineral particle film applications during the late season on blackberry production and on arthropod pests and diseases. Project objectives
1. To demonstrate the importance of primocane-fruiting blackberries in commercial horticulture operations to extend harvest in the fall when market prices are at peak.
2. To demonstrate that high late summer temperatures in the southeastern states can be managed with mineral particle films (kaolinite) sprays.
3. To determine if mineral particle film sprays can provide protection from various insects and diseases.
Four seasonal sessions of the Arkansas Blackberry School to produce a "How To" Video Series available online (link: https://www.uaex.edu/farm-ranch/crops-commercial-horticulture/horticulture/commercial-fruit-production/blackberry-school.aspx). This included several videos from this SSARE project: 1) Spotted wing drosophila and broad mite management in blackberry; 2) Spotted wing drosophila ID and trapping in blackberry; 3) Using interactive fruit budgets a focus on blackberries; and 4) Identifying anthracnose in blackberry. On 15 August 2018, the project team produced a 59 min. Virtual Field Trip titled, Fall producing blackberry production system. This was a live broadcast internationally to registered sites including Ghana, China, Greenland, the United Kingdom, and to 30 states within the US with a total of 279 participant locations including 177 small fruit producers, 114 Master Gardeners. Links to the Blackberry Virtual Field Trip video recording, transcript, and other educational resources were made available at this SSARE project blog site (link: https://www.uaex.edu/farm-ranch/crops-commercial-horticulture/sare-blog/posts/oh_what_a_field_trip.aspx). These resources provide timely information regarding the differences between production practices for floricane-fruiting and primocane-fruiting crops.

The SSARE project identified: effects of whitewashing blackberry plants with Surround mineral film (kaolin clay) to reduce canopy temperature and suppress disease and pests; a lack of grower acceptance of clay residue on whitewashed berries; benefits of using farm planning and interactive budgeting tools; and grower observations of how production practices need to be modified to produce primocane-fruiting blackberry cultivars in Arkansas and northeast Texas.

UNDERSTANDING LONG TERM MASTER GARDENER RETENTION RATES

Proposed by: Daniel Leonard

Presenter: Leonard, D., County Extension Director, UF/IFAS Calhoun County Extension, Blountstown, FL 32424

Master Gardener (MG) volunteers are a crucial part of the UF/IFAS Extension mission to educate the public. Based on anecdotal data from the UF/IFAS State Master Gardener Coordinator and empirical findings from the Walton County Volunteer Management System (VMS) archive, UF/IFAS Extension historically recruits and trains MG volunteers successfully but then realizes many leaving the program. In this publication, we present the results of a study of Walton County MG volunteers designed to understand if differences in demographic characteristics, motivational orientations, and volunteerism preferences between long-term (defined here as four years or more) active and inactive volunteers exist. To identify volunteer motivations, the survey included a version of Mergener's (1979) Education Participation Scale (M-EPS) adapted by Strong (2011). To describe volunteer demographics, eight questions were asked, including age, occupation, education, income, race, and gender. Two questions were included to determine volunteers' educational project preferences. The study sampled a population of 169 active and inactive MG volunteers, with a response rate of 42% (n = 60). Participants confirmed a prior study from Strong & Harder stating the primary motivation for MG volunteerism is a desire to learn. The survey also found women are more likely to remain active volunteers long-term than men and that motivational orientations do not appear to have much effect

on volunteer tenure within the limited sample. More research is needed to confirm these findings and provide additional insight into MG tenure. Also, given the sample size limitations of this study, future research should repeat the study across county MG volunteer programs throughout the state to further explore relationships between demographics, motivations and volunteerism preferences on MG volunteer tenure. Ultimately, these results can help inform coordinators' program focuses and provide additional insight as to which MGs might volunteer long-term and why, allowing coordinators to hone recruiting efforts.

MISSOURI GROWN PROGRAMS HELP PRODUCERS INCREASE ON-FARM PROFITS

Proposed by: Jennifer Schutter

Presenter: Schutter, J.L., Horticulture Specialist, University of Missouri Extension, Kirksville, MO 63501

A series of "Missouri Grown" programs over the past three years has given producers and market gardeners the information they need to add new crops and increase profits for their operations. Since 2016, several workshops for producers, market gardeners and home gardeners were held in northeast region of Missouri. The objective was to teach and provide information on alternative horticulture crops, new varieties, improved production methods and ways to increase farm profits with value-added products. Multiple teaching methods were used because this particular audience is quite diverse. Over the past three years, 414 individuals attended Missouri Grown workshops and tours in northeast Missouri, with 15-40 people in attendance at each workshop, held in various locations. The workshops and tours addressed edible mushroom production, small fruit crops like elderberry, blackberry, raspberry, fruit tree grafting, garlic production, and produce safety. Vegetable farm tours were held during the summer where participants could see how produce was grown in the field and in high tunnels, and how it was harvested, sorted, and marketed. They also saw how a wholesale auction operated. Producers learned and incorporated into their operations concepts about better and more efficient planting methods and irrigation systems, variety selection for higher yields, use of grafted tomatoes, vegetable sorting methods, more efficient packaging and labeling, and better marketing strategies. Follow-up visits were made to producers on their farms and at the farmers' markets to see what changes they made and to determine if on-farm profits were increasing. In 2019, two producers sold to a Hy-Vee grocery store, 21 producers were selling to local farmers' markets, 1 operated on farm produce stand, and 1 operated a u-pick blueberry operation. In the past three years, 80% of the producers who had attended a workshop or tour indicated they added new products to their operations, which helped increase their overall sales. New products included honey, honey-based products, edible mushrooms, hydroponic lettuce, microgreens, Asian vegetables, cut flower bouquets, dried flower arrangements, dried spices, specialty melons and more. Growers indicated an increase in sales between $1,000-5,000.

DECIDING WHAT TO GROW ON YOUR SMALL FARM AND HOMESTEAD

Proposed by: Karla K Kean

Presenter: Kean, K. K., Extension Agent Iii, Tennessee State University, Clarksville, TN 37040

The purpose of this educational presentation is to raise awareness and provide knowledge that can help beginning farmers avoid common pitfalls and increase their success. A century ago most Americans either grew up on a farm or were just one generation removed from life on the farm. They acquired their "farming education" first-hand through chores and from their parents or neighbors. Today, farming is much more complex, requiring substantial knowledge of agronomy and animal husbandry, marketing, business management and finance, taxes, machinery management, occupational safety and health, environmental regulations, and food safety. Additionally, today's population is more mobile than previous generations. Many families, especially military families, reside in areas other than their childhood homes, and may lack knowledge of local culture and environment, including local soils, cropping systems, and marketing opportunities. Many would-be farmers have no idea how to get started in the business. Two major challenges facing most beginning farmers is land acquisition and farming experience to get a farm loan. This program will provide opportunities to gain the needed knowledge and form relationships that can help beginning farmers avoid common pitfalls and increase their success. This presentation has been used in targeted programs in Tennessee such as the Slow Your Roll workshop series, TSU Outreach and Assistance workshops, and TSU New Farmers academy that have assisted beginning farmers on both a limited and statewide level. According to attendance at these programs, this information has reached over 500 small farmers who grow crops and raise livestock that supply the world with food.

LONG-TERM PUBLIC LANDSCAPE TREE SURVIVAL IN UTAH

Proposed by: Michael Caron

Presenter: Caron, M., Extension Assistant Professor, Horticulture, Utah State University, Lehi, UT 84043

The performance of 10 different broadleaf tree species was investigated across a wide range of geographic locations in rural Utah for potential use in managed landscapes. Five trees each of 10 different tree species were planted bare-

root in 10 Utah counties. Five counties represented northern mountain valleys, three were in the Colorado Plateau/Central Utah region, and two were in extreme southern Utah. Trees were initially evaluated for branch elongation, visual quality, and survival. Soil and water conditions were characterized at each site. Survival at the end of the initial two-year study was 36%. Circumstances made it impossible to define exact causes of death, however our observations at many sites indicated mortality was largely due to saturated soil, poor management practices, and vandalism. In year 21, tree survival was 10%, and we attribute the additional losses primarily to construction-related events. Poor tree survival has been reported in a number of other long-term cohort planting studies, but our tree survivorship is worse than typical for these studies. The original intent of this study was to evaluate and ultimately recommend new tree species for landscape planting in rural Utah. However, this study really just emphasizes how important proper care and maintenance of newly-planted trees are especially in their first two years.

LANDSCAPING FOR LIVESTOCK

Proposed by: Caitlin Bainum

Presenters: Bainum, C., Livestock Extension Agent, University Of Florida, Ocala, FL 34470
Hunter, M., Horticulture Extension Agent, University of Florida, Ocala, FL 34470

Marion County, FL is home to "horse capital of the world" with 350,000 acres of pasture land used for livestock. With that comes yards, fence rows, and other landscaping features that are often accessible to livestock. Lack of knowledge regarding toxic plants to livestock may cause unintentional mistreatment of animals and could lead to higher costs associated with health care of those animals. The large number of equine enthusiasts, whom place great value on landscaping and horse health presented a prime need for extension intervention. The UF/IFAS Extension Marion County horticulture and livestock agents teamed up to provide an in-depth class training horse owners on various landscape strategies to be both safe and aesthetic for their properties. Topics also included Florida-Friendly Landscaping principles such as soil testing, proper irrigation, runoff prevention, and correct plant selection. Fifteen property owners attended the workshop and survey results suggest: 100% intend to soil test prior to fertilization, 80% could properly identify the proper plants for their landscaping needs, 80% understood proper practices to reduce runoff, protect beneficial insects, and mulch appropriately. The self-reported approximate value of animals if saved from toxic plants as a result of better management and selection was estimated at $900,000. A second training will be conducted this spring to include advanced topics such as; integrated pest management and fertilizer calculations.

