



ABSTRACTS

2022 System-Wide Conference
*1890s Positioning Extension
for the Next Generation*

Orlando, Florida • July 31–August 4







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Orlando, Florida • July 31-August 4



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ORAL PRESENTATIONS



Monday, August 1

1:30 – 3:00 PM

Minimizing Pharmaceutical Impacts in the Home and the Environment Utilizing a One-Health Approach

Karnita Garner, Extension Specialist; Paul Okweye, Associate Professor and Allyson Shabel, Urban Regional Extension Agent, Alabama A&M University

The Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) program was developed to advance knowledge and awareness and emphasize the benefits of using safe, effective methods to dispose of expired, unused and unwanted PPCPs. Applying a 'One-Health' approach, SerPIE has integrated the efforts of multiple disciplines to minimize PPCP impacts. The program targets both youth and adults and reaches audiences that range from youth counselors to animal producers. In this workshop, we'll share program specifics and challenges.

Sustaining the Growth of Small Farm Operations through Education and Outreach Programs

Margeria Smith, Agriculture Educator, Alcorn State University

Small farms, a cornerstone of American agriculture, play a significant role in supporting rural employment and are important for production, particularly for local specialty crops. I'll share how our training program helped farmers learn how to grow, manage, package and market quality produce and work effectively with USDA agencies.

TEAM Success — Teaching, Enlightening, Achieving and Mentoring

Kena M. Torbert, Family Life Specialist and Phillip Petway, 4-H Agent, Fort Valley State University

One way to recruit students for schools of agriculture and grow a future agricultural workforce is to share hands-on experiences with potential students. Using TEAM Success, Fort Valley created a paid, six-week summer internship program pairing high school students with field staff and allowing them to work in their local communities. Hear our stories and how you can implement a similar program.

The Capacity to Support: Developing the 1890 Multi-State Community Nutrition Education Conference

Andrea Morris, Extension Specialist, Alabama A&M University; M. Shea Austin Cantu, Director of Community Nutrition Education, Tennessee State University, and Teresa Henson, Program Outreach Coordinator, University of Arkansas at Pine Bluff

The Community Nutrition Education programs at Alabama A&M University, Tennessee State University and the University of Arkansas at Pine Bluff pooled resources to create and host an annual 1890s Multi-state Community Nutrition Education Conference focused on increasing food accessibility. The conference sought to address the needs unique to 1890 audiences and provide staff professional development. With two conferences under our belt, hear what we learned and how we will proceed.

A Focus on the 1890s' and Advisory Councils' — Collaborations that Achieve Community Goals and Address Gaps in Our Workforce

MaKelia D. Mitchell, Midlands Regional Director; Boyd Owens, Upstate Regional Director; Cornelius Hamilton, Regional Director, and Deborah Hardison, Pee Dee Regional Director, South Carolina State University

How can the 1890s create effective strategies, programs and models to develop a strong, capable, and ready workforce while collaborating with stakeholders to achieve community goals that improve the financial, social, physical and mental outcomes in our limited-resource, underserved and minority audiences? How can we offer effective, long-lasting and timely solutions for implementation that produce positive change and support continued growth? One way might be the use of strong Regional Advisory Councils. This workshop shares our story.

Florida's Family Heirs' Property Title Clearing and Resolution Program

Sandra Thompson, Community Resource Development Program Leader and Specialist, Florida A&M University

Heirs' property owners have difficulty navigating the title clearing process, resulting in eventual land loss due to unpaid taxes, forced partition sales and outright theft. The Florida Family Heirs' (FHP) Property Title Clearing and Resolution Program helped resolve some of these issues and helped families keep their land. We'll share our results with you in this session.

Two Birds, One Stone: An Urban Environmental Science Education Youth Spotlight Program

Roosevelt Robinson, Urban Regional Extension Agent, Alabama A&M University

Learn how we increased STEM participation with urban youth using song birds. This program has allowed students to learn in a natural classroom and helped them develop and apply basic research methods, enhance critical thinking and written and oral communication skills. See how our feathered friends can help lift you 4-H'ers to success.

Engaging, Empowering and Educating Next Generation Stewards of Urban Green Communities

Rudy Pacumbaba, Extension Specialist; Haynes Jackson, Regional Extension Agent and Allyson Shabel, Regional Extension Agent, Alabama A&M University

Recognizing that one program can't be the answer to increasing the number of young people participating in agricultural programs, we developed a series of activities designed to reach a variety of youth of all ages. We'll show you how we dug through all the research and are growing the programs sure to produce a bountiful harvest.

The Digital Divide Between Senior Citizens and Society

Marla Moore-Collins, Regional Coordinator and Educator, Lincoln University

"My Digital Life" was created to minimize the digital divide between senior citizens, their families, community service providers, business people and government agencies. The program has helped senior citizens use the internet for personal and professional reasons, view medical records, find historical information, text and access images, to name a few. This session will share our program and its successes

When Leadership is Not in Your DNA

Cynthia Canfield, Extension HR Manager, Alabama A&M University

This session will help leaders and future leaders think about leadership as part of their DNA. Typically, researchers/educators manage programs and people within their discipline, but finding that leadership competency within is often elusive. By understanding the correlation of competencies needed for leadership and research/education and how those are complimentary is the focus of this presentation. The target audience is anyone who leads others, wants to lead others, or expects to have leadership as part of their research/educational career.

3:30 – 5:00 PM

The Master Goat and Sheep Certification Program

Angela McKenzie-Jakes, Program Leader, Florida A&M University

The Florida A&M University Master Goat and Sheep Producer's Certification Program (MGASCP) was developed to help provide producers with educational information and training opportunities in small ruminant production, management and marketing. This session will share the details of the six-day program and update you on our successes, challenges and impacts.

Healthy Grandfamilies Program”

Melissa Lilly, Director, Center for Healthy Grandfamilies, West Virginia State University

Over 2.7 million grandparents in the U.S. are raising their grandchildren, generally resulting from child abuse or neglect, addiction, mental health disorders, incarceration or death. These grandfamilies are among our most vulnerable populations. They often receive little or no financial support and do not know where to turn for social and emotional support. The Healthy Grandfamilies program offers an 8-week course (in-person or virtual due to COVID) educating grandfamilies on topics like parenting and health literacy. Over 1,000 grandfamilies have participated in the program thus far.

Blend It: Nutrition Education Using Blender Bikes

Shewana McSwain, SNAP-ED Coordinator, North Carolina A&T State University

The Blender Bike is a fun and interactive teaching tool used to communicate healthy living messages such as the importance of incorporating physical activity and a healthy diet full of fruits and vegetables into your daily life. This workshop will provide sample lesson plans and recipes and incorporate the use of the blender bike. Come ready to pedal your way to good health.

Food Insecurity Intervention Strategies in Selected Oklahoma Communities

Nirodha De Silva, Assistant Professor, Langston University

Developing programs that answer the many whys of food insecurity can be complex and come with challenges. See the approach we took in Oklahoma and learn some of our lessons, how we overcame hick-ups and developed impacts. Come prepared with questions and walk away with strategies.

Integrating Disaster Education into Your Extension Work

Michelle Eley, Community and Economic Development Specialist, North Carolina A&T State University; Noel M. Estwick, Assistant Professor of Agribusiness, Prairie View A&M University; Rita Fleming, Assistant Professor and Health Education Specialist, Tennessee State University and Kimberly Davis, Extension Agent and Emergency Management Specialist, Florida A&M University

As a newly established knowledge area for USDA NIFA (referred to as KA 807), the 1890 Extension system has an opportunity to consider how it can better assist individuals, youth, families and communities to become more resilient and reduce the impact of natural and man-made disasters by making informed personal decisions in all phases of any disaster. This interactive session will cover how disaster education can be integrated across program areas and examples of practical activities and tools will be included.

Promoting and Growing 4-H Programs Utilizing Common Measures and Lesson Study

Manola Erby, Youth Specialist, Alcorn State University and Tiffany Wilkinson-Franklin, Program Leader 4-H Youth Development, Southern University

Identifying outcomes and indicators, developing an assessment process and providing programs and resources to assist in planning local, state and regional evaluations, using the National 4-H Common Measures, can be confusing. This hands-on session will help you better implement the instrument and thereby increase staff satisfaction and performance and participant impacts and successes.

Lights, Camera, Awareness Program

Mariann Wright, Area Educator, 4-H and Youth Development and Dawn Jordan, Program Assistant, Lincoln University

The Lights, Camera, Awareness Program helped young people hone their filmmaking, interviewing and public speaking skills as they created a series of videos showcasing local Black businesses. These videos increased traffic on the 4-H social media pages and served as a marketing tool for the participating businesses. This session will share those videos and help you create a similar program helping young people refine their skills and better understand their communities.

Writing Winning Grant Proposals in 90 Minutes

Sayako Seymour, Extension Agent, 4-H Youth Development, Prairie View A&M University

This hands-on grant-writing session is designed to better equip Extension staff and improve their competencies in resource development. Participants will complete a simple grant-writing process in 90 minutes. This workshop is introductory and intended for those Extension program staff in any discipline who have no or limited grant-writing experience. Come prepared to write and to land that grant.

Building Self-Efficacy in Beginning Farmer Training

Alcinda Folck, ANR Program Leader, and Mark Amante, Regional Educator, Central State University

To support new farmers, Central State University developed two incubator farms to help socially disadvantaged individuals learn how to operate a profitable farm. The farmers were provided plots for intensive vegetable production and got regular, on-site, hands-on training from Extension educators. While the program is ongoing, early data shows the incubator farms are helping participants improve their confidence levels and motivation. Are incubators something you should consider?

Tuesday, August 2

1:30 – 3:00 PM

Hemp Program at N.C. A&T Extension Provides Guidance to Small Farmers

Sanjun Gu, Extension Specialist Horticulture and Randy Fulk, Extension Associate, North Carolina A&T State University

The 2018 Farm Bill, that redefined industrial hemp as an agricultural commodity, resulted in a renewed interest in industrial hemp. N.C. A&T initiated a hemp outreach and applied research program in 2018 to help small farmers understand hemp regulations and potential markets and to develop and promote best growing practices for this important and re-emerging crop. This session will share our efforts to date.

Connecting the Dots: Developing a Resilient Statewide Community Garden Network

M. Alyssa McKim, Community Garden Coordinator, North Carolina A&T State University

This session will outline the process N.C. A&T is taking to develop a statewide community garden network. While still in its infancy, there is importance in presenting the development thus far. We'll share the complexity of cultural, ecological and socioeconomic challenges and the two-and-a-half-day community garden leadership training we recently piloted.

Walking Like a CHAMPION

Tamara C. Warren, Extension Specialist; Juana Macias Christian, Urban Regional Extension Agent; Nkenge Hyter, Urban Regional Extension Agent; Shanetria Orr, Urban Regional Extension Agent, and Taylor Palmer, Urban Regional Extension Agent, Alabama A&M University

The Community Health Aerobic Motivational Program Initiating Optimal Nutrition (CHAMPION) is an ongoing program that encourages Alabamians to get healthy by eating the right foods and adding physical activity to their daily routines. The 12-week program, launched in 2020 and conducted face-to-face and virtually, showed preliminary results of participants increasing their walking time and duration and losing weight. We want to share how we're making CHAMPIONS in Alabama and how you can do the same in your area.

Risky Behaviors: Roadblocks to Disease Prevention

Crystal W. Wiltz, Family and Community Health Extension Agent and Grace Guerra-Gonzalez, Family and Community Health Extension Agent, Prairie View A&M University

Finding creative ways to help at-risk groups make lifestyle changes to eliminate and manage chronic, long-term diseases can be a challenge. This workshop will share the steps we used along with client testimonials. This is an excellent session for Extension agents looking for ways to reinvigorate their own programs.

Igniting Opportunities for Civic Engagement

Michelle Eley, Community and Economic Development Specialist and Kittrane Sanders, Community and Resource Development Agent, North Carolina A&T State University

Community leadership is a shared responsibility, but communities everywhere struggle to find a critical mass of active, informed citizens who can effectively address community issues. This session will share information on how state and county Extension faculty can offer an innovative learning experience for residents who would benefit from acquiring basic skills in public decision making and community leadership through the Community Voices program. The session will highlight how the program has been used successfully with youth and adult audiences.

Positioning Extension for Generational Impact through Public-Private Partnerships with Prairie View A&M Cooperative Extension's Businesses in Development (B.I.D.) Academy Program

Natriez Peterson, Extension Program Specialist, Community and Economic Development and Talia Washington, Extension Program Specialist, Prairie View A&M University

In many instances, limited-resource clients are first-generation business owners who may lack the training and knowledge necessary to market, bid and win state contracts. We developed the Businesses in Development (B.I.D.) Academy to teach minority-owned businesses how to successfully identify and submit bid contracts with private and public agencies across the state. The goal of this interactive session is to engage participants in the discussions and efforts of developing innovative programs that create generational impact through public-private partnerships.

Youth and Law

Carla Lippett, Coordinator Academic Support Services; Keith Parker, Professor and Kenya Washington-Johnson, Assistant Professor, Florida A&M University

A 16-session interactive program designed to help youth learn about the law and its consequences not only helped improve their understanding of the law but helped to deter criminal behavior. It also helped them develop problem-solving and communication skills. Learn about the program and how you can use the lessons to get similar results.

Empowering Mississippi Youth Through the 4-H Food Smart Families Healthy Living Program

Manola Erby, Youth Specialist, and Sheba Moses, 4-H Youth Educator, Alcorn State University

Mississippi was one of seven states that participated in the 4-H Food Smart Families Program funded by the National 4-H Council and UnitedHealthcare. 4-H Food Smart Families Program helped 60,000 youth to create food secure homes by teaching them how to make healthy lifestyle decisions beginning at the point of their grocery shopping experience and continuing to meal preparations in their kitchens. The programming also includes family events, and participants receive groceries to take home and practice their new skills. This workshop will share our success.

Multi-Channel Marketing & Communications: Smart Approaches to Extending Knowledge Where the Public Goes for its Information

Erica Shambley, Acting Director of Marketing and Communications, Virginia State University

Multichannel marketing refers to the practice of interacting with the public using a combination of communication methods, or “channels” — websites, eNewsletters, magazines, blogs, emails, direct mail, podcasts, etc. — and enabling the public to interact with your organization using the channel of their choice. Are you extending that knowledge where your public is going for information? If not, or you're not sure, this is the session for you.

The Impact of Trauma on the Lives of Extension Clientele

Sabrina Simon, Program Specialist and Gloria Carter, Extension Agent, Prairie View A&M University

None of us are immune to the effects of trauma. Whether you were involved in an abusive romantic relationship, an acrimonious divorce, witnessed a horrific event, experienced workplace bullying or was subjected to abuse or neglect, the effects of experiencing trauma can last for a few moments or for a lifetime and can lead to the development of depression, PTSD, anxiety, addictions, phobias or social problems. Trauma can negatively impact all areas of our lives including work. This workshop will provide an opportunity to better understand trauma and the impact it has on individuals, families and communities.

3:30 – 5:30 PM

Enhancing Capacity of Louisiana's Small Farmers and Businesses and Technical Assistance Certification Program

William Augustine, Project Coordinator; L'Asia George, Research Associate and Marlin Ford, Urban Agriculture Specialist, Southern University

One approach Southern University used to assist small farmers was an update of the Jessup Wagon — a Mobile Technology Education Center (M-TEC). Outfitted with state-of-the art equipment, the M-TEC brings internet access and live instruction to the fingertips of citizens in the most marginalized areas of the state. This session will share our work to date and showcase our impacts and challenges.

Working with Veterans and Veteran Farmers Throughout Tennessee

Jennifer W. Goodrich, Extension Agent Adult Agriculture and County Director; Finis Stribling, Area Extension Specialist and Karla Keen, Extension Agent, Tennessee State University

In this workshop we will discuss how we identify and develop relationships within our community that strengthen veteran outreach. We will share programming that we have implemented statewide that have attracted strong veteran participation and shown identifiable impact. We will also share the teaching practices that have shown the best results and how we structure our classes to provide the informal opportunities to foster relationship building. We will also share our goals for the future as we continue to develop and expand our veteran outreach.

Integrating 4-H Youth Development and the Expanded Food and Nutrition Education Program (EFNEP) to Build a Healthy Lifestyle for Youth and Families

Teki Hunt, Director of 4-H Youth Development, and Teresa Henson, EFNEP Coordinator University of Arkansas at Pine Bluff

The University of Arkansas at Pine Bluff (UAPB) 4-H Youth Development Program and the Expanded Food and Nutrition Education Program (EFNEP) partnered to provide youth and families with the latest research-based information to improve their healthy food choices and increase physical activity. Integrating 4-H and EFNEP programs have allowed us to target youth participants that we didn't access before. A 4-H Healthy Habits grant funded by the Walmart Foundation in 2018 helped us make this successful connection.

Community Engagement and The Culture of Health Initiative: Successes and Challenges Well Connected Communities (WCC) Project on the Lower Eastern Shore of Maryland

Virginie Zoumenou, Nutrition and Health Program Director; Naveen Kuman Dixit, Assistant Professor, Horticulturist and Marie Therese Oyalowo, Associate Professor and Drug Information Director, University of Maryland Eastern Shore

It indeed takes a whole community to develop a healthy community and all factors — social, economic, environmental and spiritual — have to be considered if you are aiming for success. Building effective programs with community support ensures long-term success. This workshop shares our roadmap so you can replicate our efforts.

Entre to Entrepreneurship

Amber Twitty, Community and Economic Development Educator, Central State University

Entre to Entrepreneurship partners with local reentry programs and penal institutions with pre-release programs to help prepare pre- and post-incarceration offenders with the skills needed to survive outside. In addition to exploring the option of entrepreneurship as a viable career option, all participants gain transferrable skills they can use no matter how they choose to enter the world of work. We'll share our lessons learned and program outcomes in this session.

Learn to Facilitate Civil Dialogues Around Racial Issues and Their Intersections with the Food System

Lindsey Lunsford, Assistant Research and Extension Professor for Food Systems, Education and Policy and Natilee McGruder, Program Manager, Tuskegee University

Learn to create a space for civic dialogue in your community — specifically, dialogue around difficult issues (race being one) — and how these issues can lead to community development. The Tuskegee Public Dialogue Team, who will lead this session, will equip you with new, practical skills for facilitating conversation in your community around racial equity in the food system and community development. This will be a participatory session, allowing you to practice as you learn.

BRED for Excellence 4-H Ignite Youth Conference

Patrice Thompson, 4-H Agent and Louis Milligan, 4-H Extension Agent, Kentucky State University

Helping a young person identify their spark, that one thing that propels them to strive for greater personal and academic success, can be a challenge. Using the Igniting Sparks Curriculum, we created an opportunity for middle-school students to share their needs and then developed materials the teachers and volunteers can use to create leadership and service-learning opportunities. This workshop can help you find that local spark.

Building a Community Youth Partnership from the Ground Up

Adrian Hendricks, State Specialist and Callie Newsome, Area Educator, Lincoln University

Educating students in a diverse environment is important and critical to preparing them for the 21st Century. But how do you design such an environment? This session examines how to design and implement diversity initiatives, programs and practices in our nation's colleges and universities so all students are supported and successful.

Communications with Farmers in the Digital Age

Homero Salinas-Gonzalez, State Extension Specialist Small Ruminant, Lincoln University

To make sure farmers getting information from social media were getting viable information, Lincoln developed a communications strategy to support farmers using various communications platforms. We'll share our story and offer information to help you get started as well.

Extension Evaluation: How to Get the Best Outcomes for the Biggest Impact

Lauren Hargrave, Evaluation and Accountability Coordinator, North Carolina A&T State University

This session will walk participants through the process of evaluating an extension program to get the best outcomes for a successful impact statement.

Get LIT! Implementing Residential Leaders in Training Programming

Shannon Wiley, 4-H Specialist and Keli Boone, 4-H Agent, North Carolina A&T State University

This workshop will share tips and strategies for planning and implementing a First-Generation Leaders in Training (LIT) campus-based residential program. This competitive program, designed for 13–18-year-old youth, cultivates the leadership and soft skills that students can implement in their communities as part of new 4-H programs. Learn how you can create a similar program and boost minority youth 4-H participation.

Wednesday, August 3

8:30 – 10:00 AM

What's New in USDA Resources for Organic and Transitioning Farmers

Taurus Preston and Candice Harvey, Compliance Specialists, USDA National Organic Program

Learn about existing resources offered by the agency and the \$300 million in new initiatives that USDA is committing to help farmers transition to organic production.

Overview of Organic Farming Activities in the Southeast United States

Kokoasse Kpomplekou-A, Researcher and Professor, Plant and Soil Science, Tuskegee University

A consortium of agricultural institutions in the Southeast (Auburn University, Mississippi State University, North Carolina State University and Oregon State University) and the Alabama Sustainable Agricultural Network led by Tuskegee University have come together to facilitate development of a strong and vibrant organic farming industry in the Southeast through consumer education, market development and effective educational support for farmers and Extension personnel. This workshop will discuss our work and the need for greater 1890 participation.

Minding My Own Business: An Innovative Youth Entrepreneurship Program for Today's Youth

Larry A. Connatser, Assistant Professor, Family Financial Management Specialist, Virginia State University

Starting a business is one thing, but making sure you have what it takes to keep that business going requires another set of skills. Minding My Own Business is a program that provides the tools needed to ensure that the drive and ambition are combined with the skills and knowledge needed to operate a business. Get an overview of our program and let it flourish in your community.

Revitalizing Community Economic Development through Farmers' Needs Assessment in Agriculture

Lila B. Karki, Extension Program Evaluation Specialist; Enrique N. Escobar, Associate Dean for Extension, and Suzanne W. Street, Agricultural Communications Specialist, University of Maryland Eastern Shore

If you're an Extension professional looking to enhance the efficacy, effectiveness and impact of your Extension programming, listening to the results of our Farmers' Needs Assessment Agriculture (FNAA) might be what you need. FNAA allowed us to assess the needs of small, socially disadvantaged and minority farmers to determine how to help them enter or remain in farming. This information was then used to drive our strategic planning. This workshop can help you as you refine your programming.

Preserving Cultures and Open Spaces: CIVIC Addresses Land-Use Planning in Historically Black Communities

Kimberly Davis, Extension Agent and Emergency Management Specialist, and H. Dreamal Worthen, Family and Consumer Sciences Extension Specialist, Florida A&M University

Local citizens can feel increasingly removed from land-use decisions in their communities. Additionally, members of some groups are historically underserved by local government and may not feel invited to engage with local government. Florida A&M partnered with the University of Florida to create Community Voices, Informed Choices (CIVIC) to help overcome these obstacles. This workshop will share our program and its impacts.

Take Control of Your Health, Learning to Make Healthy Choices: Diabetes Empowerment Education Program

Pratibha Gupta, Extension State Specialist, Central State University

More than one in three American adults, especially minorities, have elevated blood sugar levels that can lead to diabetes. Making simple lifestyle changes is one way to prevent or delay this and other chronic diseases. To assist, Central State developed the DEEPTM hands-on workshops to help individuals make lifestyle changes, plan menus, practice portion control, label reading and increase physical activity. Learn how we're helping our clients take control.

3D Printing Without a Printer: 3D Drafting with 3Doodler Pens

Semaj Johnson, 4-H STEM Associate, North Carolina A&T State University

No doubt, 3D printing and rapid prototyping are gaining popularity. But these tools can be expensive. We'll show you how you can use a 3Doodler pen and get the same results. You don't need a 3D printer or a computer, but you can bring this technology to your 4-H participants.

Empowering Tomorrow's Leaders of Health Today

Dawn Burton, Health Coordinator, Prairie View A&M University

This session will be conducted as a simulated training for Heroes 4-Health Teen Health Ambassadors. Participants will experience what it's like for the teens preparing for the ambassador/advocate roles, which helps families make better lifestyle choices. Join us on this journey.

Delivering an Online Educational Course to a Global Audience

T.A. Gipson, Acting Associate Administrator and Goat Extension Leader, and R.C. Merkel, Associate Professor, Langston University

Delivering science-based online courses can be challenging for many universities, especially with limited information technology staff. Langston University led a consortium of universities to develop online certification courses for dairy and meat goat producers using Moodle, an open-source learning management system. Get more information on the course, designed for dairy and meat goat producers, county agents and other agriculture professionals.

Sustainable Urban Agriculture Certification Program at Virginia State University

Leonard Githinji, Assistant Professor and Extension Specialist, Virginia State University

Urban agriculture, defined as the growing of plants and the raising of animals for food within and around cities, has a huge potential of mitigating food deserts. To help meet the growing demand for well-trained urban agriculture professionals, Virginia State University Cooperative Extension created a Sustainable Urban Agriculture Certificate Program designed for Extension educators, or anyone charged with starting or managing an urban farm. This session will discuss program highlights.

10:30 AM – 12:00 PM

STEM Education for Youth through Outreach Activities in Aquaponics and Hydroponics

Chris Mullins, Assistant Professor and Extension Specialist, Virginia State University

Careers in STEM (Science, Technology, Engineering and Math) are projected to grow by 13% by the end of this decade outpacing other career options by 4%. Youth readiness for college in STEM competencies is needed. Over the past two years, activities focused on aquaponics and hydroponic production techniques have been conducted to address the issue. Over 500 students, teachers, teaching assistants and others have increased their knowledge of basic STEM components, seven schools improved their system and four built one of the systems.

Delmarva All Worms All Day

Kwame Matthews, Assistant Professor and Small Ruminant Specialist, Delaware State University; Dahlia O'Brien, Professor and Small Ruminant Specialist, Virginia State University; Niki Whitley, Extension Specialist, Fort Valley State University and Enrique N. Escobar, Associate Dean for Extension, University of Maryland Eastern Shore

One of the biggest management issues currently facing small ruminant producers is the management of internal parasites, most specifically, *Haemonchus contortus* (barberpole worm) which can cause blood plasma and protein loss resulting in anemia in sheep and goats when present at high levels. These parasites have become increasingly difficult to manage because there is some level of resistance reported against all of the currently available anthelmintic drugs in the U.S. This session will highlight one of our approaches and offer insight and the desire for greater multi-state participation.

Successful Kentucky Immunization Project

Allison P. Young, Extension Associate Professor, and Nilima Mishra, Extension Associate for Dietetics and Human Nutrition Coordinator, Kentucky State University

In a state with a low overall immunization rate that's even lower for African Americans, we developed SKIP-Covid. We worked with populations not reached by other efforts and learned how to avoid politicizing our work. We'll share lessons learned and discuss ways to alter the program to achieve greater results.

Simply My Food: Cooking with Herbs and Spices

Pratibha Gupta, Extension State Specialist, Central State University

Herbs and spices have been used routinely in food and medicine to cure minor diseases. The proper use of these herbs and spices enhances flavor and keeps digestion proper. These three-week, 60-minute, hands-on workshops explore various herbs and spices and share how to pair them with various foods. We can help you learn how to spice up your cooking and shake up your menus.

Increasing Small Business Confidence through the Filing for Success Program

Jon Jacobson, Urban Regional Extension Agent, Alabama A&M University

Inclusive small business opportunities are a cornerstone of building equitable communities. Unfortunately, many entrepreneurs of color have been historically excluded from traditional business resources such as consulting, capital access and legal formation. The Filing for Success program breaks down all the legal requirements for becoming a small business owner and trains participants on how to complete each process on their own. This session will introduce Filing for Success and inspire other Extension professionals to re-create similar offerings in their communities.

Summer Day Camp as a Vehicle to Make Agriculture Relevant to Underserved Audiences

Cynthia Pierfax, 4-H Youth Development Specialist, Prairie View A&M University

Making culturally relevant STEM programs part of your 4-H program can be a challenge. In this session, we'll discuss the Junior Youth Leadership Lab, which brings underserved rural and urban middle-school youth to campus for a series of hands-on experiences focused on food security, conserving soil and water, improving nutrition and public health, and agriculture. This session shares our lessons and challenges.

Teaching the Unreachable: Increasing Engagement Among Youth with Diverse Learning Styles

Charity M. Schaffer, 4-H Extension Agent, Southern University

What started as a part of a Facebook Live series, "Ask the Pros," turned into a multi-installment program exploring the myriad ways educators can reach all students and ensure they learn. We plan to create a professional development training based on the information gleaned. Learn what we heard and see how you might be able to implement these lessons.

The Alternative Service Delivery Model

Boyd Owens, Upstate Regional Director; Cornelius Hamilton, Low Country Regional Director, and Deborah Hardison, Pee Dee Regional Director, South Carolina State University

COVID-19 forced most institutions to suspend direct face-to-face services and seek alternative options. South Carolina State University created the Alternative System Delivery Assessment Team (ASDAT) to address this issue. This team developed a list of recommendations based on survey results. This workshop will give an ASDAT overview and provide participants with information on how they can create similar assessments.

Introduction to Texas Apprenticeship

Laura Jones, Workforce Extension Program Specialist, Prairie View A&M University

The Rural Workforce Academy houses our registered apprenticeship program which provides skilled training leading to national certification or a license. The apprenticeship opportunity opens the door to economic prosperity through greater employment and earning potential.

Delivering Programs in the Midst of a Pandemic: What We Learned

Angela Williams, Extension Specialist, Alabama A&M University

Although there was no playbook to guide the appropriate delivery of 4-H programs during the pandemic, the Alabama 4-H team devised a strategy to meet the needs of underserved youth by delivering programs using Nearpod. Nearpod is an interactive classroom tool that engages youth by adding interactive activities to lessons like polls, collaboration boards and game-based quizzes. But Nearpod had its challenges and required us to think and rethink how to reach students when technology access is an issue. This workshop will share our experiences.

POSTER PRESENTATIONS



Agriculture & Natural Resources

1. The Preston Small Farm Incubator: Assisting Small and Limited-Resource Farmers Diversify Alternate Crop Production

J. O. Garner, Jr. Alcorn State University, Lorman, MS 39096*

The Small Farm Incubator Center (SFIC) was established in Preston, Mississippi in the Summer of 1997. The Center was designed to support Small and limited-resource farmers transitioning into alternate crop production. Farmers needing to learn production method for new alternate crops can receive hands-on cultural techniques training, while producing the new crop on the Incubator site with assistance from Alcorn Extension personnel. Participants are expected to duplicate the production on his/her farm site. Activities at the center has expanded to include demonstrations and field days that support alternative crop production. It also serves as an Outreach center where Alcorn Extension Specialists can expand their reach by establishing demonstrations and program to reach farmers and the general public in the east-central region of the State.

2. Beef Cattle Programming

F. Abrahamsen, G. Hunter, N. Gurung, J. Myers, H. Higgins, and R. Shange. Tuskegee University, College of Agricultural, Environmental, and Nutritional Sciences, Cooperative Extension Program, Tuskegee, AL 36088*

The Tuskegee University Cooperative Extension Program conducts beef cattle training across the Southeast and northern portion of Mexico. Many of the producers that attended these training opportunities were small, socially, and economically disadvantaged producers (SSEDP). Three goals were set to improve the sustainability of their operations: to improve the health and efficiency of their herds, increase the quality, and diversify their marketing options. On average, 60% of producers that attended the training events were cow-calf producers, while 12% had stocker operations. In the past two years, three hundred producers have been impacted by farm visits, herd health demonstrations, and workshops. Of the producers that have attended the additional training sessions, 85% of producers acknowledge the importance of implementing a herd health protocol. Sixty percent of producers that have participated in the training opportunities have begun utilizing Expected Progeny Differences (EPDS) while selecting bulls for natural mating or artificial inseminations resulting in higher quality calves being produced. All farm visits and training sessions provided a unit on value-added marketing. As a result of these training opportunities, approximately ten producers have decided to work with TUCEP to establish marketing clusters to increase the value of the calves that they market. All of the programs put on by TUCEP have had a positive impact on SSEDP across the United States and Northern Mexico. In the future, TUCEP plans to continue having an impact on SSEDP across the Southeast and Mexico.

3. Impact of the COVID-19 Pandemic on the Mental Health of Farmers and Farmworkers

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The COVID-19 pandemic has negatively affected the mental health of farmers and farm workers and created new barriers for those already suffering from mental illness. Public health measures aimed at containing the spread of the virus, such as social distancing and quarantine, have disrupted the rural mental health support system. The impact has been severe on older farmers and minority farmers in particular, as they reported worsened mental health. Farmers and farmworkers currently suffer the highest deaths due to mental stress, as compared to non-farm workers. In addition, research on the effect of the COVID-19 pandemic on the mental health of farmers and farm workers has been minimal, unlike that of urban populations. This gap in knowledge is addressed by reviewing the limited information on the impact of the COVID-19 pandemic on the mental health of farmers and farmworkers — the enabling conditions, barriers to effective implementation, and policy recommendation for relief. Findings point to the fact that widespread isolation and other mandated safety measures to combat the spread of the virus have aggravated pre-existing high rates of mental illness among farmers and farmworkers. There is need to develop an

innovative, culturally adaptive mental healthcare system with the active participation and coordination of those with a key role in their mental health management.

4. Addressing Diversity, Equity, and Inclusion in Organic Agriculture in Kentucky

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Given that ownership of U.S. farmland by Black farmers has declined by nearly 40% over the last 100 years, opportunities for higher income would be of interest to minority farmers. The organic agriculture sector may represent such an opportunity. It has shown consistent growth since the National Organic Program was implemented in 2002. Despite the global pandemic, 2020 sales of certified organic products reached a record high of almost \$62 billion, an increase of almost 13% from 2019. Researchers have found that organic agriculture systems can be 22-35% more profitable than similar non-organic operations. Despite increased consumer demand, growth in the industry, and higher profits, minority participation in organic agriculture remains low, and information on minority participation in organic is an area of need. A recent report found that of the 33,000 Black-owned farms reported in the 2012 USDA Census of Agriculture, only 116 were certified organic. To our knowledge, none of the 433 Black-owned operations in Kentucky represented in the 2017 USDA Census of Agriculture are certified organic. Anecdotally, there is also very low minority representation among organic inspectors. At Kentucky State University, a focus of our program is understanding the barriers that inhibit minority participation in organic agriculture. We are developing stakeholder focus groups and a stakeholder survey to gain information on barriers. We will use this information, along with delivery of basic information about organic agriculture, to raise awareness about production opportunities and career opportunities for minority stakeholders in the organic sector.

5. Serving the Needs of Underserved Farmers through the Center for Sustainability of Farms and Families at Kentucky State University

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The Kentucky State University College of Agriculture, Community, and the Sciences' Center for Sustainability of Farms and Families (CSFF) is supporting new economic opportunities for limited-resource farmers through demonstration projects and grants funded through support from the Kentucky Agricultural Development Board and tobacco settlement funds. This granting program has impacted the production and sales of Kentucky-grown farm products. More than 1,500 grant proposals have been reviewed, with a total of 899 projects funded in 112 counties across the Commonwealth, totaling \$3.3 million dollars. The grant gives priority to specific areas: Organic Agriculture, Aquaculture, Food Insecure Areas, Agro-Forestry and Value-Added processing. It focuses on innovative approaches for meeting the needs of Kentucky's tobacco-dependent and underserved farm communities. The funding opportunities promote the production and sale of produce and the consumption of healthy foods in areas of Kentucky that have high levels of food insecurity and are considered food deserts, as well as provide assistance, education and mini-grants to small and limited-resource farmers. The grant program also focuses on conducting demonstration projects to teach producers new innovative methods. The Center also offers training to producers to become certified commercial processors using the KSU mobile kitchen. The Center offers an autoclave unit for sterilizing beehives, in addition to a sorghum press, as a free service to Kentucky producers.

6. Expanding Local Food Production and Healthier Choices Through Kentucky Tilapia Aquaculture

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The majority (70 to 85%) of seafood consumed in the United States (U.S.) is imported. Overdependence on imported tilapia is no exception. While U.S. tilapia production remains low (< 10,000 tonnes/year), U.S. imports have ranged from 113,000 to 229,000 tonnes/year since 2004. To improve self-reliance and lessen dependence on imported fish (food security), Kentucky State University (KSU) performed studies (2016–2019) on genetic improvement of Nile tilapia, the fourth most globally produced food fish. Current tilapia Extension work (2021–2024) is funded by the USDA-NIFA 1890 Institution Teaching, Research and Extension Capacity Building Grants Program award (\$250,000) to KSU to: (1) produce genetically improved Nile tilapia; (2) provide for on-farm demonstration of Nile tilapia hatchery production and grow-out; (3) develop Kentucky tilapia marketing strategies and resources; and (4) provide human nutrition training and Extension resources. This project builds KSU's 1890 Land Grant Extension capacity by transferring genetic resources developed at KSU into the local food production and economy. It lays the foundation for data and resources necessary for Kentucky tilapia farming. It provides for the development of marketing and sales strategies. It aims to reduce diabetes by providing resources and guidance for healthier cooking and healthier food choices. The Extension impact will be evaluated via surveys, focus groups, workshops, interviews, and data of on-farm demonstrations, as well as changes in knowledge and actions of Extension Personnel, project participants, and target audience. In the long term, the project seeks to strengthen local businesses and impact healthier living.

7. How to Reach Historically Underserved Small Farmers

E. Chavous, Kentucky State University, Cooperative Extension Program, Frankfort, KY 40601

The Kentucky State University Cooperative Extension Program's Small Farmer Outreach and Assistance Project is designed to provide assistance to small and limited-resource farmers via frequent one-on-one farm visits by trained agents and paraprofessionals. The steps to reach an audience of historically underserved small farmers must include the following:

- **Listening:** The educator must first be a good listener when working with a historically underserved small farmer. This allows time to assess the farmer's situation.
- **Leadership:** Then the educator must demonstrate leadership to the farmer. For example, the educator will make recommendations to the farmer through face-to-face communication during farm visits.
- **Training:** The educator encourages the farmer to attend Extension educational programs, field days, and other farm demonstrations in the community.
- **Caring:** In conjunction with one-on-one farm visits, the educator calls the farmer on the phone to check on the farmer's progress. This shows the farmer that the educator cares about their situation.