FOOD SYSTEMS STUDY TOUR OF SOUTHERN ITALY INCREASES FLORIDA MASTER GARDENER VOLUNTEERS KNOWLEDGE OF ALTERNATIVE CROPS, SUSTAINABILITY AND AGRITOURISM

Proposed by: Wendy Wilber

Presenters: Wilber Wilber, W., Extension Agent III Envir Hort, University Of Florida IFAS, Gainesville, FL 32611
Freeman, Terra, Extension Agent II Horticulture, NACAA, St. Augustine, FL 32092

Objective: To provide an international food system education opportunity for Florida Master Gardener Volunteers (MGV's), where participants increase their knowledge of agritourism, fruit production, and alternative fruit crop selection for Florida. Methods: Explore food systems in Southern Italy, including agricultural enterprises in olive, pomegranate, lemon, apple and wine production; and touring a world collection of ornamental plants and edible landscapes. Other areas of concentration included sustainability, integrated pest management and cultural methods. Results: On-site focus group found an increase in awareness of sustainable agricultural practices. Of the 31 MGV's who participated in the Food Systems Tour of Southern Italy, 74% (N= 23) responded to a 2-month post-trip Qualtrics survey, revealing an average increase of horticultural knowledge between 68%-88%, depending on the site visit. Of the 20 who responded to a 5-month post-trip survey, 100% shared information they learned with others, including other MGV's, family, friends, community members and extension clientele. They reported sharing information about crops, Mediterranean diet and food preparation, wine, sustainable horticulture practices, agritourism and alternative crop techniques via extension publications, PowerPoints, videos, workshops, consultations, phone desk, plant clinics, and planting crops studied on tour. Among participants, 50% reported a sustained increase in their local food purchasing practices. Conclusion: MGV's shared their gained knowledge with community members throughout the state. Sharing their global experiences with fellow volunteers and clientele can help disseminate information to bring more awareness of local food systems, agritourism, and potential for alternative fruit crop selection in Florida.

KENTUCKY FARMS, KENTUCKY FLAVOR (KYF2)

Proposed by: Kristin G Hildabrand

Presenters: Hildabrand, K. G., Extension Agent For Horticulture, University Of Kentucky Cooperative Extension Service, Bowling Green, KY 42101
Coles, J., Extension Agent for Agriculture and Natural Resources, University Of Kentucky Cooperative Extension Service, Bowling Green, KY 42101

KYF2 is two great award-winning shows in one: Kentucky Farms, Kentucky Flavor! The show first highlights the Kentucky farmer growing a seasonal specialty crop and then adds the flavor with a nutritional recipe utilizing the featured specialty crop. Consumers gain a better understanding of how the crop is grown on the farm and have the confidence to prepare dishes at home using fresh local produce. The ultimate goal of the project is to connect the farmer with the consumer, boost farm sales, increase profitability, and provide recipes and food demonstrations to encourage and grow the local food economy in South Central Kentucky. In 2018, a third season of Kentucky Farms, Kentucky Flavor (KYF2) aired thanks to funding from the USDA Specialty Crop Grant in partnership with SOKY Marketplace in Bowling Green, KY. At the end of the season, farmers reported 100% increase in sales and awareness of their specialty crop, gained new social media followers, increased traffic on the farm which led to a 10 to 15 percent in sales, and noted that the program brought new customers to the farmers market.

GROWING HEMP IN MAINE

Proposed by: Donna Coffin

Presenters: Coffin, D., Extension Educator, Umaine Extension, Dover-Foxcroft, ME 04426
Smart, A., Extension Plant Pathologist, UMaine Extension, Orono, ME 04473
Jemison, J, Extension Soil and Water Quality Specialist, UMaine Extension, Orono, ME 04473

Interest in growing hemp in Maine has increased significantly since the 2018 Farm Bill legalized hemp. UMaine Extension planned a one day program to address production, research, licensing, processing, marketing and financial feasibility for farmers currently growing hemp and for others interested in starting to grow hemp. A pre-survey and post program evaluation were conducted to determine the impact of this program on participant's knowledge and future plans for their farm. The program held in March of 2020 attracted 67 people with 74% having none or minimal understanding about hemp production at the start of the day. At the end of the day 100% of participants marked moderate or considerable knowledge of hemp production. 44% plan to add hemp or value-added hemp products to their farm and 22% plan to start a new farm. 37% will be able to increase their profitability of their farm from what they learned at the program. Topics suggestions for future programs include: how to read lab reports, current market analysis, value-added products and required licensing, grower profile, location of certified/ trusted labs, start a Maine Facebook hemp growers page, hands-on processing, home extraction.

PRISON EDUCATION: DOCUMENTING IMPACTS TO TELL A STORY

Proposed by: Norma Samuel

Presenter:

Samuel, N.*[1], League, S.*[2]
[1]Florida-Friendly Landscaping & Urban Horticulture Agent, UF/IFAS Extension, The Villages, FL 32162
[2]Horticulture Education/Training Specialist II, UF/IFAS Extension, The Villages, FL 32162

Data from the National Archives and Records Administration (2018), shows that in fiscal year 2017 the approximate cost of incarceration of a federal inmate was $36,299. Prison educational programs are viewed as potential opportunity for inmates to return to society upon release to be upstanding citizens. Many view prison education as a valuable investment while others oppose it. The University of Florida's Institute of Food and Agriculture Sciences (UF-IFAS) Extension is in its tenth year of offering horticulture educational programs at the Coleman Federal Correctional Facility. The program offers certification needed for students to get above entry-level paying jobs in the horticulture industry. This presentation will guide attendees through a series of evaluation tools used to document impacts to tell a story. The UF-IFAS Coleman Horticulture Team captures: pre/post-test data; observations in student behavior changes; number of students receiving certification; success stories of students gaining employment upon release; and recidivism rate. Emphasis will be placed on how to calculate the recidivism rate of a prison educational program, a time-consuming effort, but provides powerful data to show economic impact. Upon calculation of the recidivism rate for the 500 persons who completed the horticulture program to date, the Team was able to inform upper level officials at the prison and their advisory board that the program in 2019 had a recidivism rate of 5.4% compared to the federal rate of 49.3%. A comparison of these values show that the horticulture program had a potential cost savings of $7,985,780 to the federal government and taxpayers. Documents outlining how the calculations were done and success stories were distributed in person and via email and also shared with UF-IFAS Extension Administration. The success of this program has opened doors for other opportunities.

HENRICO BUG BIZARRE! PROVIDES AGRICULTURE AND NATURAL RESOURCES LITERACY AND INCREASES PUBLIC AWARENESS AND APPRECIATION OF ENTOMOLOGY

Proposed by: Edward Olsen

Presenter: Olsen, E., Extension Agent, Virginia Cooperative Extension, Henrico, VA 23273

Youth and adults face limited opportunities for meaningful exposure to agriculture, natural resource (ANR), and environmental experiences. The public receives unsubstantiated information from multiple sources, creating misunderstandings about common practices in agriculture, natural resources, and environmental management. The public needs access to research-based information enabling them to make informed consumer decisions. Specifically, science literacy is key to making sound decisions in protecting the environment and human health associated with pest management in our society. In response to the need for ANR literacy, particularly on entomological topics, I organized an entomological outreach event, a first of its kind in the region. The Henrico Bug Bizarre! was an integrated program that incorporated youth, entomology and many partners. Sixteen different partners provided 26 exhibits in the three-hour entomological themed outreach/literacy program. Extension presence at the event included multiple Master Gardeners units, Master Naturalists, two ANR extension agents, and a 4-H youth development extension agent and displays from an on-campus department. There were four local county departments and seven state agencies represented. The biology department of a local university provided the basis for the live insects displayed at the event. Nine exhibits had live insects for attendees to not only observe, but to touch and handle. An additional five exhibits had mounted or preserved insects on display. In addition to the live and displayed insects, there were a variety of other outreach activities such as children's activities where youth learned the life cycles of insects, photo booths, and a crowd favorite: Madagascar Hissing Cockroach races. Through the event, participants received information not only about pollinators and butterflies but on mosquito management, Spotted Lanternfly and other urban forestry invasive pest awareness, vermicomposting, water quality and macroinvertebrate monitoring, common lawn and garden pest management and proper pesticide use. Since this was a new programming effort, the agent developed an extension marketing campaign to drive participation in the event. The event was attended by 623 individuals, of which nearly half (292) were youth.

CAN OVERLAPPING RESIDUALS IMPROVE WEED CONTROL IN NO-TILL PUMPKINS

Proposed by: Kelly M Nichols

Presenters: Nichols, K.M., Ag Agent Associate, University of Maryland Extension, Frederick, MD 21702
Vollmer, K., Extension Weed Science Specialist, University of Maryland Extension, Queenstown, MD 21658
Lingenfelter. D.D., Extension Associate, Weed Science, Penn State Extension, State College, PA 16802
Wallace, J.M., Assistant Professor and Extension Specialist of Weed Science, Penn State University, State College, PA 16802
VanGessel, M.J., Professor and Extension Specialist, Weed Science and Crop Management, University of Delaware, Georgetown, DE 19947
Scott, B., Associate Scientist, Weed Science, University of Delaware, Georgetown, DE 19947

Weed control in pumpkins is challenging for many reasons, including the production practices of wide rows, no-till which excludes the use of cultivation, long growing season, and limited number of herbicide options. These practices result in a greater reliance upon herbicides for weed control. Unfortunately, there are very few herbicides labeled for postemergence weed control in pumpkins, so novel uses of soil-applied herbicides need to be explored. Dual Magnum is a common residual herbicide currently labeled for application between pumpkin rows, but it is not labeled for pre-emergence application in pumpkins. The objective of this research was to evaluate the potential of Dual Magnum as an overlapping residual approach for pumpkin production in Maryland, Pennsylvania, and Delaware. Dual Magnum was applied at 2, 3, or 4 weeks after planting at a low or high rate. All plots were evaluated visually for weed control and pumpkin response. Additional plots treated with Curbit as a pre-emergence only were monitored weekly to document the emergence pattern of key weeds. Pumpkins did not show injury from the Dual Magnum over-the-top applications. Both the low and high rates of Dual Magnum provided at least 80 percent control of pigweed and large crabgrass species. However, waiting 4 weeks after application to apply Dual Magnum resulted in weed escapes. Treatments including Dual Magnum provided similar yield to weed free plots.