8. Overview of Louisiana Industrial Hemp Production

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After 81 years of being outlawed in the U.S., the USDA 2018 Farm bill legalized industrial hemp production (cannabis). Louisiana residents must hold a current production license from the Louisiana Department of Agriculture and Forestry (LDAF). The 2018 farm bill also placed a chemical level regulation on the psychoactive plant component THC (Tetrahydrocannabinol) to legally distinguish industrial hemp (<0.3% THC) from marijuana (>0.3% THC). Therefore, if an industrial hemp THC level is > 0.3% ("running hot"), it must be destroyed because it is legally termed marijuana. In 2021, Louisiana has 645 hemp producers and seeders with 18.55 acres planted. LDAF offers four industrial hemp license types. 1) Grower – allows the growing, handling, and transporting of industrial hemp regardless of the hemp crop intended use; 2) Processor – allows the handling, processing, and transporting of industrial hemp; 3) Seed Producer – allows growing, transporting, and selling of industrial hemp seeds; 4) Contract Carrier – allows transporting of industrial hemp, this license is required when the transporter is not a licensed grower, processor, or producer of the hemp plant. No minimum acreage of industrial hemp production is required to become a licensed hemp grower or seeder.

9. Soil Remediation From Arsenic and Lead

B. K. Phillips, Ph.D., L. Anderson Hodges, Ph.D., and Marlin R. Ford, Ph.D., Southern University Agricultural Research and Extension Center, Baton Rouge, LA 70813*

Soil contamination is a growing issue of concern in the New Orleans, Louisiana metro area. The purpose of this presentation is to examine and recommend procedures in remediation of contaminated soils in Orleans parish. Heavy metal contamination such as arsenic and lead are commonly contaminating urban soils. These types of contamination are potentially due to previous industrial or commercial operations using arsenic and lead-based products in daily operations, as well as natural disasters that have disturbed the natural soil and its chemical and physical characteristics. As a result, heavy metal contaminated soils can pose operational obstacles and human health challenges through exposure to farming operations in urban areas. Human arsenic and lead poisoning can occur in four ways: 1) touching contaminated soil, 2) eating food from contaminated soil, 3) drinking water sourced from contaminated soils, and breathing the dust from contaminated soils. In addition, long-term exposure can cause brain and nervous system delays in children. In adults, long-term exposure can cause an increased risk of skin, liver, bladder, and skin cancers.

10. Educating Our Future Farmers Through the Sustainable Urban Agriculture Certification Program

M. R. Ford, Southern University Agricultural Research and Extension Center Cooperative Extension, Baton Rouge, LA 70813*

During the COVID-19 pandemic, the number of food-insecure households in Louisiana have increased by 44%. This crisis is affecting communities that are already living on the margins of poverty and socioeconomic opportunity. As the urban population grows, more people find themselves in food deserts, which are areas with limited access to supermarkets, supercenters, grocery stores, or other sources of healthy and affordable food. In addition to the COVID-19 pandemic, the southern portion of Louisiana was hit by Hurricane Ida, one of the most destructive storms to hit the Gulf and East coast of the United States, significantly impacting commercial and limited resource agriculture operations. These events have exposed long-running vulnerabilities and inequalities in resource distribution in urban areas. Louisiana ranks third in the nation for risk of food insecurity, following the

District of Columbia and Georgia. Food insecurity has spiked dramatically in New Orleans and Baton Rouge, where approximately 65% of residents live in food insecure communities. The Southern University Cooperative Extension Program has introduced the Sustainable Urban Agriculture Certification Program, an intensive 12-session training and field-study farm tour employing sustainable agriculture practices. In this program, participants became familiar with sustainable techniques and strategies necessary to grow fresh fruits, vegetables, and animals in an urban environment. Participants learn to work within ordinances and guidelines of city government and galvanize others within the community around agricultural policy. Participants also learn to recycle available resources to promote healthier lifestyles and communities.

11. Changing the S.C.A.L.E. (Sustainable, Community, Agricultural, Learning, Environments) of Urban Food Production

M. R. Ford, Southern University Agricultural Research and Extension Center, Baton Rouge, LA 70813*

Inadequate access to healthy foods makes it difficult for families to eat well, fueling Louisiana's growing obesity epidemic, contributing to severe health problems associated with unhealthy eating habits. The increase in agricultural production and technological advancements contributed to population growth and new agricultural practices, both city and community agriculture promote backyard, roof-top and balcony gardening, school gardening, and citizen-based gardening in vacant lots and parks. Increasing the urban green infrastructure reduces exposure to harmful substances and conditions, provides opportunity for recreation and physical activity, improves safety, promotes community identity and provides economic benefits at both the community and household. By introducing the S.C.A.L.E. (Sustainable, Community, Agricultural, Learning, Environments), program to Louisiana communities, the Southern University Agricultural Research and Extension Center has successfully addressed numerous challenges focused on increasing agricultural productivity, along with a top-down approach and emphasis on the transfer of technology. The overall goal of this program model is to define a Decision Support System (DSS) for whole farm management in an effort to optimize returns on inputs while preserving resources. Through this program, extension professionals train small scale urban farmers and beginning farmers to use demand-driven technologies that focus on precision farming practices with an emphasis on affordability, upgradeability, and ease of use of agricultural technologies. Ultimately, further increasing the access to healthy, affordable, fresh produce by providing opportunities to learn about nutrition, food production and addressing the ecological, social and economic benefits of urban agriculture production for Louisiana's citizenry.

12. Fresh to Market: Cold Storage No-Cost Lease Program

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West Virginia State University Extension's Agriculture & Natural Resources division helps small farms, non-profits, and cooperatives achieve cold storage capacity to reduce postharvest losses, enhance food safety and value, and increase customer access to high-quality fresh agricultural products through the *Fresh to Market* program. ANR equips fruit, vegetable, and mushroom growers and, to a lesser extent, meat and flower producers and forest products foragers with CoolBot equipped cold storage trailers and stationary refrigeration units on a no-cost lease basis. In addition, the initiative has evolved to include digital access for participants to critical training on the equipment's use and relevant postharvest strategies, drop boxes for uploading insurance documents and impact reports, and a discussion platform to ask questions or submit feedback. Data from 2021 indicates a significant economic impact: 45 participating producers reported that more than 20,000 pounds of agricultural products valued at over \$200,000 safely reached 4071 adult and 3510 youth customers through the leased equipment.

13. Application of Geospatial Technology to Identify Topographic Undulations Maximizing the Production of a Bare-root Seedling Nursery

S. Plumb and S. Haile. Department of Agricultural & Environmental Sciences, Tennessee State University.*

Identification and precise measurements of topographic undulations in forest nursery beds are critical to avoid water accumulation and associated difficulty to operate nursery equipment. Geospatial technology was used to predict maximum stock production capacity by identifying and precisely measuring topographic undulations at the East Tennessee Nursery. Remote sensing data was combined with GPS data to measure elevation change and seedbed area within the nursery's four largest seedling compartments. Elevation profile graphs reclassified digital elevation models, and a weighted-value decision matrix was used to inform nursery management in which compartments should plan on raising seedlings in the next planting cycle to avoid flood damage. The results of the study indicate that the seedbed area, seedlings sold, and revenue could increase by 30.7% if the nursery operated at maximum capacity. The study alluded that a high resolution of digital elevation sources is useful for monitoring and making informed operational management decisions.

14. Growing and Analyzing International and Alternative Vegetables for Production, Marketing and Medicinal Properties in Tennessee

A. Clardy, S. Crudup, and A. Akuley-Anenyenu Tennessee State University Cooperative Extension Program, Tennessee State University 37209*

In the Tennessee region, there are many small and limited resource producers who are struggling to remain viable these producers need to create and identify new markets to increasing their incomes. At Tennessee State University, we have been working with small and limited producers statewide and are researching growing and marketing International and Alternative vegetables. Over the past eight years we have grown varieties of peppers, herbs and tomatillos for the Italian and Hispanic markets and the past six years Bottle Gourd, Bitter Melon and Tinda for the Asian and Indian markets. We evaluated the feasibility of growing these vegetables in the Tennessee region and marketing strategies. Bitter Melon and Bottle Gourd have been identified to contain medicinal properties for assisting with reducing inflammation, reduction of blood pressure, provide anti-anxiety effects and diabetes prevention in some individuals who consumer these vegetables. These vegetables are also highly nutritional, tasty and low in calories, which could assist in fighting obesity in Tennessee which ranks number 45 on overall rank on health (which includes obesity). We have assisted with production training and educating small producers with alternative marketing strategies (direct sales with hotels, restaurants, individuals and farmers markets). Goals and objectives of the research: (1) Evaluating International Vegetables for successful growth and production in Tennessee; (2) Developing and Exploring Alternative Crops for Small Producers in Tennessee; and (3) Evaluation of Bottle Gourd, Bitter Melon and Tinda for medicinal and for obesity prevention.

15. Forestry Extension Programs for Appalachian Counties at a 1890 Land-Grant Institution

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While forestry extension is usually not a major focus area for 1890 Land-Grant institutions, Central State University made forestry to be a crucial component of its educational programs since nearly all of Ohio's Appalachian counties are within its service area. This southeastern area has over 40 percent of the total forested area in Ohio. These counties have many woodland owners who are new to forest management. Central State University collaborates with a multi-agency forestry team to deliver Extension programs on forest stewardship and management while concurrently developing agroforestry programs that can turn forested lands into profit centers. One of the signature programs is Women Owning Woodlands which is a peer-learning network focused on bringing topical, accessible, and current information to women landowners.

16. Replacing Traditional Goat Feed Ingredients with Cassava as a Strategy to Improve Small Producer Profitability

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Since traditional feed cost about 60–70% of milk production expenses, small farmers find it challenging to make a profit. Replacing traditional ingredients, such as corn, with cassava can increase profitability, especially for small producers. Cassava (*Manihot esculenta*) is a woody shrub native to South America. It is extensively cultivated as an annual crop there and in African countries for its starchy tuberous root as food and feed. Cassava cultivation is comparatively economical and it is known for growing in various climates including low rainfall and higher temperatures. With the aim to evaluate the substitution of corn with cassava in the supplement for Alpine goats, eight lactating goats were used and distributed in two Latin squares (4 x 4) balanced, for 72 days. The treatments were: 0, 33, 67 and 100% replacement of corn with cassava. Milk composition, milk yield, intake (dry matter (DM), crude protein (CP), neutral detergent fiber (NDF), non-fiber carbohydrates (NFC), total digestible nutrients (TDN), metabolizable energy (ME), apparent digestibility and grazing behavior were analyzed. Cassava promoted a linear increase in the NFC intake and DM digestibility, although it did not affect the DM intake, nor had an effect on milk yield, milk composition and grazing behavior of the animals. Thus, cassava can be used in the dairy goats' diet without affecting the milk production and composition, and this can be a potential strategy to lower the costs of milk production and increase the profitability of small producers.

17. The FINCA Project at Lincoln University in Missouri

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A finca is a small farm in Latin America where native plants, fruits, flowers, and vegetables are produced for consumption and income. The FINCA Project – Families Integrating Nature, Conservation and Agriculture was created with a NIFA-Capacity Building Grant in 2014. Three pilot fincas, one on LU-campus and two on private land in Southeast, Missouri, were established. These served to accomplish the goal of creating demonstration areas to showcase multipurpose native plants as specialty crops in backyards or small farms. Fincas are examples of diversifying small tracts of land such as non-productive urban spaces with turfgrass into productive, environmentally friendly areas. Fincas can be vibrant corridors that can feed people, protect pollinators and other wildlife, and beautify the landscape.

The fully established finca at LU-campus, known as the Finca EcoFarm, is maintained and used regularly for training and field days. Students, surrounding underserved communities and other visitors can see more than 50 native species, many of them edibles, including wild plum and persimmon; flowers for pollinators like butterfly milkweed and partridge pea; and host plants for butterflies, like wafer ash and spicebush. In 2020 and 2021, harvest from eight wild plum trees produced nearly 100 lb. of fruits each year. Value-added products are prepared as part of the training. The one-acre Finca EcoFarm has been successful in engaging with local communities and students. For that reason an international community garden is being added. This area provides a sense of belonging to international students and underserved populations lacking their own green space.

18. Evaluating the Effect of Rhizome Size on Ginger (*Zingiber officinale*) Yield

N.M. Burton and C. Whyte, University of Maryland Eastern Shore Extension Program, Princess Anne, MD 21853.*

Ginger (*Zingiber officinale*) is a very popular spice used worldwide and is generally grown under tropical conditions. Ginger matures between 8 to 10 months depending on the variety. Locally grown ginger is a high-valued crop having the ability to increase farm income, improve security and food safety. Hence, the Eastern Shore have adopted alternative growing practices to accommodate ginger productions. These practices include early harvesting (baby ginger), container gardening which allows for mobility, as well as indoor growing systems. Research have shown that ginger yield is affected by the size of the rhizome (planting material), the production system (organic or inorganic), and variety. Therefore, this project seeks to evaluate the effect of rhizome size in mature ginger. Three treatments (0.2lbs, 0.3lbs, and 0.4lbs) were used having three replications in a complete random block design. Rhizomes were planted on March 12, 2021 in grow bags and kept under greenhouse conditions before transferred to a shade house on May 17, 2021. Rhizomes were planted in twenty-gallons grow bags to allow mobility. Plants were fertilized with poultry litter leachate and 20:20:20 soluble fertilizer biweekly interchangeably. Other maintenance practices were applied when necessary. Yield data was collected at the mature stage and statistically analyzed differences among yield relative to planting size.

19. Enhancing Small Ruminants Breeding Season Using CIDRs® to Synchronize Estrus Cycles by Efficiently Planning for Lambing and Kidding

E.N. Escobar and E. Kassa (in memoriam). UMES Extension, University of Maryland Eastern Shore, Princess Anne, MD 21853*

Sheep and goats are seasonal breeders, a fact that challenges the planning skills of the operators. Good planning skills will enhance the survival of newborns, thus enhancing farm profitability. A prolonged, (2 to 3 month) lambing or kidding season is exhausting and negates the opportunity for the survival of the newborns and fast recovery of ewes or does. For the past 10 years, the UMES small ruminant farm management team has used an FDA approved tool (EAZI-BREED™ CIDR®, Zoetis, Kalamazoo, MI, USA) to synchronize estrus cycles, allowing the positioning of resources (i.e., labor, student workers, facilities, feed, etc.) for a 10-day lambing and kidding event. Additionally, the synchronization allows for the continued effective management (i.e., feeding, castration, ear-tagging, selling, etc.) of an age homogeneous group of lambs and kids. Also, at this farm, CIDRs® were used during the anestrus cycle with some success after a 3-year research project which showed that it is possible to consider out of season breeding of sheep and goats.

20. Assessing the Impact of the University of Maryland Eastern Shore's Outreach and Assistance Program for Limited-Resource and Socially Disadvantaged Farmers in Maryland

B. Rogers and S. Tubene, UMES Extension, University of Maryland Eastern Shore, Princess Anne, MD 21853*

The United States Department of Agriculture invests millions of dollars in programs to support outreach and training assistance projects geared to improve the economic and social well-being of farmers. One agricultural program that has enjoyed a consistent track record of receiving continuous support is the Outreach and Assistance Program for Socially Disadvantaged Farmers commonly known as the "Section 2501" Program after its farm bill section number. For nearly a decade, the University of Maryland Eastern Shore has maintained a partnership agreement with USDA to administer an outreach and assistance program to help limited-resource and socially disadvantage farmers own and operate farms successfully. Despite meeting program objectives, the need has arose to quantitatively link the public extension investment to measurable participant outcomes. The main purpose of this study was to determine the level of impact the UMES Outreach and Assistance Program has had on participants and factors that contributed to program success. The target population was accessed through a random sample of 239 email addresses on file of participants who attended one or more UMES sponsored program events within the past 5 years. The survey generated a response rate of 39% (n=75). The results indicated over half the respondents (55%) were female and 45% were male. The majority of respondents identified themselves as White, representing about 62% of the farmer audience. The remaining 38% consisted of African Americans (27%), Hispanics (6%), and Asian (5%). These groups fall under USDA's definition of socially disadvantaged and are specifically targeted by the project.

21. Introducing Specialty Herbs as a Profitable Crop

H.N. den Ouden, UMES Extension, University of Maryland Eastern Shore, Princess Anne, MD 21853.

The U.S. market for herbal supplements increased with 17% in 2020. The demand for U.S. grown herbs is growing. In response, University of Maryland Eastern Shore Extension is assisting local farmers who want to become part of the exciting and promising agricultural development. In 2018, a workshop focused on growing medicinal herbs measured the interest of the Maryland farm community. Due to its success, the UMES Small Farm Program continued in 2019 with a specialty herb garden and more workshops. The goal of the initial garden was to measure the feasibility of growing herbs for production and of using the garden as a teaching tool. The workshops were well attended with an average of 20 participants, and the garden played an essential role in sharing information with farmers. In 2020, the garden was doubled in size. The classes were replaced with webinars with an average of 70 participants still representing the garden digitally. Precise measurement of labor and harvest took place to develop an economic picture of herb growing. Different growing methods were followed to establish best practices. In 2021 more workshops were offered and several small groups of (potential) herb farmers were welcomed. Processing and creating added value products will be a main focus for 2022. A designated employee is actively working with 6 working farms and assisting 2 new herb farmers.

22. Increasing Awareness and Participation in Rural Development Programs among Underserved Farmer and Landowner Populations in Maryland

B. Rogers. UMES Extension, University of Maryland Eastern Shore, Princess Anne, MD 21853

Under the USDA Rural Development (RD) agency, there are 15+ different types of agricultural programs (grants, loans, and/or services) available to help agricultural producers and farmer cooperatives improve the effectiveness of their operations. Many of these programs fall under the Rural Business-Cooperative Service and Rural Utilities division. Yet, the percentage of underserved farmers (specifically farmers of color) who apply for and reap the benefits of these programs is next to none. In response, the University of Maryland Eastern Shore (UMES) implemented a community outreach project to increase access to and awareness of USDA agriculture programs, specifically those offered by USDA Rural Development among socially disadvantaged farmers and minority and underserved landowners in Maryland. To address issues and develop appropriate outreach activities, UMES administered a needs assessment study (with the support and guidance of USDA/RD) for the purpose of 1) assessing farmers' knowledge of RD programs, 2) determining what programs/services farmers are most interested in, and 3) identifying challenges that might prevent them from participating in select USDA programs. The project operated in two regions of the state, primarily Maryland's Eastern Shore and Southern Maryland. The needs assessment data was collected via farmer group meetings, farmers markets, and individual farm visits between the months of July – September 2018. A total of 82 clients participated in the study with 59% of respondents identified as female and 41% male. Feedback received from the survey and community outreach events provided valuable insights on farmer interests, concerns, and best strategies moving forward.