2019 DIAGNOSTIC REPORT FOR SALT LAKE COUNTY, UTAH

Proposed by: Katie Wagner

Presenter: Wagner, K, Extension Associate Professor of Horticulture, Utah State University, Salt Lake City, UT 84114

Each year, the Utah State University Extension office in Salt Lake County answers between 1,500 to 4,000 diagnostic inquiries. Our diagnostic outreach dropped from approximately 2,025 inquiries in 2018 to 1,800 inquiries in 2019. Notably, the diagnostic help desk saw an increase in email inquiries and a decrease in walk-in and phone inquiries between 2018 and 2019. The peak diagnostic month in 2019 was July with just over 300 clients and the top topics were trees and shrubs (517 inquiries), pests (418 inquiries), turf (282 inquiries), fruit and nut trees (262 inquiries) and vegetable garden questions (210 inquiries). The diagnostic help desk received only slightly more questions concerning biotic disorders than abiotic disorders in 2019. Top pests in 2019 included boring insects, mites, stink bugs, scale and aphids. In conclusion, diagnostic inquiries are trending in popularity toward online resources but the 5 top topics have remained fairly consistent over the past 4 years in Salt Lake County. The Salt Lake County Extension office plans to utilize the 2019 diagnostic report to populate online outreach resources with seasonally relevant and historically popular content to best serve Salt Lake County residents.

KEEPING THE KNOWLEDGE FLOWING: UGA EXTENSION GWINNETT ADVANCED TRAINING PROGRAMS FOR MASTER GARDENER EXTENSION VOLUNTEERS

Proposed by: Timothy Daly

Presenter: Daly, T., County Extension Agent, University Of Georgia, Lawrenceville, GA 30046

Gwinnett County is the second most populated county in the state of Georgia, with over 900,000 residents. The county has over 180 Master Gardener Volunteers who provide valuable assistance conducting Extension outreach programs for the community. With the constant stream of new research and the development of new technologies, Master Gardeners need training opportunities to keep them up to date with further information that will assist them in the effectiveness and quality of their outreach efforts. The programs have been in landscape design, plant propagation, the diagnostics of ornamental plant pests, invasive species, and landscape management to protect pollinators. They receive in-class training with hands-on activities and practical exercises where they learn how to put their knowledge to use. From 2017 to 2019, a total of six programs were held 157 Master Gardener Extension Volunteers A pre- and post-test was given the participants to assess the knowledge they gained from the training. On average, they scored 25 points higher with the post-test. An online survey was sent to the participants after each program, 84% indicated they responded saying they had an increased understanding of the topic as a result of the material covered in training. 83% said that they had better confidence in responding to requests for information about the training's topic. For the landscape design advanced training, one participant commented on the evaluation "I have attended several advanced Master Gardener Advanced Training classes. I rate this class at the top regarding content, applicability, and practicality. It was not rushed yet covered the topics well',' and for the landscaping to protect pollinators class "This was one of the best workshops that I've ever attended; the speakers and presentations were full of information, but not too long. I came home with lots of ideas for continuing and possible improvements at the school garden where I am volunteering."

SIZE-CONTROLLING AND DISEASE RESISTANT PEACH ROOTSTOCKS FOR SUSTAINABLE PEACH PRODUCTION IN ALABAMA

Proposed by: Elina D.Coneva

Presenter: Coneva, E. D., Extension Specialist, Alabama Cooperative Extension System, Auburn University, AL 36849

The soilborn fungus Armillaria tabescens causing Armillaria Root Rot (ARR) disease is the second leading cause of peach tree mortality in the southeastern United States. Estimated lifetime production losses attributed to ARR in peach crop average more than $5 million annually. Until recently, there were no commercially available rootstocks for peach with proven resistance to ARR pathogen in the United States. The newly released rootstock cultivar 'MP-29' offers the benefits of ARR resistance without the adverse effect on scion fruit size and productivity. Additionally, clonal P. persica rootstocks 'Controller 8' and 'Controller 7' also appear to be very promising size-controlling rootstocks for high-density peach orchards due to their potential to reduce management costs and provide economic sustainability. A site with documented ARR history was selected at the Chilton REC, AL to study the newly developed rootstocks for their disease resistance and assess their efficiency for high-density planting. The rootstock cultivars studied include 'Controller 6', 'Controller 7', 'Controller 8, 'Rootpac 20' and 'Rootpac 40', 'MP-29' and 'Guardian' as a control. Scion cultivar is virus indexed 'Cresthaven'. The experiment was planted in 2017 as a randomized complete block design with 5 replications. The tree spacing used is 1.5 X 5 m. Results on tree vigor suggest that 'MP-29' is the slowest growing rootstock during 2017-2019. The first commercial crop occurred in 2019 when trees on 'Guardian' produced the highest total yield/tree, while trees on 'MP-29' had the highest yield efficiency. Trees grafted on 'Controller 6' produced the largest fruit of 276 g, and all tested rootstocks advanced crop maturity in comparison with 'Guardian'. Studies will continue

to evaluate the yield efficiency, fruit quality and profitability of selected size–controlling disease resistant rootstock for establishment of high-density sustainable peach orchards in Alabama.

PARTNERING TO DEVELOP A LEARNING GARDEN IN A COMMUNITY-BASED CORRECTIONAL FACILITY

Proposed by: Ms.Jacqueline Kowalski

Presenters: Kowalski, J., Extension Educator, Ohio State University, Akron, OH 44307
Blackwood, A, Research and Grants Specialist, Oriana House, Akron , OH 44305
Jauk, D, Associate Professor of Sociology and Criminal Justice, University of Akron, Akron, OH 44325
Nunn, L, Executive Director, Let's Grow Akron, Akron, OH 44313

Many communities are experiencing an increase in the number of persons incarcerated due to addiction-related issues. In some instances, judges allow convicted individuals to complete their sentence at community-based correctional facilities (CBCF). Ohio State Extension-Summit County partnered with Oriana House, Kent State University and Let's Grow Akron to offer a horticulture training program to female inmates housed at Cliff Skeen CBCF in Akron, Ohio. Cliff Skeen is a 55-bed CBCF, housing and treating women convicted of drug, alcohol or other non-violent crimes. The goal of this program was to teach the participants basic horticulture to equip them with self-sufficiency skills. Planning between the partner organizations began in January 2019. The voluntary program was offered once or twice a week from April-October 2019. Topics included seed starting, soil building, general garden maintenance, pest and disease management and harvesting practices. The participants built four 4 x 8 raised beds, designed, planted and cared for the garden throughout the spring, summer and fall. After each session, participants were able to offer "reflections" on the lesson for the day. At the conclusion of the program, participants received a certificate of completion and a seed starting kit to take home with them. In 2019, 40+ women had participated in the program. Plans for 2020 include doubling the growing space dedicated to the program and refining the curriculum. This presentation will describe the planning process, successes and challenges encountered in developing a learning garden within a CBCF and future directions. As States continue to face the societal effects of the opioid crisis, horticulture training programs offers Extension a unique opportunity to partner to provide programming to a hard-to-access population to help develop life skills that may contribute to lower recidivism rates.

SPACE COAST GOLF AND SPORTS TURF PROFESSIONALS: SOARING INTO SUSTAINABILITY

Proposed by: Dr.Bonnie C.Wells

Presenter: Wells, B. C., Extension Agent II, Commercial Horticulture, University Of Florida, Cocoa, FL 32926

Implementing sustainable turfgrass management practices is a high priority for golf course superintendents and sports turf professionals in Brevard County, an area extending 72 miles along the Atlantic Ocean on Florida's Space Coast. Found here is the Indian River Lagoon (IRL), one of the most biodiverse estuaries on the planet with a diverse array of biota whose existence depends on the quality of the water. Protection of the IRL is a high-priority initiative of county government, and educational programs addressing this need are a high-priority of UF/IFAS Extension. The objective of this program was to educate Space Coast turfgrass management professionals on integrated strategies to stay profitable, sustainable and stewards of their unique landscape. In 2019, four workshops were held reaching a total of 190 participants covering diverse topics in integrated pest and nutrient management. In addition, 61 site visits were performed to support the implementation of strategies presented at workshops. Of the participants surveyed (n=182), 100% of participants reported an increase in knowledge while 94% reported an intent to adopt a new sustainable production practice after attending one of the four workshops. The program will continue in 2020 to actively assist turfgrass growers with implementing the best nutrient, pest and irrigation management strategies that will increase the productivity and profitability of the turf industry in Brevard County while limiting the impact on the Space Coast's abundant natural resources such as the IRL.

SOIL MYTH BUSTING FOR EXTENSION EDUCATORS

Proposed by: Linda Chalker-Scott

Presenters: Chalker-Scott, L., Extension Specialist And Associate Professor, Washington State University, Puyallup, WA 98371
Downer, A.J., Farm Advisor, University of California, Ventura County, CA

Soils found in home gardens and public landscapes usually bear little resemblance to the original native soil. Urban soils are often distinctly layered, compacted, and artificially amended. Unfortunately, many gardeners and landscape professionals are unaware of these differences and how they affect soil functionality and plant life. This lack of understanding, combined with popular soil management practices and products, can create soil conditions that are injurious to soil and plant life. In December 2019 we addressed this knowledge gap

with an article in the Journal of NACAA (https://www.nacaa.com/journal/index.php?jid=1024). In this presentation we will deconstruct common soil myths and provide scientifically sound alternatives to these gardening practices and products. Handouts will be provided and Extension educators are encourage to share them with their clients.

GROWTH COMES FROM PALM SCHOOLS

Proposed by: Lisa Sanderson

Presenters: Sanderson, L., Residential Extension Agent, UF/IFAS Extension Sumter County, Bushnell, FL 33513
Davis, J., County Extension Director, UF/IFAS Extension Sumter and Hernando Counties, Bushnell, FL 33513

With the population of Florida increasing by just under 1,000 new residents daily, new homeowners often desire palms for their landscapes. The purpose of these workshops is to increase knowledge and change behavior of participants regarding their palm selection, fertilization practices, proper pruning methods, and identification of palm disorders and diseases. This was accomplished through the design, implementation and evaluation of full-day Palm School workshops offered in spring and fall of 2019. The target audience for the Palm Schools included Florida Master Gardener Volunteers and homeowners in Sumter County and surrounding counties, with 187 participants registered for these workshops. UF/IFAS Extension specialists and agents who are experts in their fields were invited to speak in their areas of expertise, providing participants the most current research and information. Topics offered in both Palm Schools included Palm Physiological Disorders, Palm Nutritional Deficiencies, and Palm Fertilization and Pruning. Other topics covered in the Spring Palm School included Palm Anatomy and Morphology/Diagnosing Palm Problems, Palms for Central Florida, Most Common Palm Diseases, and Palm Scene Investigation. The Fall Palm School included The Current State of Lethal Bronzing Disease in Florida, Palms of South Florida, Palm Pests-Looking at the Horizon, and Top Palm Diseases in Central Florida. Pretests were provided to the Palm School participants at registration and collected. Posttests were distributed near the end of the workshop. The difference between participant knowledge identified in the pretests and responses in the posttests was used to determine the percentage of participant knowledge gain on key information. The objective was that Palm School attendees will demonstrate a knowledge increase upon completion of the workshop classes. The outcome demonstrated that 60% (n=84) of responding participants in the [spring] Palm School demonstrated a 27% increase in knowledge. This knowledge gain will translate to a change in participant behavior in their hardy palm selection, proper fertilization practices and pruning techniques, and identification of palm disorders and diseases. Palm School workshops were advertised in local papers, published on the UF/IFAS Extension State Master Gardener Volunteer website, and released through a UF/IFAS Extension MailChimp list with an audience over 7,500.

HOW COVID-19 CHANGED A HANDS-ON APPLE GRAFTING PROGRAM

Presenters: Byers, P. L., Field Specialist in Horticulture, University Of Missouri Extension, Marshfield, MO 65706
Morganthaler, J.S,, Clinical Instructor, Missouri State University, Mountain Grove, MO 65711
Balek, R, Field Specialist in Horticulture, University of Missouri Extension, Carthage, MO 64836
Havens, S., Field Specialist in Natural Resources, University of Missouri Extension, Rolla, MO 65401
McGowan, K., Field Specialist in Horticulture, University of Missouri Extension, Springfield, MO 65807

University of Missouri Extension and Missouri State University annually collaborate on hands-on apple grafting workshops. The team sources rootstocks, collects scionwood, organizes hands-on grafting workshops, assesses program impact, and provides follow up support after the workshops. Workshop attendees are diverse in age, place of residence (urban vs rural), experience with technology (as assessed by registration method and in-class questions), and support for online training techniques (as assessed by follow up support). Three workshops scheduled for March 17-19, 2020, attracted 37 preregistrants. As the COVID-19 situation developed in early March, both universities issued directives to cancel in-person trainings. The apple grafting team decided to take the training online, while preserving the hands-on aspect of the workshop. Challenges included the short time frame available to adapt to an online delivery; providing resource packets (rootstocks, scions, grafting supplies, information packets) to attendees in light of bans on public gatherings; addressing connectivity issues among attendees, especially in rural areas; working with online delivery platforms with a hands-on program given a diversity of viewing equipment; and effectively assessing impact with an online survey. The team developed and distributed grafting packets to all registrants and produced nine grafting videos. 22 registrants attended an interactive Zoom training on March 24 that included live Powerpoint, live chat, and recorded videos. Of the 18 responses to a follow-up online Qualtrics survey, 82% had expectations met at a moderately to extremely pleased level; 76% gained information; 24% gained a mastery of workshop topics; and 94% would recommend the workshop to others. The team measured the learning experience with pre and post workshop knowledge assessments, and participants noted a 1.41-point increase in knowledge on a 1-5 scale. Respondents planned to graft trees at home (94%), save a fruit cultivar through grafting (76%), plant a home orchard (88%), and plant a commercial orchard (24%). Written comments expressed support for the short videos, the grafting packets,

and the team effort. Satisfaction with the live Zoom session was varied, with negative comments focused on technology shortcomings. Participants were pleased with the online apple grafting workshop experience, but most would rather participate in an in-person training.

CITIZEN SCIENCE: THE VALUE OF UTILIZING EXTENSION MASTER GARDENERS IN UNIVERSITY PLANT EVALUATIONS

Proposed by: Pam Bennett

Presenter: Bennett, P., State Master Gardener Volunteer Coordinator, Anr Educator, Ohio State Univeristy Extension, Springfield, OH 45505

Citizen Science projects are those directly involving "citizens" who are not professional scientists, in the collection of data. Citizen science connects researchers and citizens through scientific research. Data collected by citizens or in this case Extension Master Gardeners (EMGS), is used to provide valuable information to seed companies, growers, brokers, the commercial industry as well as consumers. This citizen science project engages EMGs who have a passion for learning about plants and their performance under specific variables, variety cultivars, and reporting. It focuses on utilizing EMGs in starting varieties, planting and providing minimal maintenance, and collecting data in plant evaluation trials.

Prior to the start of the project, the EMGs are trained on conducting research in general. They are provided with the details of the entire project, from beginning to end, in order to understand where their participation fits into the project. They learn the basic components of a research project and how to conduct valid research. EMGs are assigned the responsibility of gathering of data or evaluating the individual entries in the trials. Training is provided on the variables used to gather data and how to go about gathering this data objectively, as well as how to properly record data. When conducting plant evaluations, the rating scale needs to be defined clearly. During implementation of the project, the project director monitors EMG activity and continually reinforces correct research methodology. Additional training and guidance may be needed. Upon completion of the research project, EMGs need to be recognized for their efforts.

This session discusses the advantages and disadvantages as well as the benefits of using citizen scientists or EMGs to conduct plant trials.

Natural Resources & Aquaculture

BENEFITS & BARRIERS OF WOODLAND OWNER LEGACY PLANNING AS PERCEIVED BY UNDERSERVED WOODLAND OWNERS

Proposed by: Adam Downing

Presenters: Downing, A., Forestry & Natural Resources Extension Agent, Virginia Cooperative Extension, Madison, VA 22727
Santucci, M., Forestland Conservation Manager, Virginia Department of Forestry, Charlottesville, VA 22903
Jones, J., President, Cardea Communications, Falls Church, VA 22406
Gagnon, J., Extension Associate, Virginia Tech, Blacksburg, VA 24061
Fisher, J., Forestry & Natural Resources Extension Agent, Virginia Cooperative Extension, Halifax, VA 24558

Most land in the United States is owned by families. In Virginia, nearly 2/3 of the Commonwealth is woodland and 61% of this is owned by individuals or families. Some of this is by first generation owners while other ownerships can be traced back to the King's Land Grants of the 17th Century. Regardless of the ownership tenure, most landowners want to pass the land on to their heirs. However, the point of intergenerational transfer is the highest risk of land being sold out of the family or sub-divided which leads to smaller and fragmented ownership. The Virginia Department of Forestry (VDOF) and Virginia Cooperative Extension (VCE) undertook a study to identify the barriers to, and benefits from, intergenerational land transfer planning as perceived by family forest owners. Southside Virginia was selected as the study area because it contains large unfragmented family forest ownerships, contains a large proportion of high forest conservation value forestland, and a higher proportion of underserved populations relative to other parts of the Commonwealth. The analysis took a two-pronged approach. First, focus groups were conducted with both general landowners and two underserved demographic groups (female landowners and African American landowners) to allow for in-depth discussion of topics and inform the development of a broad mail survey. A mail survey was then sent to a sample of 1,450 landowners to gather quantitative data. Insights will be shared with regard to conservation intentions of woodland owners and the legacy planning barriers and benefits they describe. The connections landowners make between various management planning activities with legacy planning will also be shared as well as terminology that may or may not resonate with landowners when it comes to legacy planning.