23. Native Edible Plants as Specialty Crops at Lincoln University

N. Navarrete-Tindall and S. Bartelette. Lincoln University Cooperative Extension, Jefferson City, 65101, MO.*

There are more than two thousand native plants in Missouri, but only a few are used for food. Farmers and landowners in rural and urban areas can establish some of these plants on their farms and gardens for consumption and to earn income. One of the Specialty Crops Program's (SCP) goals is to identify and promote selected native edibles with potential as crops for their nutritional value and health benefits. Native plants also increase biodiversity, provide habitat for pollinators and other wildlife and do not need to be reestablished every year since they are perennials. This sustainable practice increases soil microbial diversity, improves soil health and reduces maintenance costs. More than fifty native edibles are established at the Finca EcoFarm and Native Plant Outdoor Laboratory on campus, and at the native fruit plot at the LU-Organic Busby Farm, in Jefferson City, Missouri. This poster describes twenty species, herbaceous and woody, that were tested from 2014 to 2016 to determine people's preferences. Information about the nutritional value is available only for thirteen of them but more studies are being done on these and other species. The SCP offers training and other educational events throughout the year, for example, Dining Wild is an educational event that includes guided tours, exhibits, a full course dinner, desserts and beverages prepared with at least one native plant ingredient. Dining Wild events will be organized in Central, West Central and Southeast Missouri in 2022 and 2023.

24. Implementation of Integrated Pest Management Strategies in the Specialty Crops: Supporting Stakeholders and Clientele in the Florida Panhandle

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Florida A&M University (FAMU) has been carrying out activities in support of extension integrated pest management (IPM) for many years now. The program has an established transdisciplinary group of faculty distributed in five research and extension centers/programs which is responsible for delivering IPM solutions to stakeholders and clientele since June 2010. These centers/programs facilitate FAMU's capacity to link with a diverse group of clientele and stakeholders who guide programming and have a working relationship with a variety of clientele. IPM has now been identified as an integral component of the programming in all the Centers/programs. The IPM team serves to maximize all available resources, ensuring collaboration and synergy and ultimately more effective use of available resources. The FAMU's Extension IPM Program is strongly supported by the Extension/Research Administrators as well as our stakeholders and clientele. The project primarily focuses on IPM implementation for specialty crops (small fruits, vegetables and nut crops). The project brings together a diverse group of transdisciplinary faculty and collaborators to address to IPM implementation in the specialty crop (fruits, vegetables and nut crops), and 2) IPM implementation in communities. In addition, our team targets., i) IPM support for pest diagnostic facilities, and ii) IPM education for pesticide applicators and provides CEUs (continuing education units) for professional advancement and career building. Every year, seasonal field days and workshops are being organized to support small scale growers to improve their knowledge, skill sets and abilities to sustain food security and specialty crop productivity in the Florida panhandle.

25. Integrated Pest and Disease Management Conference: Educating Small Specialty Crop Growers in Missouri

J. S. Patel and C. Akotsen-Mensah, Cooperative Extension, Lincoln University of Missouri, MO 65101*

The Lincoln University Plant Protection team consists of an entomologist and a plant pathologist who provide research-based information to socially disadvantaged and underserved farmers. Through this interdisciplinary effort, several activities have been conducted, including one-on-one consultations, farm visits, and presentations at grower meetings and conferences. The conference was developed based on our interaction with small and minority Missouri growers who face challenges with crop loss due to insect and diseases. The team's focus was to educate small specialty crop growers on effective management of insect-pests and diseases. In this 6-h conference, experts from three land-grant institutes delivered topics on the management of insects and diseases of important specialty crops. We collected surveys from participants before and after the conference to understand the change in their knowledge gained on controlling insect-pests and diseases.

26. Building Sustainable Food Safety Practices for Socially Disadvantaged Small-Scale Farmers in North Carolina

J. Ibrahim, North Carolina A&T State University.

The long-term goal of this project is to strengthen food safety practices in North Carolina. The target is Socially Disadvantaged and Small-Scale Farmers. The objective was to provide classroom training and technical assistance to growers seeking to prevent/minimize microbial contamination to fresh fruits and vegetables and become GAP-ready/Certified and FSMA compliant. Consumers are concerned with the safety of their food systems. As evidenced in the 2018 report of the Center for Disease Control and Prevention, foodborne illnesses killed 120 Americans and sickened 25,606. Increased risk of contamination from various sources is associated with growth. These products travel through distribution network before getting to consumers. With Good Agricultural Practices (GAP) and Food Safety Modernization Act (FSMA) rules and regulations, farmers minimize the risk of contamination at the production source and gain access new markets. Producers need to be familiar with the risks of contamination for increased produce. New farmers lack knowledge specifically of GAP and FSMA rules and regulations. Farmers with 2–5 years' experience have limited knowledge of farm planning and risk management. The project team provided classroom training, technical assistance, and one-on-one outreach to growers seeking to prevent/minimize microbial contamination to crops and become GAP-ready/Certified and FSMA compliant. 150 farmers benefited from GAP-ready training. though they are not GAP, certified. Fifty farmers adjusted their farm practices using GAP. 150 farmers gained knowledge writing food safety plans and implementing standard operating procedures (SOP). 150 participants learned about FSMA compliant steps.

27. Small Farmers Selling Produce to Commercial Markets: A Retrospective on a Decade of Research, Teaching, and Extension

Barrett Vaughan, Tuskegee University, Tuskegee, AL 36088

A review of the activities and accomplishments of a research-Extension initiative to assist small and limited-resource farmers to sell fresh produce to a major commercial retail buyer was conducted. The review examined and compiled published and unpublished case study data gathered throughout various stages (start up, growth and continuation, and closing) and aspects (agronomy, economics, logistics, pest management, food safety, etc.) of the initiative. Results from the review are presented chronologically and by aspect presenting the successes and “lessons learned” along with conclusions.

28. Herb Drying Guidelines to Help Farmer Food Safety Compliance and Market Competitiveness – A Cooperative Work between Extension Food Safety, Agricultural Legal, and Herb Specialists and the Maryland Department of Health

M. Schwarz, H. den Ouden and N. Cook. University of Maryland Eastern Shore, Princess Anne, MD 21804*

Extension food safety, agricultural legal, and herb specialists teamed up to address small farms’ concerns about qualifying for an herb drying on-farm processing license in Maryland. Very few herb farmers dried their own herbs for market due to the complex license-application process and regulatory restrictions. The restrictions, especially a 135°F drying temperature requirement, lower most herbs’ beneficial qualities due to destruction of volatile compounds and excessive water loss, which reduces growers’ profit. This puts Maryland herb farmers at a distinct disadvantage compared to their counterparts in other states. UMES Extension worked with the Maryland Health Department (MDH) and proposed scientifically-supported alternative parameters to address the food safety issues related to dried herbs. Specifically, farmers would focus on reaching the appropriate water activity level for each drying process using the time/temperature recommendations they choose to meet safe levels. The final product’s water activity must be verified by a certified lab. Extension acquired laboratory equipment and received grant money to serve farmers with water activity measures to help with product development before they send samples for compliance. Additionally, Extension developed an online document with MDH that walks farmers through the complete process of herb drying from license application, developing a food safety plan and standard operating procedures, and harvesting, packaging, labeling and storing. This was presented, recorded and demonstrated during a webinar with 53 eager registrants. The document, webinar video, and Extension expertise are available to make the licensing process an easier, more successful process for farmers and regulators alike.

29. Empowering Small-Scaled, Limited-Resource and Other Farmers with IPM Knowledge

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Agriculture is Maryland’s largest industry, employing >350,000 people and contributing \$8.25 billion annually to the economy, and the Chesapeake Bay is the second most important economic resource in Maryland. This situation makes creating eco-friendly Integrated Pest Management (IPM) programs in Maryland essential. To protect the Bay, farmers must learn responsive IPM practices. UMES’s Small Farm Program is tasked with directing educational programs that improve the economic condition of small-scale, limited-resource and/or socially disadvantaged farmers. This project aims to help crop and poultry farmers move forward in adopting practices that protect human health and are eco-friendly and economically efficient. USDA-Crop Protection and Pest Management, Extension Implementation Program supports this project. The focus area includes IPM Implementation in 1) Specialty Crops (cucurbits, strawberry, and grapes), 2) Agronomic Crops (soybeans and hemp), and 3) Animal Agriculture/broilers. To accomplish these focus areas, annual field days were held during different growing seasons, and demo/research plots were established at participant growers’ fields to showcase how new tactics can be integrated into current management practices. As an outcome, a partnership with farmer participants was initiated; and plots of perennial crops are currently on display at university research farms. At the annual UMES Small Farm Conference, research updates on management solutions for emerging and ongoing pest and disease issues in fruits and vegetables were presented to 25 participants. In addition, we hold virtual extension lunch and learn meetings for poultry growers to share info regarding IPM implementation on broiler operations. Similar activities are planned for the coming years.

30. Improving Sweet Potato Production in Arkansas: UAPB Sweet Potato Foundation

Seed Program

S. A. Francis, S. K. Ponniah, O. M. Njue. School of Agriculture, Fisheries and Human Sciences, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601*

Sweet potato, *Ipomoea batatas* has rapidly gained importance as a vegetable crop of economic significance in Arkansas accounting for more than \$24 million of the state's agricultural economy in 2018. However, the unavailability and high cost of quality planting material from within the state are major constraints to production. As farmers turn to neighboring states to access this material, this leads to delayed time of planting, increased cost of production and decreased returns on investment, and combined, they limit the potential of Arkansas' industry. The University of Arkansas at Pine Bluff Sweet Potato Foundation Seed Program is alleviating these problems by providing virus-indexed sweet potato slips and high quality seed material to producers. By culturing shoot-tip meristem on suitable tissue culture medium, virus-free sweetpotato plantlets are produced. These are screened for the presence of viruses before being established in a greenhouse. They are then multiplied before being hardened in a high tunnel in preparation for distribution to commercial farmers, while some are taken to the field to raise seed material for limited-resource/small-scale farmers. This timely access to quality planting material from within the state has led to decreased cost of production and increased quantity and improved quality of Arkansas sweet potatoes, while diminishing the potential for disease and insect pest transmission across state boundary lines.

31. Fish Health and Disease Diagnostic Services Provided to Fish Producers at Pine Bluff and Lonoke Counties, AR

G. Ramena and G. Sriramoju, Aquaculture/Fisheries Center, Pine Bluff and Lonoke Fish Disease Diagnostic Laboratories, University of Arkansas at Pine Bluff, 1200 North University Drive, Pine Bluff, Arkansas, 71601.*

Arkansas is the leading producer of baitfish in the United States, raising about 90% of baitfish in the US with an economic impact of 300 to 350 million annually. Fish diseases cause significant economic loss to fish producers. Detection of diseases in farmed raised fish is not as readily visible as in other animals. Proper diagnosis of fish diseases prevents significant economic loss to fish producers and the aquaculture industry. The UAPB Fish Health labs in Pine Bluff and Lonoke conducted fish disease diagnostics, water quality analysis, fish and pond water microbial analysis, and algal ID analysis. All treatment recommendations follow the FDA-approved drug lists. The results are followed up with the Doctor of Veterinary Medicine at Mississippi State University/ USDA-ARS-Stuttgart to obtain Veterinary feed directive therapeutics for fish producers. In Fall 2020, Pine Bluff lab personnel participated in APHIS certified Fish Health inspection program and processed 11,200 fish samples. From January 2021 to June 2021, Pine Bluff and Lonoke labs conducted 159 fish health cases, 156 disease diagnostic cases, 197 water quality analyses, 355 plankton/algal identification analyses, and 382 microbial case analyses. We also provided technical assistance to clientele through farm visits, phone consultations, and office visits. The inspection services provided enabled farmers to ship their live fish interstate and internationally. The fish health and disease diagnostics, water quality, and algal analyses services provided to fish producers had an economic impact of over 6 million dollars.

32. Status of UAPB's Sweet Potato Foundation Seed Program

S.K. Ponniah, S. F. Francis and O. M. Njue, 1890 Extension Programs, University of Arkansas at Pine Bluff, AR 71601.*

Sweet potato is mainly propagated by stem cuttings, thus making this crop more amenable to virus accumulation over time. The use of virus-infected slips may ultimately affect the yield and quality of sweet potato roots. More than 30 viruses are known to affect sweet potato (Clark et al. 2012) up to 40% yield reduction was observed in virus-infected plants than in virus-tested plants (Clark and Hoy, 2006). The yield reduction can be overcome by providing pathogen-free propagating material to farmers. In Arkansas, sweet potato production has been steadily increasing in production from 3,000 acres to 5,000 acres (NAAS, 2019), and is mostly grown in the Mississippi Delta located in the eastern region of the state. Sweetpotato is also an economically important crop for small scale and limited resource farmers in Arkansas (Horton and Robbins, 2008). However, availability and cost of high quality, virus-tested planting materials is a major constraint in the production of sweet potatoes in Arkansas. Until 2010, Arkansas did not have a sweet potato foundation seed program. Growers purchased virus-tested, or generation two (G2) seed plants from commercial producers or state supported programs outside of Arkansas. In 2019, through the University of Arkansas at Pine Bluff (UAPB) sweet potato foundation seed program, we supplied 150,000 generation zero (G0) slips to the sweet potato growers. Currently, in Arkansas, nearly 90% of the sweet potato virus-indexed planting materials (slips) are developed and provided to growers through UAPB's sweet potato foundation seed program.

33. Cover crop versus no cover crop at Cousart Bayou-Little Cypress Bayou in Bayou Bartholomew watershed

T. White & Ryan Nedd, Mississippi River Basin Initiative, University of Arkansas at Pine Bluff*

In Arkansas, the excess nitrogen and phosphorus in surface water runoff are one of the most substantial water quality concerns. The National Resources Conservation Service (NRCS) has developed the Mississippi River Basin Initiative (MRBI) which includes Arkansas as one of 13 states that is participating in this initiative. MRBI was developed by USDA NRCS to address water quality concerns in the Gulf of Mexico due to agricultural practices and activities in the Mississippi River Basin. Our lab and others are working together to implement conservation practices encouraged by NRCS to promote better water quality and quantity, enhance wildlife habitats, and restore wetlands while sustaining agricultural productivity in Arkansas. Our focus is edge-of-field monitoring with ISCO 6712 automatic samplers at a privately owned farm site located in Jefferson County within the Bayou Bartholomew watershed, to analyze the quality of water in runoff from agricultural fields during rain and irrigation events. The first year of cover crop treatment did not show any significant difference in concentrations in 2016. However, in 2017, there was no significant differences in loads but total suspended solids showed a small reduction in loads at the treatment site than control site. The calculated p-value was .0759. Our research suggest that long-term usage of cover crops will help reduce discharge of loads in runoff.

34. Potential Impact Of Herbicide Overspray On Phytoplankton Blooms In Arkansas Ponds

George L. Selden University of Arkansas at Pine Bluff, 1200 North University Drive, Pine Bluff, AR 71601*

A common inquiry from aquaculture producers and pond owners is what impact a mistaken aerial herbicide application will have on their fish. These calls frequently follow a fish kill which has occurred after a suspected herbicide overspray. With few exceptions, the most used row-crop herbicides will be harmless to fish. What is often then asked is could the herbicides have negatively impacted the phytoplankton bloom, causing it to crash, leading to a fish kill due to low dissolved oxygen.

To investigate the potential for an herbicide overspray to negatively impact an algal bloom, extension crop scientists were consulted for a list of the most common aerially applied herbicide active ingredients (AI). A representative label was selected for each AI to determine the maximum amount of chemical that would potentially be applied to the pond, to the depth of one foot (AI ppm/acre*ft). This value was then compared to the EC50 for a representative green algae *Raphidocelis subcapitata*. These results were then compared with known algicides.

The results of this investigation indicate that some of the most common aerially applied herbicides have the potential to negatively impact planktonic algal blooms. Due to the nature of algae and ponds, while an herbicide overspray might negatively impact algae, this may not necessarily cause a low dissolved oxygen problem in the pond.

35. Extension Collaborative on Immunization Teaching and Engagement (EXCITE) Educating African Americans to Increase Their Vaccination

I. Crosby, Henry English and Teresa Henson.*

The University of Arkansas at Pine Bluff Cooperative Extension Program overall goal is to work with target counties to address health disparities among rural and underserved communities. In keeping with Vaccinate with Confidence campaign this project tested various health messages related to COVID-19 and learn what resonate with our target audience. To implement this project we collaborated with the Family and Consumer Science team to disseminate materials to address the mis-information on COVID-19 Vaccine.

We provided unbiased information using social media, and printed materials to local farmers and families in the selected counties that allowed African Americans in Arkansas to make an informed decision that saved lives. The targeted counties had very low vaccination rates at the beginning of the project. As a result of our efforts we saw the vaccination rates increased in those counties.

36. “Keeping it in the Family” Project

K. Williams and Dr. H. English, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601*

The “Keeping it in the Family” project provides education and technical assistance to African American (AA) forest landowners in Arkansas. This project was created by the U. S. Endowment for Forestry and Communities, Inc. to help AA forest landowners keep their land. In 1910, AA owned approximately 19 million acres of land, by 2017, the acres had decreased to 4.6 million. AA lose land from their inability to access USDA Programs, discrimination, and heirs' property. The project provides the following services: educational meetings on forest land management,

heir's property, and using conservation programs; technical assistance in developing forest management plans; and technical assistance in using Natural Resources Conservation Service (NRCS) programs to install forestry management practices. The project is managed by a team consisting of foresters, conservation consultants, and an outreach coordinator. The team partners with NRCS and Arkansas Forestry Division. Some of the outcomes in 2021 were participants received \$283,611 in Environmental Quality Incentive Program (EQIP) Funds to improve 663 acres of forestland. The project team made 84 on site visits. The project has 279 participants with a total of 12,742 acres. There were 1,561 contacts (telephone calls, and emails) to the landowners. The participants also gained knowledge on forest management, estate planning, conservation, land tenure, and property rights.

37. The Small Farm Business Project

S. Early, S. Walker and H. English, University of Arkansas Pine Bluff, Pine Bluff, Arkansas 71601*

The Small Farm Business Project provides education in farm business and technical assistance with loan applications to Socially Disadvantaged Producers (SDPs). Most SDPs and other small producers struggle with loan applications. This is because they have no experience with balance sheets, income/expense projections, or cash flow budgets. Consequently, when SDPs seek loans from USDA there was an opportunity for UAPB to provide farm business education to the producers while assisting them in completing their loan applications.

To provide SDPs with farm business education and technical assistance in completing their loan applications, the Small Farm Program (SFP) partners with the USDA Farm Service Agency (FSA). The FSA provides loans to producers. The FSA agreed to refer SDPs seeking loans to UAPB for assistance with their applications. In addition, the SFP started offering farm financial educational meetings for producers.

As a result of the partnership, SDPs started coming to the SFP for assistance with their loan applications. In addition to the assistance with the application, the SDPs received education on financial statements, farm business structures, crop insurance, land prices, cash rent prices, conservation program, and credit repair. After a short time, SDPs began to refer other SDPs to the SFP for assistance. The project assisted 30 SDPs in obtaining approximately \$1.5 million in funding in 2021. However, 10 SDPs changed their business structures from a single proprietorship to an LLC, 10 signed up for conservation programs, and 25 purchased crop insurance.