ASSISTING LAND MANAGERS IN REVERSING THE DECLINING QUAIL POPULATIONS ON WORKING RANCHES IN FLORIDA

Proposed by: Taylor Davis

Presenters: Davis, T., Livestock and Natural Resources Agent, UF/IFAS Extension, Sebring, FL 33875
Bosques, J., Livestock Agent, UF/IFAS Extension, Wauchula, FL 33873
Butler, L., Extension Agent Director/Livestock Agent, UF/IFAS Extension, Okeechobee, FL 34972
Kirby, C., Extension Agent Livestock, UF/IFAS Extension, Palmetto, FL 34211
Stice, B., Extension Agent Livestock, UF/IFAS Extension, Bartow, FL 33831

Strained by human development and agricultural chemicals, many quail populations are declining in this country at a precipitous rate. The northern bobwhite, perhaps the best known of the six, is one of the most troubled. Northern bobwhite quail were historically abundant in Florida. Following European settlement, fire was suppressed, habitat fragmented, and quail populations began to decline. In addition, conversion from traditional agricultural practices to clean farming practices removed early successional habitats such as fallow fields and hedgerows that bobwhite needed. Over the past three decades, it is estimated that bobwhite quail have declined over 70%. Figures from the National Audubon Society's annual Christmas Bird Count indicate that in 77% of the 31 states where northern bobwhites are traditionally found, populations have declined steeply. In Florida, for example, the birds suffered a population loss of 89% between 1961 and 1988. UF/IFAS South Florida Beef Forage Program (SFBFP) hosted a Quail Field Day in 2019, to educate land managers how to manage and recover the northern bobwhite quail species through sustaining our native habitats in Central Florida. Objectives: The objective of this program was to increase knowledge of land managers in managing the northern bobwhite quail, and to develop skills in recovering the population. Program Activities: One educational field day was hosted on a ranch with a native landscape in Central Florida. Teaching Methods: This program spent the morning at the ranch for a tour of the property with discussion on quail coveys, biology and behavior, distribution, firescaping, Flatwood species, native quail food, and plant identification. The afternoon portion was offered in a classroom setting and included presentations from northern bobwhite quail experts, representing University of Florida research, National Bobwhite Quail Initiative, Florida Wildlife Commission, and USDA Natural Resources Conservation Service. Results: A total of 31 land managers attended the field day. These producers represent an estimated total 12,225 head of cattle and manage approximately 29,325 acres of land. Evaluation: A post-survey assessed knowledge gain and adoption of practices. Survey results indicated that participants increased knowledge by 44% and that 100% of participants plan to implement the information presented. Impact: If participating land managers adopt management strategies to improve their native habitats, this could translate to an increase of northern bobwhite quail population.

ENHANCING WATERSHED MANAGEMENT THROUGH EXTENSION PARTNERSHIP

Proposed by: Katie Pekarek

Presenter: Pekarek, K., Extension Educator-WaterQuality, University Of Nebraska-LincolnExtension, Lincoln, NE 68583

Effective restoration and protection of critical water resources rely on human behavior and social norms which make water quality improvements sustainable. Outreach and education is critical to the adoption of changes in behaviors of land managers that lead to adoption and maintenance of water quality management practices.

Extension has been at the forefront of educating agricultural producers across disciplines, including water quality, for decades. In recent years, broad partnerships between producers, Extension, local and state organizations, agencies, and government have resulted in an ever-evolving outreach and education model for watershed management in Nebraska.

The objective of the programming is to enhance the weight of outreach and education in watershed management planning efforts across Nebraska. This has been accomplished through 1) revising the Nebraska Non-Point Source Management Plan 2) enhancing outreach and education in 319 watershed management plans 3) partnering with local watershed groups to implement watershed projects 4) developing outreach methods with producer-led advisory groups for the National Water Quality Initiative (NWQI) program and 5) partnering with the Nebraska Department of Environment and Energy (NDEE), local Natural Resources Districts (NRDs), USDA Natural Resources Conservation Service (NRCS) and others. This presentation will demonstrate the actions taken by Nebraska Extension in these activities to raise the level of significance of outreach and education, program successes, and program shortcomings.

Local and subject-specific Extension participation in watershed management planning is critical to the success of projects which rely heavily on producer buy-in and participation. In return, partnering with producer and agency groups is essential to increasing the reach and impact of Extension.

SHIFTING GEARS - A COOL SEASON FORAGE VIRTUAL FIELD DAY EXPERIENCE IN GULF COUNTY, FLORIDA

Proposed by: Ray Bodrey

Presenter: Bodrey, R., Agent II, UF/IFAS Extension Gulf County, Wewahitchka, FL 32465

Situation: For many years, the University of Florida Institute of Food & Agricultural Sciences (UF/IFAS) County Extension Agents & State Specialist have partnered with local ranchers and landowners to implement a cool season crop demonstration trial consisting of many varieties of grains, grasses, legumes and mixes for both livestock and wildlife forages. The typical finale to this yearly program is a field day, where Extension Agents & Specialists can present findings and interact with county clientele on site. However, with the threat of the COVID-19 pandemic, public interaction at a field day was not feasible, as social distancing measures would have been impossible to implement. With temperature rising and cool season forage growth cycles reaching twilight, a different method of reaching clientele had to be considered or loose a valuable outreach asset. Therefore, the in-person field day became a virtual experience.

Methods: The Governor of the State of Florida issued a stay at home order, as the University of Florida subsequently postponed extension programming, this only weeks before the field day would be held. However, site visits could be approved, through an application process, if deemed essential by the Dean. The Ag Extension Agent in Gulf county was granted a waiver to visit the demonstration trial, alone, to film video and take photos on a specified day. The Agent captured photos and video of the individual plots using a smart phone and utilizing an improvised stand. The Agent edited video clips, produced a script and developed a PowerPoint presentation, where video and narration were added.

Results: The 14-minute video was produced and uploaded to UF/IFAS Extension online platforms such as, the Gulf County Extension YouTube channel, Gulf County Extension Facebook page and the Panhandle Ag Northwest District newsletter website.

Conclusions: By converting the in-person field day to a virtual experience, educational outreach on forage systems continued through this challenging time. This online method also made it possible to reach a larger and more diverse audience through social media. In some cases, this also exposed participants to extension's expertise in areas not familiar.

Teaching & Educational Technologies

USING WEB CONFERENCING TO EXPAND PROGRAM REACH

Proposed by: Kelly Mcadam

Presenter: Mcadam, K., Extension Field Specialist, Food & Agriculture, UNH Cooperative Extension, Laconia, NH 03246

Are in-person workshops a thing of the past? We have found attendance to be limited by participant's inability to travel due to the weather, busy schedules, childcare, or emergencies that come up on the farm. Despite these challenges, the in-person classroom offers many benefits including the opportunity for farmers to network. Still, those who cannot make it to an in-person workshop are left without. In an effort to reach these individuals and provide a convenient way for them to participate in our programs, we offered a remote connection to in-person events through Zoom, a web-based video conferencing tool. We learned many lessons necessary to make the experience meaningful for participants who attend either in-person or remotely. Equipment and the flow of the agenda are just two of the many components one must consider before offering a hybrid program such as this. For example, it is important that remote participants do not feel left out of the experience. As a result, coaching presenters and distributing handouts ahead of time to share with remote participants is important. Likewise, ensuring that in-person participants can view a slide presentation while broadcasted through Zoom is another consideration. One statewide, multi-session program that was offered this way resulted in participation from farmers from every county in New Hampshire, and all participants completed the course. While this format does pose challenges for organizers and presenters, it does have merit in reaching underserved audiences and those who cannot attend due to last minute schedule conflicts.

DEVELOPING EDUCATIONAL VIDEO SERIES TO DELIVER EXTENSION INFORMATION TO CLIENTELE

Proposed by: Nicholas Simmons

Presenters: Simmons, N., County Extension Director And Commercial Livestock Agent II, UF/IFAS Extension Escambia County, Cantonment, FL 32533
Johnson, L., Extension Agent II, UF/IFAS Extension Escambia County, Cantonment, FL 32533

Extension agents are constantly looking for new and engaging ways to interact with clientele. UF/IFAS Extension Agents Nick Simmons and Libbie Johnson developed educational

videos to reach more clientele with information on practical agriculture production methods. They collaborated with Escambia County's Community & Media Relations (CMR) department to film, edit and produce 4-6-minute videos on a variety of agriculture management topics. Videos were filmed throughout Escambia County Florida with producers and famers showcasing implementation of agriculture BMP's and UF/IFAS Extension directives. The agents utilized various methods of information delivery including single agent videos, agent-producer interviews, and agent-to-agent dialogue. Locations for videos were pre-arranged with producers to work within their schedules and production timing. Content for the videos was planned and developed by the agents to ensure the information was timely, relevant, easy to understand, and could be implemented by other clientele across the area. Talking points were developed and an abbreviated script was developed for the various video projects. Escambia County CMR edited and produced the raw video to package into a finished product complete with opening and closing wrappers, video transitions, still photos, and music & sound adjustments. Each video was edited for content and approved by the agents to be distributed. The projects are housed on the Escambia County BoCC YouTube page for public viewing as well as the Escambia County Extension website and Facebook page. To-date, the videos have 327 views across the different platforms. More video projects are being planned and developed to continue to deliver content to clientele.

THE DOMINO EFFECT: VIDEOS FOR SOCIAL MEDIA USER ENGAGEMENT IN EXTENSION

Proposed by: Brooke Beam

Presenter: Beam, B., Extension Educator, Anr/cd, The Ohio State University, Hillsboro, OH 45133

The domino effect is defined as a "cumulative effect produced when one event initiates a succession of similar events" (Merriam-Webster, 2020, p.1). Like a series of dominos ready to create a chain reaction, social media can have a positive domino effect for Extension when the right conditions are applied to videos. The Extension educator created a video highlighting agriculture in Highland County that was shared at a local agriculture breakfast and through social media. This video featured interviews with over 30 local partners and utilized the Census of Agriculture to accurately represent each demographic of agricultural production. Once shared on social media, the video increased the county Extension office's Facebook page's reach by 23,900 social media users, which was an increase of 738 percent from other posts in previous months. There were 13,400 3-second views of the video, and 271 unique shares. Post engagement, consisting of likes, shares, and comments, totaled 4,579 interactions, or an increase from average post engagement of 818 percent. The video generated 97 new page followers and 81 new page likes, which was a 531 percent increase in page likes over previous months. What made this particular video popular on social media? The human component of the local partners and their perceived source credibility. The results of this study are similar to the findings of Beam, Buck, Specht (2017), and Telg (2012), who found that documentary viewers find agricultural producers to be more credible sources over other individuals. Source credibility is constructed through perceived trustworthiness and expertise. Future videos that utilize local partners are planned to be implemented as educational social media projects. Videos like this can be replicated in other counties across the country, which should also provide positive social media awareness.

FILM ON THE FARM: THE GERMINATE INTERNATIONAL FILM FEST

Proposed by: Brooke Beam

Presenter: Beam, B., Extension Educator, ANR/CD, The Ohio State University, Hillsboro, OH 45133

The Germinate International Film Fest (GIFF) was a program designed to highlight the representation of rural communities, agriculture, and natural resources in film. Film and farms may seem like they are two very different things; however, research has shown that certain demographics of the United States believe documentary films to be more factual and trustworthy than other media outlets when discussing agricultural topics (Dietrich, 2016). Other research has found that most films portray the agriculture industry as dated, comedic fodder, and inaccurately (Retzinger, 2002; Kellogg Foundation, 2002; Specht, 2013). The GIFF was the first film festival of its kind to highlight the agricultural industry from the perspective of agricultural producers and rural communities. The objectives of the GIFF was to create a film festival highlighting rural communities, agriculture, and natural resources, while also providing educational experiences to broaden the horizons of attendees. This initiative allowed for open discussion about film representations of rural communities and expanded the knowledge base in this area. GIFF utilized FilmFreeway as an online film submission portal. Films, photography, and virtual reality experiences were submitted from over 70 filmmakers. Filmmaker partners came from Canada, India, Italy, Mexico, Netherlands, Senegal, United Kingdom, and the United States. Domestically, films were submitted by filmmakers in 15 states. GIFF was held in Hillsboro, Ohio, a rural community located in Highland County. In total, there were over 500 tickets used throughout the two-day film festival. Participants attended from multiple states, including Ohio, Kentucky, New York, Montana, Colorado, and California. The Highland County community benefited from having an increase in visitors to the county, which in turn increased revenue at local restaurants and hotels. Local attendees were exposed to global perspectives on rural communities, agricultural practices, and natural resources.

The GIFF can be replicated in other communities with similar or different topic focuses. In conclusion, the Germinate International Film Fest was a pioneering film festival that highlighted rural communities, agriculture practices, and natural resources-related films, photography, and virtual reality experiences from around the globe.

VIRTUAL REALITY: TRANSPORTING CLIENTELE TO THE FARM

Proposed by: Brooke Beam

Presenters: Beam, B., Extension Educator, Anr/cd, , Hillsboro, OH 45133
Hawkins, E., Field Specialist, The Ohio State University, Wilmington, OH 45177

Virtual reality (VR) is an emerging technology that is used to transport, expose, and educate viewers about a variety of topics through visual and audio-based immersive experiences. VR experiences are an attractive tool for educating youth about agriculture because they allow students to have an immersive experience that may not be possible otherwise. Field trips to farms do not allow students to experience the breadth of production agriculture since may farm activities cannot be conducted when students are on site due to concerns for safety and biosecurity, as well as the seasonality of farm tasks. VR videos can bring experiences to youth without risk to their safety and can provide a more complete view of production agriculture by providing information about activities that occur over weeks and months of time. The eFields VR experience was filmed on a research farm in the spring of 2019. This VR experience featured a ride-along in a tractor and transported participants to several locations on the planter. The eFields VR experience was implemented at county and state fairs in Ohio during the summer of 2019. In total, there were more than 3,000 participants who viewed the eFields VR experience. Evaluation of the program was conducted through a pre-test, post-test questionnaire. The study concluded that VR is a viable technique for Extension educators to connect with diverse audiences. Youth participants were the primary participants in the trial, and they enjoyed the experience of riding in a tractor. The findings support that VR programs can be replicated through Extension programs nationwide.

THE IMPORTANCE OF A BREAKFAST TREAT TO VIRTUALLY REACH A DIVERSE AUDIENCE

Proposed by: Phil Kaatz

Presenter: Kaatz, P., Extension Educator, Msu Extension, Lapeer, MI 48446

A free, nutritious breakfast can increase clientele or volunteer participation and help boost their productivity and efficiency. A virtual breakfast can do all that and so much more! Moreover, it also increase team participation and morale… all with no calories.

Holding in-person meetings has been a fundamental approach to Extension education. However, utilizing webinar technology can improve your reach and accessibility. The Michigan State University Extension Field Crops Team developed a live webinar that is also used as a recorded podcast called The Virtual Breakfast Series. There are over two years of data showing the power of technology and social media in building a program that has the capacity to reach different audiences outside of traditional clientele.

Participants at this workshop will learn how our team integrated different types of technology into their programming efforts to reach a diverse audience that includes interactive participation. You will learn about the steps that were taken to transform this bi-weekly internal team platform into a weekly educational outreach program held during the field crops growing season (20 weeks). Audience participation continues to increase and there were over 11,600 views in 2019 including live attendees and those viewing recordings and podcasts. Evaluation results will also be discussed. Additional benefits include buy-in from growers, agri-businesses, government agency personnel, and Extension administration, plus full team participation and support.

PODCASTING AS A TEACHING TOOL

Proposed by: Amanda Douridas

Presenters: Douridas, A., Extension Educator, Ohio State University Extension, Urbana, OH 43078
Hawkins, E., Agronomic Field Specialist, Ohio State University Extension, Wilmington, OH 45177

Farmer attendance at meetings has declined in Ohio over the past few years. A number of factors contribute to this, but one regularly mentioned is meeting fatigue. With the number of required meetings increasing, along with the busy schedule of today's farmers, competition for their attention at an Extension meeting is at an all-time high. Taking a clue from the general population who regularly listen to podcasts during commutes or while at work, we realized that farmers have the opportunity to do the same. Whether it's sitting in the tractor, hauling commodities, or driving to the field, many have the capacity and technology to listen to podcasts. In May of 2018, we started the Agronomy and Farm Management Podcast. Since then, a new episode has been released every 2 weeks on topics relevant to Ohio's grain farmers. The podcast is available on Apple Podcasts and Stitcher. In 2019, the stats from Apple Podcasts showed over 400 subscriptions, 1,253 page browses, 2,671 downloads and 1,143 streams. This podcast came in #3 out of all

Ohio State University managed podcasts for downloads. The podcast homepage is http://go.osu.edu/AFM. Podcasting is a teaching tool that can be easily implemented by other Extension Educators across the country to reach current and new clientele. During this presentation, we will share our experiences over the past two years including tools we use, how we determine topics, how much time it takes, and lessons learned.

DEVELOPING PODCASTS TO EXTEND EXTENSIONS' EDUCATIONAL REACH

Proposed by: Taun Beddes

Presenters: Beddes, T., Horticulture Faculty, Utah State University, Orem, UT 84097
Caron, T., Horticulture Faculty, Utah State University, Lehi, UT 84303

A podcast is a newer form of digital media that is a recording of a person or people that can later be downloaded or streamed. Their subject matters include entertainment, sports and politics, but many are educationally based. They are created to be released at regular intervals such as weekly and may be seasonal. Nearly half of Americans between 18 – 35 (a demographic group often difficult for Extension to reach) listen to podcasts at least weekly. Research has also shown that incorporating podcasts into learning, significantly improves retention by students of what is being taught. However, podcasting within Extension nationally is a largely untapped method of delivering research-based information, especially to younger audiences. A 2015 search published online found only 10 podcast series hosted by Extension services. A reason for this may be a lack of knowledge on our part of how to get started. However, Extension faculty and educators already regularly present relevant information to the public in many forms. For this reason, recording a podcast presenting this information need not be stressful. One also does not need to speak like a trained radio announcer to be successful. Over the last year, USU Extension has started posting podcasts hosted by various faculty, and these garner hundreds to thousands of listens of each episode. The purpose of this presentation is to show the steps of getting started. These include: inexpensive equipment for those lacking access to campus studios, basic audio editing, improving audio quality, and how to upload podcasts for listeners' use.

MASTER GARDENER TRAINING REACHES UNDER-SERVED CLIENTS THROUGH ALTERNATIVE SCHEDULE AND DISTANCE LEARNING TECHNOLOGY

Proposed by: Heather N Kolich

Presenter: Kolich, H. N., County Extension Agent, University Of Georgia, Cumming, GA 30040

For years, Extension clients in Forsyth County, Georgia and elsewhere have complained that the traditional weekday schedule of Master Gardener training excludes working adults from receiving this valued education. To address this issue, the Forsyth County ANR agent offered a once-monthly Saturday training course that included a mix of face-to-face classes and web-based sessions, including asynchronous videos and learning modules and synchronous distance learning through video conferencing technology. The course was marketed to working people, and employed applicants received preferred acceptance, without obligation to volunteer for Extension. The course filled immediately, with 20 of 30 accepted trainees being employed at least part-time. Five of the 12 monthly course sessions were completed, either partially or entirely, through asynchronous or synchronous internet platforms, including taking tests. While trainees stated they preferred face-to-face classes, an overwhelming majority of survey respondents (83%) indicated they found the web-based class sessions accessible and convenient. Over half of the trainees (52%) said they would prefer to have more asynchronous sessions if doing so allowed them to complete the class in less time. Thirty-eight percent of respondents indicated they would be open to a limited number of additional asynchronous classes, but they would miss the interaction with classmates and the agent. Despite the time between class sessions, over half of the trainees (57%) stated they felt connected to classmates and the agent. Each surveyed group included both working people and retirees. At course end, 21 trainees had completed all requirements for graduation. Eleven graduates, including seven of whom are employed full-time, have completed the Master Gardener Extension Volunteer application process and begun volunteering with Extension. Three others, including two with full-time jobs, are in the application process. One retiree trainee who chose not to volunteer with Extension is sharing his new knowledge by volunteering at a community food bank garden. This program achieved Extension objectives of serving all client audiences and providing valuable education to the community. It also generated Extension volunteers and automated education products that can lower the time-burden on the agent for future Master Garden training courses.