38. Food Safety Education: Assisting Small Farmers Understand the Requirements in Food Safety During the Pandemic

I. Crosby and Henry English, University of Arkansas at Pine Bluff, AR 71601*

Food safety has been a significant issue for farmers. In 2012, after working on an initiative to increase marketing opportunities for the underserved, the issue was identified as a barrier for market access. The pandemic brought new challenges to local farmers. In response to this emerging issue Training and technical assistance were developed to meet the needs of local socially disadvantaged farmers. Training workshops were held on USDA Good Agricultural Practices/Good Handling Practices (GAP/GHP) virtually during the pandemic and at various locations. Over 50 farmers participated in the workshops. Technical assistance was provided to local farmers to develop food safety plans and prepare for addressing food safety issues as it relates to COVID-19.

After the Produce Safety Rule and Food Safety Modernization Act (FSMA), UAPB began training farmers so that they would be in compliance. Extension associates became trainers for the Produce Safety Alliance, and workshops were conducted using their materials developed by 1890 team on a funded AFRI grant.

39. Fish Health and Disease Diagnostic Services Provided to Fish Producers at Pine Bluff and Lonoke Counties, AR

G. Ramena and G. Sriramoju, Aquaculture/Fisheries Center, Pine Bluff and Lonoke Fish Disease Diagnostic Laboratories, University of Arkansas at Pine Bluff, 1200 North University Drive, Pine Bluff, Arkansas, 71601.*

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40. Improving Sweetpotato Production in Arkansas: UAPB Sweetpotato Foundation Seed Program

S. A. Francis, S. K. Ponniah, O. M. Njue. School of Agriculture, Fisheries and Human Sciences, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601*

Sweetpotato, (*Ipomoea batatas*) has rapidly gained importance as a vegetable crop of economic significance in Arkansas accounting for more than \$24 million of the state's agricultural economy in 2018. However, the unavailability and high cost of quality planting material from within the state are major constraints to production. As farmers turn to neighboring states to access this material, this leads to delayed time of planting, increased cost of production and decreased returns on investment, and combined, they limit the potential of Arkansas' industry. The University of Arkansas at Pine Bluff Sweetpotato Foundation Seed Program is alleviating these problems by providing virus-indexed sweetpotato slips and high quality seed material to producers. By culturing shoot-tip meristem on suitable tissue culture medium, virus-free sweetpotato plantlets are produced. These are screened for the presence of viruses before being established in a greenhouse. They are then multiplied before being hardened in a high tunnel in preparation for distribution to commercial farmers, while some are taken to the field to raise seed material for limited-resource/small-scale farmers. This timely access to quality planting material from within the state has led to decreased cost of production and increased quantity and improved quality of Arkansas sweetpotatoes, while diminishing the potential for disease and insect pest transmission across state boundary lines.

41. Mentoring the Next Generation of Agricultural Entrepreneurs: Rural to Urban Agripreneurship Program

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This program has been developed out of a funded USDA 1890 Capacity Building Grant. We have worked with undergraduate students to help survey rural traditionally underserved producers. Community leaders and food entrepreneurs are being engaged to identify potential markets for local food production and specialty crop production. Promising value chains are being identified as we partner with local producers and engage young community members as producers. One specific group that we have initiated with community members and agricultural undergraduate students is the Agripreneurship Growing Gardens Group. This has provided a unique learning experience in the town of Langston where agriculture students are working side by side with community members and town leadership to manage market gardens in vacant lots. In addition, they are learning how to operate the town of Langston Farmers Market. This program provides Langston University agriculture students hands-on experiential learning experiences with appropriate scale equipment, no-till and regenerative agriculture, and sound economic principles for starting and operating a small rural or urban farm. The young growers and community members are able to see the latest in production models, sustainable agriculture, and meet food buyers. The program will also give Langston University students opportunities to build agribusiness proposals and to pitch these to a network of potential impact investors and lenders. This developing program will enable Langston University to become a leader in Small Farms programming that will benefit Langston University students and affiliated communities through greater opportunity to operate more profitable and sustainable farms.

42. Farm Service Agency (FSA) Borrowers Training Course

Banks, C.L. McCarty, A. Alcorn State University Extension Program, Lorman, MS 39096

Farmers face difficulties in their farming operation due to lack of capital. In order for farmers to plan an efficient operation and to make good sound management decision(s), they must have accurate resources. Borrowers have difficulties in understanding the how to complete the Farm Service Agency (FSA) loan application when applying for loan. Therefore, Alcorn State University Extension Program offer structural courses in conjunction with the Agricultural Economics Department and other departments at ASU to help meet the requirement for borrower training(s) as outlined by FSA. The FSA Borrower Training course was designed to educate FSA borrowers on Farm and Financial Management: Business Planning and Financial Management which consists of Goal Setting, Risk Management, Record Keeping, Budgets and Decision-Making and Financial Statement and Efficiency Measures (Balance sheets, Income Statements). Borrowers gained skills on how to complete the loan application and understanding the concept of the application process through the completion of a Balance Sheet, Financial Statement and Income Statement. The structural class enabled the borrowers to apply for an additional loan through the completion of the course with a passing score of seventy. Participants were introduced to current tools and methods that will assist in their current farming practices and minimize farm risks.

43. Sustaining the Growth of Small Farm Operations through Education and Outreach Program

M. Smith, F. Chukwuma, C. Banks and L. Brown, Alcorn State University Extension Program, Lorman, MS 39096*

Small farms have always been a cornerstone of American agriculture. They play a significant role in supporting rural employment and contributing to territorial development. They are important for production, particularly in the form of local specialty crops. Therefore, from 2017 to 2019 several hands-on trainings, interactive workshops, outreach programs and routine farm visits were utilized to educate five hundred and twenty five (525) small and limited-resources farmers from rural Mississippi counties. Thus, farmers were educated on how to (1) grow, manage, package and market quality produce. Additionally, to enable farmers gain an understanding on how USDA works and what program(s) were offered by each USDA agency, the project staff collaborated with different USDA agencies to provide trainings throughout the course of project. Pre-training survey indicated that 70% of the farmers do not keep records of their farming operations; 60% produce and sell locally and 15% are engaged in some form of sustainable agricultural practices. The survey also revealed that the average age of the participating farmer is 47 years old. The farm size ranged from less than 3 acres (5%), up to 10 acres (40%), 11–25 acres (35%) and more than 25 acres (20%) and majority of the participants (84%) reported that they receive just a fraction of their annual income from their farming operation. Retrospective post surveys were utilized to determine the effectiveness of the trainings. Thus, the overall participant knowledge was increased in all areas of instruction.

44. Virtual Outreach Workshop Links Small Farmers with Government Programs

N. Brownlee and J. Hartsfield*. North Carolina A&T Cooperative Extension, Greensboro, NC 27411.*

Due to a 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. Also, another major challenge now facing small farmers is learning how to use the internet and virtual group meeting technologies to receive information during the pandemic. This educational program aimed to make these farm families in Southeastern North Carolina more aware of these federal and state government programs and resources during the pandemic. The virtual outreach workshop was conducted in September 2021 via Zoom, with 54 persons participating. Evaluations after the workshop showed that over four-fifths of the participants said they improved their knowledge of the United States Department of Agriculture Programs (USDA) and were going to apply for at least one USDA program. Follow-up interviews were conducted with several participants who applied and were approved for at least one USDA program. Those programs included NRCS-EQIP cost-share grants, FSA farm programs, and other USDA services. Also, three beginning farmers were able to sign up for and receive their USDA farm* ID number making them eligible for USDA farm programs. With this knowledge of agriculture programs provided by the USDA, these farm families have a new opportunity to make their farms more profitable and sustainable.

Community & Economic Development

45. Economic Development and the New Normal: Promoting Community Development in a Digital Environment

G. Walton, Jr., M. Robinson, Y. Diabate, and B. Vaughn*

Historically small businesses in the Black Belt Region of Alabama have had challenges in sustainability. These businesses continually face trials, such as access to capital, lack of social capital/networks, and scalability. The onset of the pandemic and the accompanying recession have exacerbated the issues facing rural communities. With the challenges of the pandemic, TUCE embraced the virtual environment to address the needs of Black Belt small businesses. The virtual offerings were the Rural Prosperity Summit (RPS), in partnership with USDA-OPPE, and the Booker T. Washington Economic Development Summit (BTW Summit). The RPS addressed Achieving E-Connectivity in Rural America, Improving Quality of Life/Developing the Rural Economy, and Supporting a Rural Workforce/Harnessing Technological Innovations. The annual BTW Summit focused on small businesses' survival in the new normal through Access to Capital, Digital Marketing, and Risk Management. The summits together produced over 650 participants in 3 events. The participants were mainly located in the Alabama Black Belt (62%) and from 7 other states. The RPS was largely attended by professionals (77%), while the participants of the BTW Summit predominantly described themselves as small business owners or serving these entities (78%). Ninety percent (90%) of the participants stated that they gained skills they anticipate using over the next year in their business and/or workplace.

46. Healthy Living by connecting consumers with Farmers

H. Lambert and A. Tuggle, Tennessee State University, Rutherford County, TN

THE RUTHERFORD COUNTY FARMERS' MARKET (RCFM) has been in operation since 1975 as a PRODUCER ONLY MARKET (no re-selling allowed) and is open to producer from counties within the Middle Tennessee Area. Initially operated from an open shed, in 2009, the RCFM operation was relocated to the Lane Agri-Park Community Center on John R. Rice Boulevard. The market is in an open air, inside, state of the art facility with the capacity to host over 4 dozen vendors.

The market is located at the Lane Agri-Park Community Center funded, in part, through a grant from the "Local Parks and Recreation Fund" for \$200,000 along with the Rutherford County Government funding of \$4,912,595 for the total cost of \$5,112,595 which included a livestock barn and an outdoor classroom pavilion.

The primary goals of the RCFM are to provide a distribution point for fresh, locally-grown vegetables which consumers might not otherwise receive and an outlet for surplus homegrown products to be sold which would enable the producer to realize an economic gain. It was established by the Murfreesboro City Council, the Rutherford County Court, and the Rutherford County Agricultural Extension Service for the purpose of serving the citizens of Rutherford County and the Middle TN area.

47. Lincoln University Show Me How Team

C. Newsom, A. Anderson*, F. Anderson, T. Lane, D. Githinji, S. Jaster, M. Wright Lincoln University, MO 65101*

The World Health Organization has declared that there is a direct connection between one's overall wellbeing and the ability to contribute to their community. There is evidence of decreased community engagement in the last year that the Covid-19 pandemic has magnified.

We saw an opportunity to bridge the gap between the disconnected population and available resources and knowledge from 1890 universities and extension offices. The Lincoln University Cooperative Extension Show Me How Team will create a user-friendly 1890 extension resource library accessible via an app or kiosk for all audiences with varying needs and digital access. This library will include lesson plans, video contents, recipe ideas, fact sheets, guide sheets and all other educational documents. The app will be available anytime, at no cost unlike periodic in-person programs or mobile educational displays, enabling re-engagement by giving everyone virtual access to extension programs and contents. The Show Me How Team will form a partnership with other 1890 institutions, and extension offices across the country as well as partner with local libraries to provide access to Lincoln University's Show Me How kiosk and mobile application.

48. Engaging Communities Through Public Art

A. Hodges and C. Kinder*. West Virginia State University Extension Service, Institute, WV 25112*

Since 2015 Community Development Agents working for West Virginia State University in Southern West Virginia have been using public art projects to engage and beautify communities. These projects range from large to small with designs based on historic photos, simple drawings or decorative elements. The consistent element is always the people that make the art projects happen. These projects are designed and executed in ways that allow anyone to participate regardless of their artistic ability. A desire to enliven and improve their community is all that is required. These types of projects can be easily duplicated in any community and offer great potential to engage and promote community diversity.

Family & Consumer Sciences

49. Project Uplift CYFAR Project: Empowering Youth

C. DeRamus, A. Young, Kentucky State University, Frankfort, KY 40601

Life skills development is an often-overlooked need among youth. Extension professionals provided life skills to at-risk youth ages 12–18 in two Kentucky counties through Project Uplift CYFAR (Children Youth and Families at Risk). The project's primary goals include increased awareness/understanding of critical life skills for self-sufficiency by youth; increased awareness/understanding of critical parenting skills for self-efficacy by parents/guardians; and increased community partnerships among youth and family organizations in target communities. The program model

utilized is the YMCA Safe Place Program Model. The program vision employs a multidisciplinary Positive Youth Development and Trauma-Informed approach that views youth in the context of the family and community and develops programming based on local needs and grounded in research.

The project connected youth with resources for social, emotional and economic development and empowerment. The project takes place in a variety of settings, including public schools, group homes and community centers. The project team facilitated the past two years of capacity building throughout the COVID-19 pandemic. This project is unique because it is a multi-institutional project, with Kentucky State University's and the University of Kentucky's participation. The project staff successfully switched their programming to a virtual setting. While in the virtual setting, rapport was established with participating youth. By utilizing the Botvin Life Skills curriculum, more than 200 students were able to learn effective communication skills and decision-making skills for the future.

50. Farmers Market Nutrition Education and Recipe Sampling To Increase Produce Consumption

M.L. Langston, Southern University Cooperative Extension Program, Baton Rouge, LA 70813*

As part of an effort to increase produce consumption, an educational program was offered once a month at the local farmers market. Typically, nutrition education and food demonstrations are not provided at local farmers markets. So, the "new" feel of the programs created has sparked interests amongst consumers. The purpose of the educational programming was to educate consumers on the importance of increased produce consumption as part of a nutritious meal. The educational programs featured produce items each month, based on product availability. The program lasted approximately 60 minutes and included information on nutrition, techniques for cooking the featured item(s), recipe demonstration and Q&A. To encourage consumption, educational materials and a variety of produce samples were provided to consumers. Participating consumers indicated their intent to prepare the recipes at home. The cooking demonstrations enabled consumers to learn new methods of cooking produce and try "new" fresh produce. Consumers also indicated they were often hesitant to try something new because they were unsure of how to prepare the item. Providing nutrition education and flavorful healthy recipes to consumers will enable them to begin taking steps toward healthier food choices. By providing easy recipes, consumers may be more likely to prepare healthier meals at home.

51. Addressing Tobacco-Related Health Disparities in Communities of Color

J. Plowe and R. Sugulleh. Southern University Agricultural Research and Extension Center, Baton Rouge, LA 70813*

Tobacco-related illness and death disproportionately impact communities of color almost twice as much as other communities. The Southern University Agricultural Research and Extension Center's Communities of Color (CoC) Network aims to eliminate tobacco-related health disparities in vulnerable populations with a focus on African-Americans, low socioeconomic communities, and LGBTQ+ individuals. With 208 individuals enrolled in the Smoking Cessation Trust, the Communities of Color Network builds capacity by coordinating, organizing, and implementing tobacco prevention and control programs and activities to offset these health disparities in Louisiana.

52. Sisters Together: Move More, Eat Better Pilot Program

K. E. Kelly and A. Jordan. Southern University Agricultural Research and Extension Center Cooperative Extension Program, Baton Rouge, La 70813*

Sister's Together: Move More, Eat Better Pilot Program is a health awareness program that encourages Black women 18 years and older to maintain a healthy weight by being more physically active and eating nutritious foods. It is a project of the National Institute of Diabetes and Digestive and Kidney Disease through the Weight-Control Information Network (WIN). The SU Ag Center adapted this program and made it unique to the residents of Louisiana by working with local and state health professionals and entities to create an educational program and the accompanying curriculum specific to the needs of African American women in Louisiana. Overweight and obesity are significant health problems for the African American community in Louisiana with 43.5% of African American women being obese (Louisiana Department of Health). During the 12-session program, participants met bi-weekly to receive nutrition education, participated in physical activity sessions and healthy food demonstrations. Participants increased knowledge on how to create healthier recipes, improved physical activity practices, selected foods consistent with the 2020–2025 Dietary Guidelines. Participants were encouraged to get a "Sister" or partner that would help encourage them throughout the program. Participants stated that they felt "healthier" than they ever had. Other participants indicated that, adopting principles taught and demonstrated during the program, they would incorporate the skills and knowledge gained, within their households. The Sisters Together: Move More, Eat Better Pilot Program proved that through "Sister" relationships, we can encourage each other to maintain a healthy lifestyle behavioral change.

53. Culinary Skills Class Increases Knowledge about Foods and Cooking Skills

M.L. Langston, Southern University Cooperative Extension Program, Baton Rouge, LA 70813*

The events of the past two years have brought the need for good nutrition and basic cooking skills to the forefront. One local elementary school wanted to offer students cooking classes to help increase their knowledge and skills about nutrition and cooking. They have an afterschool program that offers a large variety of activities, so this provided the perfect setting for the program. The program had two main objectives, increase knowledge about foods in regards to nutrition and to increase cooking skills, knowledge of food safety and culinary terms. The culinary classes were conducted on a weekly basis with 3rd, 4th and 5th grade students at Union Parish Elementary School. Each week the class consisted of a lesson about a food group, food safety and culinary skills. The Union Parish School board provided 100% funding for the program and Union Parish Elementary School provided a classroom that was dedicated to the after school cooking program. Students have demonstrated an increase of knowledge about food and kitchen safety, the role of healthy food choices and culinary skills. The pre and posttest given to the students showed increased knowledge about the topics. Program success was evident from the student participation and results of these test. Students participated in the program each week and shared what they learned with their families. 100% showed increase in food safety knowledge, 90% showed better knowledge of culinary terms, 95% indicated an increase in knowledge of food groups. The program will be continuing each semester and as part of the summer learning programs.

54. SU JAGriculture: Emergency Preparedness, Response, and Recovery

K.J. Allen, M. Ford, A. Jordan, and K. Kelly, Southern University Cooperative Extension Program, Baton Rouge, LA 70813*

Research suggests local economies suffer long-term after devastating natural disasters. Recognizing that preparedness saves lives and millions of dollars, and evacuation can often times be viewed as a luxury in underserved and financially stricken communities; extension professionals within the Southern University Cooperative Extension Program developed a multi-dimensional emergency preparedness program during the height of the COVID pandemic. Last year, as the pandemic raged, and an extremely active hurricane season was on the horizon, we sprang into action using our digital resource to reach our communities, as well as extension professionals nationwide. Our social media campaign, webinars, virtual 3-day conference, and town hall meeting in collaboration with the Extension Foundation and EDEN served as catalysts to engage communities virtually and safely, while also dissemination lifesaving information. We are continuing to provide emergency preparedness information and resources to our communities, while also preparing to launch three (3) programs. Current preparations are underway to launch our Preparedness2Geaux Program, Who DAT (Disaster Adaptable Territories), as well as our Pastures in Disasters program for rural, urban, and peri-urban communities.

55. GREEN Project: “Changing the Way Georgians Use Energy One Home at a Time”

B. Brown, Fort Valley State University, Fort Valley, GA 31030

Utility bills spiked considerably during the COVID-19 pandemic due to families having to shelter-in-place, parents having to telework and children being homeschooled for safety measures. The GREEN Project partnered with local food banks (Middle Georgia Community Food Bank in Macon, GA and Feeding the Valley Food Bank in Columbus, GA) to educate clients on how to lower their utility bills. When those organizations stopped at a location to distribute food, FVSU's Energy Educator set up an exhibit where I distributed GREEN publications with information about the GREEN Project and light emitting diode (LED) lightbulbs. The GREEN Project impacted more than 5,274 residents in 30 Georgia counties. With the distribution of the LED bulbs, these individuals have experienced more than \$1,582,200 in energy savings to their homes.