BUILDING RELATIONSHIPS AND INSPIRING AUDIENCES THROUGH PEER BASED VIDEOS

Proposed by: Rob Leeds

Presenters: Leeds, R., Leader Area 13, Anr Educator, The Ohio State University Extension, Delaware, OH 43015
Smith, J., Anr/4-H Educator, OSU Extension, Delaware, OH 43015
Leggett, R., Extension Associate, OSU Extension, Delaware, OH 43015
Johnston, K, Ag/CD Educator, OSU Extension, Delaware, OH 43015

This presentation will focus on Extension Educators building effective relationships and developing peer to peer learning. Studies have shown that research based information delivered on a peer to peer basis has a positive impact and can facilitate the adoption of new practices. The research that is conducted by experienced farmers is valued by others in the industry. Ohio Educators have developed a system of using videos to facilitate this type of peer to peer learning when disseminating on-farm research results. On-farm research and the dissemination of results through videos offers the potential for Extension to build relationships, and inspire learning in the agriculture community. By working with farmers on research and disseminating the results of the on-farm research through farmer videos we are able to show the expertise of our farmers and Extension's ability to connect with Ohioans to help solve real world problems. We strive to highlight engaged, approachable and accessible local farmers working with Extension professionals. We work to develop research based educational material that immerses the learner in a bold, exciting and entertaining learning experience. By working with farmers to produce results based videos we are able to offer to farmer audiences the opportunity to hear from their peers as well as Extension professionals. The purpose of creating short and engaging on-farm research videos is to develop peer based material around an experience that is entertaining and engaging while being professional. The material demonstrates that OSU Extension is committed to the land grant mission, working with Ohioans to solve problems which hinder them from reaching their personal and community goals. The research-based videos have been used in educational meetings throughout Ohio. With over 700 farmers surveyed: 40% of respondents report they are more likely to partner with OSU Extension to conduct research as a result of viewing these videos. 86% of the respondents reported that they are more likely to seek out OSU Extension as a resource for agronomy information. These results indicate that peer to peer videos encourage farmers to see OSU Extension as a partner and a reliable resource in addressing agronomy issues.

NO MONEY, NO CAMERA, NO KNOWLEDGE, NO PROBLEM – INTRODUCING ADOBE SPARK

Proposed by: Timothy McDermott

Presenter: McDermott, T., Extension Educator, Agriculture and Natural Resources, Ohio State University Extension, Franklin County, Columbus, OH 43210

Having the ability to engage your clients via digital media has been shown to be a critical tool in the toolbox of the Extension Educator. Now more than ever being able to remotely teach, reach and engage your clients can define a successful program or the lack of programming altogether. Being offline when the world is online decreases customer service, prevents outreach marketing, and leaves clients without the benefits of Extension at a time when they most need our expertise and support and at a time when our primary stakeholders are expecting our best job performance. In 2019, Google noted a spike in "with me" informative short form video content. Social media posts with video have 48% more views than plain text or images.(HubSpot) Social video generates 1200% more shares than plain text or image content combined. (G2 Crowd) There are barriers to digital engagement. It requires an investment of money for infrastructure and equipment, a large learning curve to acquire in-depth knowledge and a dedicated time commitment for successful digital engagement and content creation. Or does it? The ever evolving array of tools for digital content creation for social media, website posts, online newsletters, informative articles or videos has mitigated many of the barriers to success in digital content creation. Introducing Adobe Spark. Adobe Spark is a free online hosted application from the Adobe Creative Cloud suite of digital content creation tools. It can be used via phone, laptop or desktop and eliminates the content creation barriers via an easy click and drop interface with Educator created photo or video material. In this session the educator will learn how to access Adobe Spark, see examples of created videos and glide shows, learn how content is added and how to utilize the free music overlays or provide their own narration for teaching. Then see how the content can be branded and learn how to save and host the created content on a website. It plays nice with Facebook, Instagram and LinkedIn as well. Barriers mitigated. Time to start creating.

MEETING THE CONTINUING EDUCATION NEEDS OF EXTENSION MASTER GARDENERS DURING THE 2020 SHELTER AT HOME PERIOD

Proposed by: Pam Bennett

Presenter: Bennett, P., State Master Gardener Volunteer Coordinator, Anr Educator, Ohio State Univeristy Extension, Springfield, OH 45505

During the Covid 19 pandemic crisis, Extension Master Gardeners (EMGs) were disconnected from Ohio State

University Extension due to the requirements for "social distancing." Because it was not known the length of time that Extension Educators would be disconnected from their EMGs, the use of webinars and other digital engagement was essential. EMGs from around Ohio were expressing concern about how to get their volunteer hours as well as Continuing Education (CE) hours. A webinar series was quickly developed that incorporated speakers from around Ohio as well as other Extension professionals from around the country to address the CE hour concern.

The series of webinars were called Horticulture Happy Hour and Horticulture Lunch and Learn. Topics focused on horticulture content useful to EMGs. The Zoom webinar platform was used for the sessions; these could host up to 3,000 participants. Participants were required to register for each session separately. There was a slight learning curve in switching from Zoom meetings to Zoom webinars. The webinars were an overwhelming success. In the first session alone, 623 people registered, 508 attended, and approximately 100 thank you emails were sent. In addition, these were recorded and placed on the EMG website for them to review in the future or for those who could not attend to review.

This session will discuss the logistics in developing the webinar series, setting up and hosting a quality webinar for the maximum learning experience, as well as impact on the EMG program.

Sustainable Agriculture

EDUCATING THE PUBLIC ON SUSTAINABLE AGRICULTURE AND LOCAL FOODS IN WHITE COUNTY

Proposed by: Sherri Sanders

Presenter: Sanders, S., Cea-Agri, University of Arkansas System Division of Agriculture, Searcy, AR 72143

Approximately 2.3 million people in the US live in food deserts. The USDA defines a food desert as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food." Instead of grocery stores, these communities may have no food access or be dependent on fast food restaurants and convenience stores. The goal of this comprehensive program is to help turn food deserts into locations with access to reliable, affordable and healthy food options like fresh fruits and vegetables. Experiential learning is the process of learning through experience. Hands-on learning can be a form of experiential learning and has proven to be successful in retention of subject matter. Gleaning information from others, with proven experience, can be invaluable to our clientele. Likewise, our seasoned audience have learned from the younger generation too. That is our goal through this program – to create a reciprocal learning environment for the public. Intensive programmatic efforts were conducted/coordinated for the last three years in the following areas: 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. Demonstrations conducted: 2 Tomato Demonstrations (2018 pruning – 2019 Variety); Blackberry Demonstration – Primocane and Traditional Blackberries (2017 – 2020 multiyear project); 5 Brown Bag Lecture Series (2017 -2019); 4 Fruit Tree Pruning/Thinning Workshops; and 2 Edamame Demonstration Gardens for adults and youth (2019). Since 2017 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 1,324,456 indirect contacts and 543,332 direct contacts in Sustainable Agriculture programming.

POLLINATORS PROMOTE AGRICULTURAL AWARENESS

Proposed by: Jessica Sullivan

Presenter: Sullivan, J., Extension Agent - Agriculture, University Of Florida Ifas Extension-OsceolaCounty, Kissimmee, FL 34744

Situation: Pollinators worldwide are in decline and scientists are concerned about resulting crop pollination deficits and diminishing native biodiversity. There is also alarm from the general public about threats to pollinators. Unfortunately, abundant misunderstanding exists about pollinators, causes of the "pollinator apocalypse" and protecting pollinators. Furthermore, the public lacks an accurate understanding of related agriculture and food systems issues. Educating people about pollinators is an opportunity for Extension to provide science-based information on a wider array of topics including the economic contributions and ecosystem services of agricultural lands and producers. Objectives: 1) Increase participant knowledge of pollinators and agriculture 2) Encourage participant adoption of Pollinator Protection Practices, participation in citizen science projects and actions that support Florida agriculture. Methods: The Agent created a Florida Pollinators presentation aimed at general adult audiences, covering pollinating species, creating pollinator habitats, Florida agricultural crops, the beekeeping industry, and responsible pesticide use. While highlighting pollinator

threats, the presentation introduces larger issues like climate change, food security, and preservation of agricultural and conservation lands. The Agent also developed an accompanying "Plants for Pollinators" list and a "Pollination Station" exhibit featuring an interactive trivia game to educate the public at community events. Results: The Agent taught pollinator awareness to 243 (two-hundred-forty-three) people at seven events (2019-2020). Over 100 people were educated at the pollinator exhibit. Participants in pollinator awareness classes reported taking action as a result of what they learned, including planting pollinator gardens and reducing pesticide use. Formalized evaluation tools were subsequently developed to capture program impacts: 1) A pre-post questionnaire to measure knowledge gain from attending a pollinator awareness presentation 2) A six-month follow-up questionnaire to track Pollinator Protection Practice adoption, citizen science participation, and actions supporting agriculture. Conclusion: Demand for pollinator education is high, presenting a unique chance to reach non-agriculture audiences on important agriculture issues. The public has a desire to learn about pollinators and is willing to take action to support them, whether it's planting pollinator habitats, working locally to protect conservation and ag lands that support pollinators, documenting pollinator sightings, or making purchasing decisions that support Florida agriculture.