56. Center for Healthy Grandfamilies: Improving Lives

M. Lilly, West Virginia State University, Extension Service, 600 Curtis Complex, PO Box 1000, Institute, WV 25112.

Over 2.7 million grandparents in the U.S. are raising their grandchildren, generally resulting from child abuse or neglect, addiction or other mental health disorders, incarceration or death. These grandfamilies are among our most vulnerable populations. They often receive little or no financial support and do not know where to turn for social and emotional support. West Virginia State University Extension's Healthy Grandfamilies program offers an 8-week course (in-person or virtual due to COVID) educating grandfamilies on the following topics: Parenting in the 21st Century; Family Relationships; Communication; Technology; Nutrition; Legal Issues; Health Literacy; Stress Management; Navigating the School System; Family Response to Addiction; and Trauma Informed Care. Over 1,000 grandfamilies have received education, assistance and advocacy through the program – 97% of the participants surveyed reported an improved quality of life and would recommend the program to others.

57. Family and Consumer Sciences provides Coping with COVID-19 Educational Resources for Families and Individuals

*R. Fleming*B. Harris*and *K. Reeves Tennessee State University, Cooperative Extension Program, Tennessee State University 37209*

COVID-19 has changed how we approach most areas of our lives; from socializing to shopping to educating. The one thing that hasn't changed is flexibility and responsiveness of Cooperative Extension. Since Cooperative Extension responds to the needs of the community, it is built to help the community thrive no matter what the need or crisis.

In response to the needs during the COVID-19 pandemic, a task force consisting of Extension Specialists and an Agent and Human Science Faculty was developed. A survey was executed to evaluate the needs of County Extension Agents and specialists as it related to the community's response to COVID-19. The work group quickly produced (22) articles addressing mental health strains, safe practices, creative methods of remaining social, ways to educate children at home, and ideas to strengthen family relationships. The taskforce partnered with the TSU COVID Academy, a University wide approach to the pandemic. Additional social media blast and posting on the TSU COVID Academy website reached over 4,000 individuals. County Extension Agents also used the information to teach programs through social media and other video applications. The taskforce collaborated with specialist, program leaders, and faculty from 1862 Land-Grants to assist with the production of other COVID-19 resources.

58. Innovative Health Programs From a Relatively New 1890 Institution: FCS Extension Programs to Decrease Health Disparities and Increase Health Equity

Anshiya Ramanitharan, 1890 Land-Grant Extension Service, Central State University, Wilberforce, Ohio 45384.*

The 1890 Land-Grant Extension Service at Central State University is a relatively new organization that is charged with training the historically underserved populations of Ohio about healthy living and human nutrition. This has resulted in several health programs that address many common family and health issues including chronic diseases, substance misuse among adults and youth, family resiliency, parenting, mental health, and vaccine hesitancy. To address the needs of the state, we have hired health program coordinators and educators. The new and existing FCS educators received trainings in diabetes self-management program, adult and youth smoking cessation programs, parenting and family resiliency programs, and mental health and suicide prevention programs. Health program coordinators support FCS program leader and educators to implement health programs. This innovative cooperative Extension informal health education programs can link the communities with complex healthcare needs and play a vital role in improving health and well-being of historically underserved populations that face barriers to quality health care.

59. Deploying Senior Citizen Lay Leaders into Communities as Educators

H. Glover, M. Monroe, K. Prince and Y. Matthews Lincoln University Cooperative Extension – Paula J. Carter Center on Minority Health and Aging, Jefferson City, MO 65101*

In an effort to expand the reach into communities throughout Missouri and provide senior citizens with pertinent health information, the Paula J. Carter Center on Minority Health and Aging (PJCCMHA) has established a Lay Leader's Program. A primary goal of PJCCMHA is the reduction of health disparities and inequities regarding access to health-related information. Many underserved and unserved ethnic minority senior citizens lack access to health information in urban and rural areas. Funding received from the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) grant allows the PJCCMHA to train and empower senior citizen "Lay Leaders" to go into their communities and provide information regarding health topics to their peers. This grant is awarded by Community Leaders Assisting the Insured of Missouri (CLAIM). In the first year, 2016, twenty Lay Leaders were able to reach more than 300 seniors in various communities throughout areas of Missouri. In the last six years, 96 Leaders have trained 1,091 people. The volunteer Lay Leaders program has allowed PJCCMHA to expand its outreach into hard-to-reach communities around the state.

60. "SNAP into Healthier Lifestyle" a COVID-19 Response Social Marketing Strategy to Reduce Food Insecurity, Address Barriers to Health Behavior Changes, and Increase Access to Healthy Foods

V. Mulgrave, C. Hodges, S. Harmer, N. Lamadiou, and D. Pinkett-Wynn, Delaware State University, Dover, DE 19901*

COVID-19 changed the landscape for program delivery. In response, we delivered a social marketing program that is delivered 100% virtually. "SNAP into Healthier Lifestyle" is a strategy that explores the use of modern technology and social marketing to address barriers to health behavior changes, access to healthy foods, and address food insecurity. The methods used include utilizing text message services and e-mails to provide health, nutrition, and food information twice per week. Information includes translating scientific evidence-based nutrition and health

information into easily understood and usable forms, disseminated to participants. In addition, participants receive information about local health care services, beneficial community activities, money management strategies, healthy recipes, physical activities, and grocery store specials. Family and consumer sciences (FCS) contacted an additional 150 Delawareans through this program, thus increasing the number of participants who receive and have access to helpful health information. We increased community partnership by 20%, with more than 20 new community partners that assist with outreach and impact within the community. At least a 40% increase in the number of persons committed to changing health behavior and engaging in physical activities. A 50% increase in outreach efforts to reach a more significant number of FCS program participants. This project is ongoing and uses a mixed method evaluation approach utilizing both qualitative and quantitative data to show positive results for success. The impact was measured through pre and post-surveys, checklists, and focus groups.

61. Community Emphasis Program: Summer Enrichment Cooking Sessions for Local Housing Development and Community Center Youth

T. Henson, University of Arkansas at Pine Bluff, 1200 N. University Dr., Pine Bluff, AR 71601.*

Arkansas has a high obesity rate for youth ages 10 to 17. To combat the high childhood obesity rate, it is important for children to learn to eat healthy and incorporate physical activity into their daily routines. Expanding nutrition education to children also presents a good opportunity to familiarize them with important science, technology, engineering, and math (STEM) concepts.

The University of Arkansas at Pine Bluff Family and Consumer Sciences nutrition staff conducted summer cooking session for youth within a local housing and community center. The sessions provided life and cooking skills to encourage youth to eat healthier meals and snacks through hands-on activities and cooking. The session's daily activities were aligned with the Arkansas Common Core Curriculum for science, math, reading, and language arts for grades 1–5. As a result of the sessions, four-hundred and fifty-six youth returned home with knowledge on healthy recipes, kitchen safety, the importance of measurements, and the nutrition content of different foods and beverages as well as physical activity. Overall the sessions produced successful and positive feedback from the parents and center staff. Parents said their children enjoyed the sessions and requested that it be hosted and possibly expanded in subsequent years.

62. Pilot Food Preservation Program for Small-Scale Fruit and Vegetable Producers

K. Scott, T.A. Williams, and J. Arati Langston University Cooperative Extension and Outreach Program, Langston, OK. 73050*

In November 2021, Oklahoma House Bill 1032, also known as the Homemade Food Freedom Act, was passed. This bill expanded the ability of food producers to sell food items made in their homes to the public. Producers that sell time or temperature-controlled food must complete eight hours of online food safety training. Although this training prepares producers to handle food properly, it does not train them to use proper food preservation techniques. To respond to this gap in training, the Langston University (LU) Cooperative Extension Service piloted a food preservation training program to train participants on how to preserve foods safely. The pilot targeted perspective market producers participating in the LU Market Gardening school. Participants engaged in a three-hour experiential training beginning with a one-hour lecture and a two-hour canning training. The training was modeled using the USDA's Complete Guide to Home Canning book. Topics included principles of home canning, fruit selection, and jelly making. The pilot program was evaluated using a prep post-survey to determine if the program could increase participants' knowledge of food safety techniques. Across survey questions, between 80% and 100% of participants increased their food preservation technique knowledge. This pilot program will be expanded to reach a broader audience, and additional topics will be added. The long-term goal of this program is to reduce foodborne illnesses resulting from home-produced food.

63. FVSU – Preserving Family Heritage Estate Planning

B. Maddox and M. Price. Fort Valley University Cooperative Extension Program, Fort Valley, GA 31030*

Many underserved Georgians die without a will. I believe the absence of wills are not due to lack of resources, but a lack of education and training. To alleviate this problem Fort Valley State University (FVSU) Cooperative Extension Program formed Preserving Family Heritage (PFH) Estate Planning Project, in collaboration with UGA-CES County Agents (Agricultural and Natural Resource, Family and Consumer Science & 4-H) and Attorneys from Georgia Heirs Property Law Center (GHPLC). Since 2021, PFH group has educated over 112 participants through virtual workshop, provided 6 virtual one-on-one educational wills clinics in Bibb, Crawford, and Marion counties; 14 participants received over 32 hours of one-on-one education with a Georgia certified attorney, and completed 41 estate planning documents for succession plans that protected over 182 acres of land and over \$2,379,000 in assets, with \$2,500 in-kind attorney fees contributed, resulting in a savings of \$10,500 to participants. Materials

were distributed statewide reaching over 22,000 Georgians through outreach including flyers, videos, email blasts, social media posts and newspaper advertisement. In the area of wills and estate planning pre-workshop 18% of participants reported high knowledge compared to 41% post-workshop, having available resources pre-workshop 12% to 49% post-workshop, 70% learned new information, 77% would share the information and 42% learned best practices to protect property and other assets. The goal of the PFH is to continue the following:

- virtual estate planning workshops with emphasis on long-term planning
- communications and outreach to underserved audiences
- hybrid virtual one-on-one training clinics

Youth Development & 4-H

64. Implementing Aquaponics Project-based Investigations (APBI) in K-12 Extension Programs to Promote Student Interest and Understanding of STEM Concepts

C. Walling and K. Thompson. Kentucky State University Aquaculture Research Center, Frankfort, Kentucky 40601*

Demonstration scale aquaponics systems can be implemented in K–12 aquaculture extension programming to increase student interest in agricultural concepts and promote comprehension of scientific phenomena. Hands-on educational experiences help students to relate to scientific concepts in more tangible and effective ways. The interdisciplinary nature of aquaponics makes it an effective hands-on extension education tool that can be adapted to engage diverse populations of school-age learners and recruit underserved minority groups into science, technology, engineering, and math (STEM) careers.

When teaching about the complex relationships that exist in aquatic ecosystems, educators can implement the culture of fish and plants in an aquaponics system within their classroom curriculums. Aquaponics as a hands-on project-based investigation (PBI) experience promotes student comprehension of broad scientific concepts, including those defined in the Next Generation Science Standards (NGSS). The inconstant nature of an aquaponics system allows students to better understand the multifaceted interactions that naturally occur between the water, plants, fish, and bacteria. Aquaponics project-based investigations also allow students to use scientific reasoning skills to ensure the health of their fish and plants in collaboration with STEM problem-solving.

By allowing students to develop scientific inquiry by using classroom-based aquaponics programs, they may also discover an interest in agriculture extension-focused areas like FFA and 4-H, as well as STEM careers.

65. Identifying and Assessing Youth Volunteer Competencies of Adult Tennessee Master Gardeners

Broyles, Thomas W., and Leathers, Alison, B. Tennessee State University.

Tennessee Master Gardeners are Cooperative Extension volunteers that maintain their certification through required education and volunteer. Volunteering with youth is a way Tennessee Master Gardeners fulfill their required hours and contribute to positive youth development. Tennessee Master Gardener manuals and training are heavy in content knowledge, but there are no resources on the skills needed to volunteer with youth. Therefore, the purpose of this research was to identify how Master Gardeners rated the importance and ability levels of skills needed to volunteer with youth.

A stratified random sample of Tennessee Master Gardeners completed a survey using the National 4-H Program's Volunteer Research, Knowledge, and Competency Taxonomy. All 43 skills had importance means that indicated the skills were either of some importance or were important to Master Gardeners. Master Gardeners rated their ability levels in the 43 skills on average as either below average, average, or above average. Mean weighted discrepancy scores were calculated between the importance and ability level of each skill, and scores ranged from 0.50 to 5.50. One-way analysis of variance tests found that the most significant differences of the skills' importance and ability levels were between Master Gardeners' educational levels. Parental status, region, and gender had little to no effect on the skill's importance and ability levels.

Tennessee Master Gardeners are important volunteers that have the opportunity to contribute to positive youth development. Master Gardeners need more training and education in skills related to 4-H program management, educational design and delivery, and positive youth development.

66. STEM in the Garden Virtual Teacher Training Workshop Enables Successful Outdoor Classrooms

A.M. Shabel, R.O. Pacumbaba, M.L. Garner, R.O. Robinson, K.L. Steedley, M.M. Dixon, H. Jackson, L.E. Edwards, B.A. O'Rear, T.C. Crow, T.J. Mason, S. Lee, and D. Carroll, Alabama A&M University Extension System, Normal, AL 35762*

Alabama Extension's Urban Home Grounds Team understands that for a school's outdoor classroom to be successful, it must be grown and maintained correctly. The STEM in the Garden course was created to train teachers and volunteers on basic gardening principles, ways to align the Alabama gardening calendar with the school's year calendar, and solutions to common problems associated with outdoor classrooms so that they are better equipped to successfully sustain their school's outdoor classroom. This course was created in late 2019 with the intent of on-site delivery in urban centers across Alabama. Due to COVID, this program transitioned to online delivery methods in 2020 and remained virtual in 2021. Over the two years, 24 presentations were delivered over 12 sessions, with 254 registered participants. Online delivery allowed the coordinators of the series to apply for Continuing Education Credits (CEUs) for teachers to meet their need for continuing education hours. A total of 154 CEUs were awarded in the two-year period. Surveyed participants (n=271) all indicated that they learned new material and 93% planned to implement practices they learned into their outdoor classroom. Surveyed participants indicated that they would save \$61 by using the information they learned in the series. Due to the success of the STEM in the Garden Series, grant funds were applied for and awarded for the fiscal years 2022–2025. These funds will be used to expand the program, allowing participating schools to apply for 'turn-key gardens' and to create a website with research-based videos and resources.

67. ExERT: Restructure of Youth Development in the Alabama Black Belt

N. Gordon. Tuskegee University Cooperative Extension Program, Tuskegee, AL 36088.

The contributions of Thomas Monroe Campbell to Cooperative Extension, has paved the way for youth throughout the Alabama Black Belt. Our flagship program ExERT (Extension & Education Research Track) has been a major support of STEM related programs that many of our youth have participated within. ExERT is an approach to programming designed to better engage rural youth who face workforce related challenges than their counterparts with stronger positive ties to resources and access. ExERT represents a strength-based approach to youth development within the Alabama Black Belt and surrounding areas. Our ExERT program utilizes surveys to assess youth participation, relationship quality and formation, and effectiveness of ExERT programming. There is an overwhelming amount of research that supports lack of preparedness, especially child development and educational success for rural youth. Our goal is to support K–12 schools by providing several positive programs that fosters opportunities for youth. Each outline strategic plan is centered on specific aspect of ExERT's values and mission of empowering our next future of changemakers. Together, we will inspire and encourage young people to focus their time, energy and resources on learning skills that will enhance their life journey. We encourage supporters to join our commitment to a better future for our Alabama Black Belt youth, encourage growth and invest in the next generation of ExERT.

68. 4-H Tech Changemakers Bridging the Digital Divide

Hayes, S. and C. Newman. Florida A&M University Cooperative Extension 4-H Youth Development, Tallahassee, FL 32307*

There are currently over 24 million people in the U.S. with limited or no internet access. There are even more people who lack the skills needed to take full advantage of online resources. The combination of inadequate internet access and limited digital skills has created a digital divide, impacting future opportunities for young people and adults. To reach a small portion of the 24 million Florida A&M University was selected as a recipient of the National 4-H Tech Changemakers Grant. We were tasked with recruiting senior 4-H members to teach adults in their communities the skills they need to use online resources, become more attractive employees, and boost their entrepreneurial skills more efficiently. The goal was to teach at least 1500 adults in the community. Teens participated in a training program to learn their roles as tech changemakers and were taught skills throughout the course of their Tech Changemaker commitment. Teens then hosted workshops and participated in community events to teach adults in their communities. Adults who attended a workshop gained knowledge and were interested in continuing to learn from the teens. There are numerous opportunities for teens showcase what they know and help their communities.

69. Farm In a Box: A Technique to Encourage Youth Participation in Agriculture

J. Wilson. Langston University School of Agriculture and Applied Sciences, Langston, OK 73063

The purpose of this project is to encourage African American youth participation in agriculture on the north side of Oklahoma City. By applying hands on methods like planting, harvesting, land clearing, and planning combined with an introduction to state and federal resources (USDA) for historically socially disenfranchised farmers and producers (SDFP), we can drastically increase participation of African American youth of Oklahoma City in agriculture. The participants will also have a hand in changing the landscape metaphorically, figuratively, and physically by not only being made aware of the dire situation that they live in but also shown a real solution to the issues with their own hands. Especially on the northeast side of Oklahoma City where there are food deserts, inadequate social and capital investments (that don't and won't gentrify the current residents), few jobs, reduced food security, and land pollution from nearby industries. The programs target audience is 6th to 12th grade aged children of Oklahoma City, with an emphasis toward African American children. Along with garnering more youth interest in the agricultural sector, there would also be a coupling of introductions to the USDA jobs market that most youth in the community are not aware of.

70. The Working Class: A Career/Workforce Preparedness Program

Erby, M.C., Alcorn State University Extension Program, Lorman, MS

Most youths lack the skills essential for job success and are entering the workplace unprepared. To address issues of workforce preparation, the Alcorn State University Extension program created the Working Class: A Career & Workforce Preparedness Program Development. This class help assist youths on exploring careers, job search, develop interviewing skills, receive education and training, prepare resumes and complete applications. This a unique approach to workforce readiness that prepares youth for success in their first jobs and helps them develop a plan to achieve their chosen careers.

71. Empowering Mississippi Youth through 4-H Food Smart Families Healthy Living Program

*Erby, M. C. * Moses, S. Alcorn State University Extension Program, Lorman, MS 39096*

Mississippi was one of seven states across the nation that participated in the 4-H Food Smart Families program sponsored by the National 4-H Council and the United Healthcare. The 4-H Food Smart Families program equipped youths and their families on how to make healthy living part of their everyday lives through nutrition education, cooking skills and food budgeting skills.