LEADING AN EFFECTIVE BEEKEEPER EDUCATION PROGRAM IN YOUR COUNTY

Proposed by: Keith Fielder

Presenter: Fielder, K., County Extension Coordinator, University Of Georgia, Eatonton, GA 31024

Interest in beekeeping has increased tremendously in recent years due to demand for locally produced foods and expanded pollination needs. Client inquiries concerning beekeeping directed to extension agents has increased in parallel with this surge in interest. This has created a dilemma in satisfying information requests with sound research based information as comparatively few extension agents are well versed in apicultural matters. In addition budget constraints have forced many land grant universities to minimize or eliminate extension apicultural programs as personnel retire. Such cuts have broken the critical agent-specialist link in the information dissemination process. Most land grant institutions do have resource materials available; however, agents without beekeeping experience find it difficult to sort through unfamiliar terminology in an effort to provide useful information to the client. A framework of basic information and cooperation with experienced local beekeepers can prove rewarding when serving the educational needs of this rapidly expanding client base.

OPTIMIZING YIELD, MILLING QUALITY, AND DISEASE MANAGEMENT IN SPELT

Proposed by: Elizabeth Bosak

Presenters: Bosak, E., Field & Forage Crops Educator, Penn State Extension, Dauphin, PA 17018
Collins, A., Assistant Professor, Penn State, Southeast Agricultural Research and Education Center, Manheim, PA 17545

Over the last decade, consumers including professional bakers are seeking out spelt and other heritage grains. Field production of spelt is similar to winter wheat but much remains unknown about selecting varieties for milling, disease resistance, and yield. In 2017, 2018, and 2019, three spelt varieties were planted at an on-farm cooperator's field in Dauphin County Pennsylvania and four spelt varieties at the Southeast Agricultural Research and Education Center in Lancaster County. Disease resistance ratings were taken throughout the growing season as well as stand counts and heights. Varieties were planted in a randomized complete block design with either four or six replicates and harvested with a small plot combine in early July. Grain samples were de-hulled and sent to Kansas State University's Wheat Quality Lab for milling quality analyses including protein, falling number, and farinographs. Results from all three years will be presented when possible; the 2019 planting will be harvested in July 2020. Funding for this project was provided by USDA-NIFA's Sustainable Agriculture Research and Education program (project SARE LNE17-356-32231).

Leadership & Administrative Skills

AREA LEADERS - HYBRID ADMINISTRATIVE AND PROGRAM POSITIONS IN EXTENSION

Proposed by: Lee Beers

Presenters: Beers, L., Extension Educator/Area Leader, Ohio State University, Cortland, OH 44410
Barret, E., Extension Educator/Area Leader, Ohio State University, Canfield, OH 44406
Bennett, A., Extension Educator/Area Leader, Ohio State University, Troy, OH 45373
Bruynis, C., Extension Educator/Area Leader, Ohio State University, Chillicothe, OH 45601
Clevenger, W.B., Extension Educator/Area Leader, Ohio State University, Defiance, OH 43512
Leeds, R., Extension Educator/Area Leader, Ohio State University, Delaware, OH 43015
McCutcheon, J., Assistant Director of Operations, Ohio State

University, Columbus, OH 43210
Stumbo, M., Extension Educatortension Educator/Area Leader, Ohio State University, Pomeroy, OH 45769

Ohio State University Extension began an administrative restructuring process in 2018, known as DesignEXT. This process saw the transition from a model that had both Regional Directors and County Directors to units called Areas. Twenty-four areas were created, with each consisting of one to five counties depending on the number of staff in each county. The new Area Leader role was designed to have 50% administrative and 50% programming responsibilities. Area Leaders were appointed from within OSU Extension and were predominantly Extension Educators. Area Leaders continued their established programming but were provided with funds to hire program support personnel in an effort to maintain county programs at previous levels. Area Leaders then took on administrative tasks, including performance management, fiscal approvals, policy implementation, and general oversight to Areas. Area Leaders have varying levels of administrative skills, as most were initially hired at OSU Extension based on their programmatic experience. Learning new administrative roles while maintaining a county-based program resulted in growing pains, as balancing the dual roles proved problematic for most Area Leaders. During the first year it was common for Area Leaders to maintain a full programmatic load in addition to the new administrative responsibilities. Here we will discuss both the professional growth opportunities and the challenges inherent with a hybrid administrative and programmatic role such as this.

WILL YOU DARE TO LEAD?

Proposed by: Connie L Strunk

Presenter: Strunk, C. L., Plant Pathology Field Specialist, SDSU Extension, Hartford, SD 57033

As Extension Agents, Specialists, Directors, and staff we often find ourselves in leadership positions within our office and community. As a leader you cannot have courage without vulnerability. Vulnerability (uncertainty, risk, an emotional exposure) is the foundational skill set of courage. Are you a leader who struggles with vulnerability? Do you want to set boundaries with coworkers to improve working relationships? The information you will learn in this presentation will change how you show up at work. Daring leadership requires showing up for hard conversations and rumbles, including giving and receiving feedback. "Dare to Lead", based on Brene´ Brown's research, teaches us the heart of daring leadership and that courage is a collection of four skill sets (rumbling with vulnerability, living within our values, braving trust, learning to rise) which are measurable, observable, and teachable. Self-awareness plays a critical role in daring leadership. The greatest obstacle to daring leadership is armor, not fear. Learn the importance of examining your arena, determining your square squad, and see how shame shows up at work. Take the challenge and Dare to Lead integrating what you learn until it becomes a daily practice.

VALUES BASED CUSTOMER SERVICE FOR EXTENSION

Proposed by: Eric E.Barrett

Presenters: Barrett, E. E., Assistant Professor, Ohio State University Extension, Canfield, OH 44406
Leeds, R.P., Extension Educator, Ohio State University Extension, Delaware, OH 43015

Customer service is the backbone of Extension at the county level and beyond. For years, we've been training front line staff to be good at customer service. Sometimes we succeed, and we offer great customer service. Other times we leave lots of room for improvement. We all have good intentions to be the best we can be and to provide the best customer service possible. Consistency is just the start of the challenges we face as a statewide campus of our universities. What we ultimately lack, though, is a focus on values within the organization as the backbone to the customer service plan. This presentation will share an innovate approach to values-based customer service. We will share examples of designing and implementing a values-based customer service plan for the organization based on simplifying the organization's values into 3-4 memorable keys that every employee is introduced to at orientation. Then, the keys are repeated and used throughout the training process to emphasize what Extension does. These keys help the organization stay focused on the values it which it believes and guarantees customer service is delivered in the best possible ways using the keys. Beyond the values-based plan, we will review the four steps to writing a plan for and providing excellent, awesome customer service. The plan elements include Prepare, Respond, Recover and Improve Practices. This cyclical process approach to the customer plan that is based on organizational values ensures continues improvement, versus a concept that is often talked about but rarely implemented across the board.

2020 AM/PIC SPEAKER PROFILE

Michele Payn, CSP

Take Food Bullying by the Horns: Filled with examples from across the grocery store and scientific evidence, this webinar is filled with new insight. Food bullying is taking away choice on farms and ranches across the world. Based on the new Food Bullying book, Michele illustrates how trends in neuroscience and psychology are changing perceptions about farming, and agriculture as a whole. She also takes a lively look at where these trends have led to bullying within agriculture and how we can be more compassionate in our business to help consumers better understand the complexities of the food system.

Michele Payn, CSP, connects the people and science of food and farming as principal of Cause Matters Corp. She is known for being a community catalyst, a passionate advocate for global agriculture —and antagonizing people into action. Michele has worked with farmers in more than 25 countries, raised over $5 million in sponsorships for the National FFA Foundation, and has been involved in Extension most of her life. She is the author of three books: #1 best seller Food Bullying; Food Truths from Farm to Table, an IPPY bronze medal winner; and No More Food Fights! Michele's degrees are in Agricultural Communications and Animal Science from Michigan State University. She has earned the Certified Speaking Professional designation, awarded to less than 10% of professional speakers globally. She resides with her 'city slicker' husband and cow-loving daughter on a small farm in central Indiana. She enjoys Registered Holsteins, the MSU Spartans, and making memories with friends around the table. Michele connects conversations around the food plate at www.causematters.com and socially through @mpaynspeaker.

If you are interested in obtaining a discounted author-signed copies of Food Bullying go to https://causematters.com/foodbullying/food-bullying-nacaa/.

Why do you need Food Bullying? Food has become a battleground where marketing labels and misinformation is used to bully and demonize people around their eating and farming choices. What if you could stop stressing about what other people think and make eating decisions based on your own standards? This startling look at the misrepresentation of food sheds light on bogus nutrition and environmental claims to help you recognize bullies and defend your food choices. You'll hear more from Michele Payn with her "Take Food Bullying by the Horns" keynote to kick-off our conference - this book is a great way to take home some of her research around help others understand our business.

ANNUAL MEETING AND PROFESSIONAL IMPROVEMENT FUTURE CONFERENCE DATES

2021

Philadelphia, Pennsylvania.....July 4-8

2022

West Palm Beach, Florida.....July 17-22

2023

Des Moines, Iowa.....August 12-17

2024

Dallas, Texas.....July 14-18

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