Integrated

72. Just a Paycheck Away

A Moses and R. Porter, 1890 Land-Grant Extension Service, Central State University, Wilberforce, Ohio 45384.*

Extension professionals have observed that housing insecurity has been a significant challenge for limited resource individuals, families, and households in many of the Ohio communities where Central State University's Cooperative Extension Service engages. The COVID-19 pandemic has exacerbated the already bothersome problem of housing insecurity. This new program provides education and technical support to help people cope with unemployment / under-employment; debt and debt collection; medical emergencies, illness, and medical bills; food insecurity / hunger; death of a family member; crime; lack of insurance; lack of knowledge about available resources; lack of sufficient financial literacy; lack of preparedness for household emergencies; car breakdowns and transportation problems; child support; criminal and civil legal system involvement; estate planning needs; need for planning and financial planning; eviction / foreclosure; uninhabitable housing conditions; need for increased household income; parenting and family dynamics; mental health needs; racism as a public health crisis; and fear and persistent stress.

73. Increasing the Accessibility and Utilization of Unmanned Aerial Systems and Applied Geospatial Technology for Land Management

J. Sandifer, W. Rogers and B.R. Gyawali. Kentucky State University Cooperative Extension Program, Frankfort, KY 40601*

Emerging applied technologies, such as fully autonomous unmanned aerial systems, or "drones," play a key role in empowering farmers and foresters to quickly and cheaply characterize current status and to monitor changes in managed land over time. While the potential benefits of the technology are great, the prerequisites needed to effectively utilize geospatial technology are high too, requiring advanced hardware and software, specialized training

in spatial algorithms, and lots of time. In addition, the activity can be cost-prohibitive, ranging from a few dollars an acre for simple data collection of farm or forest up to thousands of dollars per project for more complex imaging and analytics across multiple visits during the growing season.

This presentation will discuss integrated efforts of collaborative staff within Kentucky State University and the Cooperative Extension Agriculture and Natural Resources program area to expand access to this important technology for land managers through the development of new programming options, outreach demonstrations and training. In addition, we discuss efforts in the 4-H Youth Development program area aimed at educating young learners on the use of drones and highlighting the potential employment and entrepreneurial opportunities associated with mastery of the technology. Lastly, we cover some impacts of the implemented activities on our stakeholders and discuss new ideas for enhancing and formalizing the place of applied geospatial technology in the ANR program area.

74. Evaluating High School Students' Perceptions and Experiences using a Qualitative Methods Approach

K.R. Thompson, K.W. Pomper, and J.H. Tidwell, Kentucky State University, Frankfort, KY 40601*

This study explored the impact of an active aquaculture project-based learning program, as perceived by high school students. The purpose of this case study was to discover if participation in the program influenced students' interest, engagement, and future educational and career aspirations in science, technology, engineering, and mathematics (STEM) when integrating aquaculture inside and outside the classroom. Likewise, the study also explored students' knowledge about aquaculture and skill development after their participation in the program. The study employed a qualitative methods approach to explore students' attitudes and experiences. Qualitative data were collected from post-program student focus groups at three different public high schools in Kentucky. Other qualitative data included teacher journal reflections and public newspaper article. Four emergent themes were found: 1) students show excitement and enthusiasm in the hands-on, aquaculture program; 2) students show attention to detail and are more responsible in the hands-on, aquaculture tasks, and the information sticks; 3) students are collaboratively engaged with their peers; and 4) students had greater interest and confidence in STEM through practical application. Results demonstrated that the program engaged learners in real-world problem-solving and decision-making situations while working collaboratively in small groups. Students also gained an important life skill, responsibility, as well as self-confidence in STEM after participating in the program.

75. Extension Program on the Potential of Water Mills as an Example of Agricultural Technologies for Small Farms

M. Valipour, Kentucky State University, Frankfort, KY 40601*

Nowadays, the reuse of built agricultural/industrial heritage is a common practice worldwide. These agricultural/hydro-technologies also serve as monuments of socio-cultural identities, especially in rural areas. One example of successful application of agricultural technologies for small farms is the water mill. Water mills, by harnessing the energy of water, were developed for traditional flour production. For approximately two millennia, the vertical mill water wheel provided the principal source of mechanical energy in many regions of the world. However, their preservation and management are challenging, due to long-term abandonment and the lack of knowledge about their value. Additional obstacles faced in their preservation and retrofitting are the lack of economic incentives and complex legislation and authorizations. This program aims to make our community and small farmers aware of the importance of water mills for sustainable and regenerative development purposes, particularly in terms of water/energy saving and agritourism. The focus of this program is on American and European water mills. The McHargue Water Mill, the Wolf Pen Branch Water Mill, and the Red Water Mill are some successful examples of applications of American water mills in Knox County, Kentucky; Louisville, Kentucky; and Clinton, New Jersey, respectively. The outcome of this Extension program helps our community understand the importance of conservation, optimization and development of water mills for small farms with respect to their potential for agritourism and water/energy crisis at present and for the next generation. The results of this program are also useful to identify challenges and prospects of other monuments in rural areas.

76. A New Taste of Rehab

L. Rogers, Dr. M. Simon, Dr. C. Owens, and Dr. B. Gyawali. Kentucky State University, Cooperative Extension Program, Frankfort, KY 40601

Abstract: What "out-of-the-bee-box" thinking can be used to help prisoners, inmates, and persons in drug and alcohol abuse rehabilitation? Teaching honeybee and honey production is helping drug and alcohol addicts in the Sky Hope Recovery Center in Pulaski County, Kentucky, to learn to cope with their surroundings and improve their lives. Likewise, teaching beekeeping and honey production to soon-to-be-released prisoners at the Big Sandy

Federal Prison in Martin County, Kentucky, and at the Pulaski County Jail helps them to learn a marketable trade that can be used on their farms or at their homes when they are released. The Kentucky State University Extension agent has worked with more than 240 individuals to teach them “Out of the Bee Box” classes on beginning beekeeping. At the Sky Hope Women Recovery Center, 80% of the ladies in recovery were unaware of the different flavors of honey and the taste of fresh honey. After tasting honey for the first time during the first class, many became regular participants in the training program. In the Federal Prison of Big Sandy, the inmates showed a 16% positive outcome from working directly with honeybees. It prepared them for a potential income source once released, including honey, leasing the bees for pollination of vegetables, breeding and selling the honeybees, construction of the beehive boxes, and by-products produced from the wax, including lip balm, candles, and soap. Beekeeping has offered a chance to change the conditions of men and women currently incarcerated or in recovery programs in Kentucky.

77. Urban Garden Project Puts Community First

M. Crawford. Kentucky State University, Cooperative Extension Program, Frankfort, KY 40601

Work with the Russellville Urban Garden Project (RUGP) has led to multiple community engagement extensions. One of the most recent included working with the RUGP Director to offer a fifteen-week Summer Youth Program. From mid-April to August 2021, nearly 20 youth and numerous adult volunteers met weekly to learn about and become engaged in agriculture. The urban garden is nestled among shotgun style dwellings in the area of Logan County, Kentucky, identified as the Black Bottom Historic District by the National Register of Historic Places. Several of these structures house African American history museums that were integrated into the program. The neighborhood is rich in cultural history, but like many lower socio-economic areas, the underserved population struggles with plights such as limited educational and social opportunities. Numerous engagements have been implemented to combat these shortcomings. Sustainable agriculture practices, such as the use of plasticulture, high tunnels and elevated beds, allow for the growing of vegetables and herbs. Pastured poultry production, including chick incubation, was also integrated. The safe use of power equipment and tools was another practical skill that was emphasized, while farm tours offered unique experiences. The RUGP has served as a link to other important projects, including the start of an aquaculture course at the local high school, Earth Day events, local movie screenings, social awareness activities and farm-to-table meals. The continued impact of this program relates to nurturing the agriculture-related interests being exhibited by minority and limited-resource urban youth.

78. Profile of Louisiana and Mississippi Stakeholders’ Interest in and Awareness of Industrial Hemp Production

L.A. Hodges Southern University Ag Center, Baton Rouge, LA, 70813*

Hemp is a crop with the potential to meet the urgent need for alternative food, fiber, and shelter resources in the United States. Its selection for production is due to its long internal phloem fibers, high seed production potential, and the natural tendency for producing low THC content, unlike its cousin marijuana. However, despite production legalization in Louisiana (2019) and Mississippi (2020), many hemp producers have little or no crop experience with hemp, thus enhancing difficulties in leading profitable industrial hemp crop operations. Therefore, this project aims to evaluate Louisiana and Mississippi stakeholders’ knowledge, interest, and need for scientific-based production information. Fifty-six stakeholders responded during the 2021 Southern University Hemp 101 Workshop, Southern University Small Farmers Conference and 2021 Alcorn State University Women in Agriculture Conference. Stakeholders have an average farm size of 1–5 acres. 52% were highly interested in starting hemp production operations. 82% indicated they are highly interested in learning more about hemp production options of CBD and Fiber. 68% are interested in learning the application procedure for licensing. 62% agree scientifically based production information is beneficial in starting a hemp production operation. In conclusion, this project will provide Southern University with needed information for hemp production programming and training.

79. Developing Relevant Opportunities for Novel Experiences (DRONES) in Agriculture

J.P. de Koff and T. Broyles. Tennessee State University Cooperative Extension Program, Nashville, TN 37209

The use of unmanned aerial systems (UAS), or consumer drones, in agriculture is a new use of technology that has the potential to revolutionize the way that certain farm practices are conducted and enhance sustainable agriculture. Several early adopters are working with UAS as part of their agribusiness systems, but most do not know how they can be integrated into their system or do not know what these UAS can provide. The UAS can also be an important tool to engage and attract youth to agriculture by demonstrating this new technology and providing them with interactive, hands-on learning opportunities to improve important STEM skills and principles. We have created a series of educational workshops that couple the demonstration and use of UAS technology with separate adult and youth (4-H) audiences to enhance knowledge, interest and awareness of the technology and agriculture. These will increase the capacity of Tennessee farmers by giving them an advantage which will allow them to compete

and succeed regionally, nationally and internationally. The workshops will also increase the capacity of youth to identify agriculture beyond basic farming and enhance their knowledge of specific STEM principles. As of March 2020, we have educated over 57 Extension Agents on the remote pilot certification process, 142 adults on drone use in agriculture and flight techniques, and over 120 youth on drone safety, flight theory, and flight techniques. The purpose of the presentation is to share program design, curriculum concepts, program implementation, program evaluation, and next steps to the program.

80. Empowering the Socially Disadvantaged in Developing New Food Products in the Lincoln University Culinary Incubator (LUCI) Community Program

C. Borgwordt Lincoln University, Jefferson City, MO 65043*

This integrated project empowers the underserved getting their food business dreams from idea to market. Food production start-up and food safety certifications costs often prevent farmers, growers, processors and new entrepreneurs from starting their food business. The Lincoln University Culinary Incubator Community Program (Jefferson City, MO) provides cost-free trainings and consulting while providing a working inspected kitchen at affordable rates. Members learn production techniques, proper labeling, marketing, packaging, license requirements, insurance and more. Sales include sold on-site, retail and wholesale. After two years, membership clients are empowered to go out on their own.

Our efforts are in direct alignment with the Missouri Governors Show-Me-Food and Beverage Manufacturing Initiative, which identified this need. COVID-19 delayed our progress. Currently ten members make charcuterie boards, salads, fresh packaged fish, salsa, hot sauce and jelly. We have two foods trucks, specializing in hot dogs and snow cones. Clients, each receive regular evaluations for success. Ongoing consulting prepares those interested in membership; some are referred elsewhere for a better fit. Community partners include the LU Small Business Development Center, Missouri Enterprise Program, MO Department of Agriculture – MO Grown program, MO Lt. Governor Kehoe BUY MO program, farmers markets, and the North Central Region Food Safety Management Act (FSMA) Training Center. Together, this unique partnership provides opportunities to make business ventures prosper while getting local products on the shelf for consumers. Nationally, this partnership model is highly successful for new efforts. This is a NIFA funded Food Safety Outreach Program project.

81. Black Harvest: Raising Public and Institutional Awareness through the Amplification of Black Producer Narratives

L. Lunsford, N. McGruder and J. Myers. Tuskegee University Cooperative Extension, Tuskegee, AL 36088

Assessing the priorities of Black producers in the wake of the COVID-19 pandemic is a major issue facing organizations and institutions attempting to serve them. TUCE agents developed and convened the Black Harvest Series, an integrative hybrid (virtual and in-person) dialogue program tailored for Black producers, NGOs and 1890 institutions. The Black Harvest Series, a curated culturally aware and responsive conversation series engaged 300 farmers, 1890 institutions, and NGOs regionally and internationally to gather stories and thought-leadership highlighting what the current capacity to serve Black producers has been since COVID-19. In order to amplify and expand upon the knowledge shared during the virtual discussion series, TUCE agents and faculty along with community partners developed the PAWJ Black Harvest Special Issue as an edited volume of articles that provide citable documents for policy advocates, researchers, and outreach professionals working to serve Black producers.

82. The Rural Alabama Vaccination Education and Events (RAVE2) Program: A Model for COVID-19 Vaccination, Testing and Education Strategies

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The COVID-19 pandemic brought existing health, social, and political disparities in the Alabama Black Belt counties to the forefront. Issues with access to programs and resources, generational disenfranchisement, mistrust of governmental and medical agencies, and socioeconomic challenges made this new pandemic a significant challenge for people living in black belt counties. The pandemic occurred during a surge of misinformation and conspiracy theories about everything related to the virus. Distrust in the mitigation strategies championed by federal agencies undermined public health efforts and eroded the historical relationships between the public, healthcare professionals, and science/health institutions. This led to a high number of excess deaths, despite the availability of resources designed to combat viral transmission and related morbidity/mortality. Navigating this new affront on science and medicine required the rebuilding of trust between the healthcare industry, science, and the people who had the greatest need for support. By collaborating with local and state partners, RAVE2 was able to make

significant gains in COVID vaccination, testing, adherence to mitigation strategies and improvements in vaccination, testing and vaccine education indices in several of the Alabama Black Belt counties. We present here a number of strategies for confronting vaccine hesitance, alternative facts and distrust in order to reduce excess death and health inequities in rural Alabama counties.

83. The Use of Brood Diets to Improve Egg Production in Commercial Goldfish (*Carassius auratus*) Farms in Arkansas

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Brood diets containing elevated levels of protein and lipids have been used in the aquaculture industry to improve fecundity and hatch in commercially produced food fish. These diets are used as a part of a pre-spawning feeding regime to promote vitellogenesis and improve egg quality. However, bait and ornamental fish producers currently do not use specialized brood diets. In this investigation, we evaluated the effect of three commercially available high protein and lipid fish feeds as potential brood diets to improve egg production in Goldfish (*Carassius auratus*). The diets used in this study consisted of 28% protein and 6% lipid (control), 32% protein and 10% lipid (diet 1), and 36% protein and 16% lipid (diet 2). An indoor study was conducted in recirculating aquaculture systems. After four weeks of feeding, the fish were hormonally induced, and the eggs strip spawned. In a feeding period of four weeks, brooders fed diet 1 or diet 2, for a week or two weeks before spawning showed significantly higher fecundity than the brooders fed the control for four weeks. Diet 1 and 2 were further evaluated by incorporating them into a three-week feeding regime in a field study during a production cycle. When the diet containing 36% protein was incorporated into the feeding regime for one or two weeks, a significant increase in eggs was noticeable. However, no significant difference was seen between the one and two-week treatments groups given the 36% protein diet.

84. Understanding the Psychological and Economic Constraints of Living in a Single Parent Home Compared to a Two-Parent Home During the Covid-19 Pandemic

S. Allen; M. Bailey; and J. R. Wheat*, Department of Human Sciences, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601.*

According to Dr. Nadine Burke Harris, an American pediatrician known for her research on the effects of adverse childhood experiences and toxic stress, exposure to early childhood trauma impacts the developing child and has life-long implications. The Adverse Childhood Experiences Study (ACES), completed in the 1990's by Dr. Felitti and Dr. Anda at Kaiser Permanente in California, revealed that depression and suicidal tendencies are the result of some adverse childhood experiences. When it comes to the psychological constraints, the ACES Survey Instrument was a good way of finding out what may have influenced childhood and adult behaviors. According to research, income or the lack of resources impacts the outcome of children. Some studies suggest a positive effect from living in single-parent families compared to living in a two-parent household. Other research supports the idea that children who grow up with two consistent parents have a higher standard of living and are more healthy and happy. This study provided an understanding about the experiences of individuals raised in a single-parent home compared to a two-parent home. This research study answered the following questions: (1) What are the psychological experiences of living in a single-parent home compared to living in a two-parent home? (2) What is the economic impact of living in a single-parent household compared to living in a two-parent household? (3) How can we stop the cycle of adverse childhood experiences? Data results will be discussed to reflect on an action-oriented approach to alleviate the impact of ACE's in the lives of parents, children, and the community.

85. A Partnership Between PVAMU & UAPB (MEA) To Gaining Competitive Edge Through Innovation and Collaboration

C. C. Mathis, Jr., L. Carson, and J. Sanders, University of Arkansas at Pine Bluff, Pine Bluff, AR, 71601 and Prairie View A&M University, Prairie View, TX.*

A majority of ethnic minorities students have pigeonholed Agricultural careers to just "working on the farm", limiting their scope of career and professional options. Therefore, Prairie View A&M University (PVAMU), and the University of Arkansas at Pine Bluff (UAPB) both 1890 Land-Grant universities ~ formed its MEA Center, with goals of helping close the gap and collectively increase the diversity of the U.S. agricultural workforce pipeline spanning careers in food, agriculture, natural resources and human (FANH) sciences. Dedicated to encouraging and supporting young people from underrepresented minority groups to pursue studies and careers in (FANH) sciences fields. Hence, the (MEA) Center funding has helped the College of Agriculture and Human Sciences (CAHS) at PVAMU, and the School of Agriculture, Fisheries and Human Sciences (SAFHS) at UAPB, to address and increase its recruitment, retaining, mentoring and graduating of underrepresented students. This was accomplished, by providing various Zoom workshops/training, and giving summative and formative assessment to students attending. Results were used to improve the overall program, and a continuous improvement plan was instituted. Relating to workforce development experiences for students to enhance the pipeline of schools undergraduate programs, to their

graduate programs and careers; as well as, increase students' engagement in science, technology, engineering and mathematics. Additionally, the project provided college students with experiential learning opportunities related to soft skills, research skills, conference attendance, leadership training and technology skill development. Furthermore, both universities utilize its (MANRRS) chapters to recruit their Ag Ambassadors, to assist in carrying out its objectives and mission.

86. Expanding Local Food Production Systems in Arkansas Delta through Hands-On Extension Education

Obadiah M. Njue, Ebenezer Agbeko, Prosper Doamekpor and Franklin Quarcoo. University of Arkansas at Pine Bluff, 1200 North University Drive, Pine Bluff, AR 71601, Central State University, 1400 Brush Row Road, Wilberforce, Ohio and Tuskegee University, Macon, Alabama 36088*

The Arkansas Delta region has nearly two out of three counties defined as 'Food Deserts'. Food Deserts, as defined by the United States Department of Agriculture (USDA) are parts of the country that do not have access to fresh fruits, vegetables, and other healthful whole foods. This challenge is usually due to a lack of fresh healthy food providers, grocery stores and farmer's markets. Food deserts are usually found in areas with high percentage of low-income communities. Fresh healthful fruits, vegetables, herbs, and spices can be successfully grown in small spaces. A small space can be any space with good, well drained fertile soil and adequate sunshine. A sunny spot in a backyard, or even on a patio can be good enough to establish a garden. Container gardening and raised bed gardening can be excellent food production systems. They offer many advantages including, access to fresh fruits, vegetables, herbs, and spices. Small space local food production systems can also significantly improve family diet and nutritional well-being. They can also offer significant improvement in physical activity for everyone involved. The project increased knowledge and skills of the target audience on local food systems and reached 2,930 participants. 41 demonstration gardens were established, and 2,209 contacts were made through the project's Facebook page (https://www.facebook.com/UAPBs-Local-Food-Systems-Project-Sustainable-Food-Production-Practices-1695676814048755/?epa=SEARCH_BOX).

87. Get "EXCITE"ed: Extension Collaborative for Immunization Teaching and Engagement

D. Burton, Prairie View A&M University, M. Rodgers, University of Delaware, K. Stofer, University of Florida, B. Coberly, L. Fox, M. Immendorf, M. Pugsley, I. Osborne, K. Bradley*, Extension Foundation, L. Haynes-Maslow, North Carolina State University, L. Downey, Mississippi State University, M. Grandon, AIHEC, A. Piasecki, CDC; EXCITE Program Team*

As our nation shut down in March 2020, Cooperative Extension rose to meet the challenges of the first pandemic in 100 years with a first of its kind agreement between the U.S. Department of Agriculture's National Institute for Food and Agriculture and the Centers for Disease Control & Prevention in partnership with the Extension Foundation. To improve adult immunization rates and help overcome hesitancy with priority populations across the nation, a total of 56 LGUs in 42 states and 1 U.S. territory worked with their local health care partners to realize 75 projects. Together with over 100 city and county health partners, EXCITE projects leverage collective community wisdom regarding geography, culture, and social norms, to provide vaccine messaging and administration for populations who were getting left behind, for both COVID-19 and other adult immunizations. 24 unique 1890 institution projects tackled multi-level, cross-programmatic, and cross-institutional issues to improve community health and well-being while breaking down typical operation silos. The EXCITE system-wide effort afforded the opportunity to engage with communities in providing messaging and events featuring shared language and values for impactful reach nationwide. Our poster will feature examples of the 1890 institution projects, their partners, and their innovative strategies as well as an overview of the systemwide professional development and coordination helping catalyze these Health Extension efforts now and in the future.

88. Efficacy of Neem Oil against Mycophagous Beetle Feeding Damage to Edible Mushrooms in Mississippi

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Cultivation of specialty crops such as shiitake (*Lentinula edodes*) and oyster (*Pleurotus ostreatus*) mushrooms are a promising source of fresh food to minimize the impact of food insecurity in southwest Mississippi. Many small-scale farmers have learned and adopted the technology of cultivation of mushrooms on substrates such as hardwoods and agricultural residues. However, the major challenge(s) farmers encounter are the insect damage mostly by fungus beetles, *Triplax* spp. affecting the crop yield. The purpose of this study was to evaluate Terramera – Rango™ (neem oil-based biopesticide), to manage the *Triplax* spp. populations on mushrooms. Different treatment concentrations of the biopesticide formulation at 0.625%, 1.25%, 1.8% and 2.4% (v/v) were compared with the conventional insecticide, permethrin. The control treatment consisted of water only. The results showed that none of the neem oil concentration treatments was significantly different from the control treatment and did not cause any significant mortality, but they did deter the insects from the food source and therefore, resulted in reduced feeding.

Nevertheless, the permethrin caused higher insect mortality and was significantly different from all other treatment concentrations. These results suggest that neem oil may be used to deter the *Triplax* spp. populations from mushrooms, whereas permethrin is effective even at lower concentrations by causing significant mortality of these beetles. Further studies will be conducted to evaluate the toxicity of permethrin against *Triplax* spp. in laboratory bioassays.

Latebreaking

89. Double It; Silvopature for Dual Income!!! Alabama A&M Extension Educates Farmers on the Advantages of Using Goats to Control Understory Vegetation in Forestland Areas and Improve Animal Health

V. Niyigena, K. Naka, K.S. Holmes, K. Garner, Z. Senwo, D. Beachem, A. Shabel, R. Spencer, P. McDonald, and N. Mccrary. Alabama A&M University Cooperative Extension Program, Huntsville, AL 35762*

With an estimated 23 million acres of forestland in the state, and more than 90 percent reported as privately owned, Alabama has a growing population of forestland owners who are interested in diversifying their income streams using goats. Goats can be used as an effective option for controlling understory vegetation but also as a viable alternative source of income for forestland owners. Moreover, the diversity of plants in forestland contains antiparasitic properties that are useful to control internal parasites in goats, especially barber pole worm, which is a significant health and economic threat for small ruminant producers in the Southeastern U.S. Alabama Extension at Alabama A&M University has conducted a demonstration and research study to train and educate small ruminant producers regarding the benefits of introducing goats to forestland areas. Virtual farm tours and in-person training were conducted, reaching 511 producers. Eighty percent (80%) of attendees indicated a willingness to add goats to their forestland properties. In 2021, the first Alabama Goat and Sheep Summit was held in Huntsville, where 98 producers from across the Southeastern region were trained to identify clinical signs of parasite infestation, identify poisonous plants in a pasture and proper tools to use for animal selection and breeding. Results of the demonstration study indicated that goats reduced understory plant cover and invasive weed species in grazed pastures by 50%. When goats were introduced on forestland and the cost of investment and returns were calculated, the result was a 20% increase in farm revenue.

90. Livestock Youth Connect!! Alabama A&M Extension is Connecting Youth to Livestock Farming Through Internships

V. Niyigena, K. Naka, K.S. Holmes, K. Garner, Z. Senwo, D. Beachem, A. Shabel, R. Spencer, P. McDonald, and N. Mccrary. Alabama A&M University Cooperative Extension Program, Huntsville, AL 35762*

The population of farmers in the U.S. continues to decline, and the average age of farmers is currently 60. To bridge the gap, Alabama Extension at Alabama A&M University (AAMU) provides internships to students through a Livestock Youth Connect (LYC) program to both equip them with basic skills in animal care and farm management practices and inspire them to become future farmers when they graduate. LYC is a 5-month internship program where students benefit from hands-on experiences in animal care, such as hoof trimming, ear-tagging (animal identification), farm record keeping, animal feed ration balancing, and animal health (blood and fecal collection, deworming). To enhance exposure of students to Extension and farming in general, the student interns actively engage in Extension workshops where they share the skills acquired in their internships with participating farmers in their communities. Events where interns engage also include classroom lectures, field tours and one-on-one farmer technical assistance site visits. Over the past 2 years, this program has trained 12 undergraduate students at AAMU.

91. An Overview of the Tuskegee University Water Quality laboratory: Reminiscing Its Past Works and the Importance to Current Day Water Quality Extension Services

L. Ojarikre, O. Idehen, R. Shange, R. Ankumah. Tuskegee University, Tuskegee, AL 36088.

Many environmental challenges face rural communities in black-belt counties in the US. In 1988, the Dean of the School of Agriculture and Home Economics organized workshops to address the challenges by improving the cooperation between research and extension programs at Tuskegee University. Among these challenges were water quality and environmental degradation in rural Alabama. The work of faculty members like Dr. Walter Hill, Ramble Ankumah, and extension specialists like William Hodge in 1989 led to the establishment of the Tuskegee University Water Quality Laboratory. The new water quality laboratory was to conduct research to test for heavy

metal and mineral contaminants in groundwater and private well water. Like many other states in the US during that era, groundwater and well water were sources of water supply to many households leading to severe illnesses and death for many Americans because of the pollution. The action allowed them to collaborate with Alabama Cooperative Extension Services to cover the testing of many private and groundwater wells of Alabamians in the early to mid-1990s. In addition, students were interested in water quality analysis and ventured into the surface and private wells water analysis. Their passion has birthed a similar interest in current-day water analysis practices in the laboratory. With the same kind of zeal, the water quality laboratory has delved into testing public water systems by analyzing elementary and middle schools to test for similar water parameters significantly with the non-regulation of chemical or heavy metal contamination in school water systems, ensuring that school children have safe drinking water within the serving extension counties.

92. Using the Water Wheels Outdoor Water Conservation Laboratory to Expand Water Quality Education

M. Garner and R. Pacumbaba. Alabama A&M University Cooperative Extension Program. Alabama, Huntsville, AL 35762*

Water is one of our most crucial natural resources. Alabama Extension at Alabama A&M University offers a unique outreach delivery system to educate residents on how to conserve water and improve overall water quality in the environment. The Home Grounds Water Wheels Outdoor Water Conservation Laboratory is a 36-foot mobile water conservation laboratory that provides hands-on, engaging workshops and demonstrations. During the 2021–2022 program year, this mobile learning unit traveled to more than a dozen events throughout Alabama, including water festivals and Earth Day events, bringing conservation education to more than 6,500 youth and adults. As a result, program participants increased their knowledge of watersheds, rainwater collection, water conservation, water quality, and integrated pest management. Ninety-five percent of those surveyed said they would share what they learned with others. Seventy-five percent of participants agreed they would adopt at least one of the recommended best management practices.

93. Two Stepping to a Healthier You

N. Hyter, T. Warren. Alabama A&M University Cooperative Extension Program. Alabama, Huntsville, AL 35762*

Walking Like a CHAMPION is a physical activity program to help Alabamians get moving. The program includes an online series of daily physical activities to engage participants. One of the daily physical activities is called Two-Step Tuesday, a fun interactive one-hour aerobic line dance class for participants of all ages. Participants will groove to the beat while doing some fancy footwork to increase their daily steps. The class includes some nontraditional moves that are enjoyed by everyone. The benefits of participation include burning more daily calories, toning of the body, improving breathing capacity, strengthening the heart, and relieving stress. The Two-Step Tuesday class begins with a warm-up dance of three to five minutes. Each line dance is demonstrated slowly step by step before adding the music. This helps participants learn the moves and not get discouraged. The class ends with a three-to four-minute cool down, including stretches. On average, participants will burn 400 calories and log 5,000 steps within one-hour of aerobic line dancing. The dance movements also incorporate large muscle groups for aerobic endurance, strength training and flexibility to help with calorie burn. Two-Step Tuesday participants are always encouraged to 1) Focus on fun and move 2) Refrain from worrying about perfecting dance moves and 3) Never give up, keep moving. Over time, all the moves with start to feel comfortable and easier. The class has engaged over 2,500 participants and is continuing to gain momentum.

94. Presentation Title: Providing Capacity Building and Climate Smart Agricultural Training to Extension Professionals and Farmers in Antigua and Barbuda

A Wetherill, G. Ozbay, and R. Ogotu. Delaware State University Cooperative Extension, Dover Delaware 19901*

Since 2014 Delaware State University (DSU) has provided technical support to the agricultural community in the Caribbean country of Antigua and Barbuda. In 2021, Gilbert Agricultural and Rural Development Center (GARD) in Antigua and Barbuda requested assistance in building human capacity in Climate Smart agriculture. Delaware State University Cooperative Extension accepted the challenge. DSU developed the training course and invited its faculty and extension specialists to contribute to the curriculum. The international course addressed environmental, social and financial factors that influence sustainable agriculture and global food security. Specifically, the modules addressed 3 main areas:

- Soil health, land use and water quality – Sustainable agriculture through the protection and conservation of soil, water, land and air, flora and fauna
- Climate Smart Agricultural (CSA) practices – Recommended CSA best practices for agricultural operations
- Planning the Farm Business Farm -business planning to promote farm profitability, viability and entrepreneurship

The training took place via the Zoom virtual platform and was held in conjunction with the Gilbert Agricultural and Rural development Center. The course was eight hours long and took place over a 2-week period. Two-hour sessions were held 2 nights per week for 2 weeks in March 2021. Course evaluations were completed at the end of the 2-week training. Seventy five percent of the participants indicated that the training was very informative. A total of 22 persons attended the training. Thirteen (13) participants successfully completed the “Climate Smart Capacity Building “short course training,

95. Innovative Ways to engage Extension Clients in Family and Consumer Science

James Keys, 1890 Land-Grant Extension Service, Central State University, Wilberforce, Ohio 45384.

Extension Educators are charged with educating the historically underserved populations of Ohio about healthy living and human nutrition. Educators have seen low numbers from clients for our programs when setting up a table, using social media, or a general posting. This has resulted in being creative in the approach to build awareness and recruit for our programs that address family and health issues including chronic diseases, substance misuse among adults and youth, family resiliency, parenting, mental health, and vaccine hesitancy. To address the lack of awareness and increase client participation, we have created a referral process. The process involves the Extension Educators getting into the communities to build relationships with individuals, community leaders, and organizations. Educators share our programs that address healthy living and human nutrition. Educators ask for referrals to share this information further and appointments are set from said referral which brings credibility from a local partner. The referred organization is now the promoter, bringing a bigger voice, credibility, as well as having a captive audience in many instances. This referral approach continues and grows from program to program engaging clients. We now linkup with the communities with complex healthcare needs and play a vital role in improving health and well-being of historically underserved populations that face barriers to quality health care.

96. Extension Programs Designed for Small Ruminant Producers in the Midwestern United States

M. Acharya, H. Salinas-Gonzalez and A. Bax, Lincoln University Cooperative and Extension, Jefferson City, MO 65101*

Lincoln University of Missouri has identified major areas of small ruminant extension programs needed for the state farmers based on the recent survey taken through direct interviews. Those areas include i) business plan model, ii) infrastructure, iii) marketing, iv) slaughterhouse, and v) extension education programs. Objective: a) to design year-round training programs for small ruminant producers in the state of Missouri, b) update small ruminant farmers on current research findings for better management of their farm, and c) to assist current and future small ruminant producers by building linkage with government policymakers and industry experts. Method: Statewide extension specialists, faculty of research, and the extension associate will be working together to organize training programs at Lincoln University. Research faculty will have the opportunity to interact with farmers, share their research findings, and understand the needs of the producers so that they can plan their future research objective. Speakers from the meat and dairy industry, and government policymakers will also be invited to interact with farmers to make enable them to run their business smoothly. Results: Eight field days and 12 webinars will be organized per year with more than 20 expected participants in each program. Producers will get hands-on training in animal management (nutrition and health), farm infrastructure (barn and fencing) and marketing of their products (slaughterhouse, sale barn, individual buyer). Conclusion: This program aids producers in becoming successful entrepreneurs, building networks, giving them access to agricultural organizations, and providing a bridge to state and federal agency financial resources.

97. Inflation and its Impact on Consumers and Small Farms

E. Gonzalez, Lincoln University Cooperative Extension, Jefferson City, 65101, MO*

People around the world have seen an increase in the prices of goods and services starting this past decade. Rising prices in the U.S. might reach their peak as the Federal Reserve adjusts the interest rate. In 2022, we observed two important economic indicators that help to understand current inflation levels. First, the Consumer Price Index (CPI) for all goods increased 8.6% from May 2021 to May 2022, which represented a faster annual inflation rate since 1981. Secondly, the Fed continues increasing interest rates, where the last increase was .75%, representing the most significant increase since 1994. By managing interest rates, inflation is expected to return to the expected annual rate of 2.0%. However, it is crucial to address two additional economic indicators. First, the Gross Domestic Product (GDP) showed a negative growth (-1.5%) during the year's first quarter. Therefore, it needs to avoid two consecutive quarters of negative growth to avoid an economic recession. Secondly, the unemployment rate must remain low (current 3.7%) and not pass 6%. This economic turn is mainly attributed to COVID's influence on supply chain disruptions and the surge in oil crude prices and other commodities due to Russia's invasion of Ukraine. In summary, consumers must prioritize paying high-interest debt and plan for expenses due to the high cost of living and limited access to credit. Accordingly, small farms will adjust to actual production costs to sustain positive profits since demand for farm products will not change.

98. A Need to Building Sustainable Backyard Poultry Operation Through Improvement in Nutrition, Food Safety, and Marketing

P. Maharjan, J. Goodrich, J. de Koff, S. Nahashon, and T. Broyles. Tennessee State University Nashville, TN 37209*

It is essential that backyard and small flock producers build sustainable and profitable poultry operations. A need assessment survey was conducted to backyard flock owners, and county and 4 H agents (> 70 total participants) to understand the backyard poultry needs in Tennessee. Balanced feeding and nutrition, bird health challenges, and marketing of eggs and meat were the areas that needed more work based on the survey results. Webinars and talks that focused on topics such as basics of bird nutrition, disease management and biosecurity, and farm produce handling, safety, and marketing were conducted targeting small flock producers that helped improve overall knowledge on their flock management skills.

99. Enterprise Budget About Asian Vegetables Kitchen Garden Production in Newark, DE During Summer, 2021

L. N. Paudel. Delaware State University, Cooperative Extension, Delaware, 19901

Demand of Asian vegetables has been increasing in Delaware. Mostly, Asian population particularly from South west Asia are keen interested in Asian vegetables including Mustard Leaf (*Brassica juncea*), Bitter gourd (*Momordica charantia*), Bottle gourd (*Lagenaria siceraria*), Okra (*Abelmoschus esculentus*), Eggplant (*Solanum melongena*), Sponge gourd (*Luffa aegyptiaca*), Coriander (*Coriandrum sativum*), Taro (*Colocasia esculenta*), Hot Peppers (*Capsicum annuum*) and Tomato (*Solanum lycopersicum*). There has not been any publication of such production in suburban area of new castle county of DE. Therefore, a demonstration was carried out with the full support and active participation of garden owner Mrs. Pratibha Acharya. After filling the bed of 4'x10'x 0.8' with mixture of compost (3/4 tons) and garden soil (10 ton), seeding was done. Those beds were formed using garden gourd purchased from home depo without digging ground. Seeding of all done in last week of April and harvest began from 30th July to 11th October 2021. Watering was done manually and miracle grow (plant nutrient) was applied 6 times at the interval of 15 days during growing period at the rate of 3 tea spoon full per gallon of water. Weeds were manually controlled, and a neem insecticide was applied just once to deter brown sucking bugs. At the end, garden showed \$887 profit considering all costs and expected revenue from the 516 lbs. of harvested fresh vegetables. This demonstration drew attention of more than 50 families in neighborhood and showed increased interest to grow fresh vegetables in their garden.

100. Nutrition Education, Physical Activity and Gardening Lessons: Using Social Media Platforms to Increase Outreach During a Pandemic

J.McDonald and S.McCray, Southern University, LA 70813*

SNAP-Ed programming during the COVID-19 pandemic became an unforeseeable obstacle upon the nationwide shut down. The Southern University Ag Center's Nutrition Education Programs (NEP) adapted its programming efforts to an online platform and developed a Facebook Live Series. Virtual programming reach increased overall program visibility by over 35,000 during the pandemic.

101. DSU 4-H

H. Thayer. Delaware State University, Cooperative Extension, Delaware, 19901

Delaware State University 4-H programs seeks to foster positive citizenship through research-based youth programs. Such programs are but not limited to include Ag Discovery, Embrology, Juneteenth celebration and robotics. These programs are delivered through summer camps, in and after school programs and school enrichment. This poster presentation will highlight programs from the aforementioned list above.



