

# AgKnowledge

COOPERATIVE  
EXTENSION  
PROGRAM

KENTUCKY STATE UNIVERSITY  
COLLEGE OF AGRICULTURE,  
FOOD SCIENCE,  
AND SUSTAINABLE SYSTEMS

2018



## STRENGTHENING KENTUCKY FAMILIES

KYSU Cooperative Extension  
helps reunite parents and children





Greetings,

Welcome to the 2018 issue of *AgKnowledge* magazine, an annual publication of Kentucky State University's Land Grant Program including the College of Agriculture, Food Science, and Sustainable Systems and the Cooperative Extension Program. This annual report is designed

to highlight the research and Extension activities that our faculty and staff are conducting at Kentucky State University.

The KYSU Cooperative Extension Program works to develop educational programs that address relevant needs affecting underserved people in the Commonwealth of Kentucky. As we prepare for the future, we have developed a new five-year strategic plan, "Transforming Kentuckians: Racing Toward Excellence," to provide a foundation for the program to become a premier provider of educational programming in the Commonwealth. That document will be available to our community partners soon. We hope that you find the beginnings of our work toward these strategic goals throughout the pages of this magazine.

In 2017, we added Extension staff in several counties across the state, increasing our staff to 26 agents in 17 of the state's counties. We also added statewide staff in 4-H youth development, community development, nutrition, and small farm outreach. Throughout 2018 and into the coming years, we will continue to engage our partner, University of Kentucky Cooperative Extension Service, and local, state and federal partners to help underserved clientele reach their full potential in a rapidly changing society. Through innovative delivery methods, we will work to strengthen and develop new partnerships and seek external funding to attain our goals and objectives.

Please enjoy the stories in this magazine and connect with us online at [www.kysu.edu/ag](http://www.kysu.edu/ag) and through social media—@kysuag on Facebook, Instagram and Twitter—to let us know how we can be of service to your organization or community. We encourage Kentuckians to join us on our journey as we develop educational programs that will help transform the residents of the Commonwealth of Kentucky.

Johnnie Westbrook, Ph.D.

Associate Extension Administrator

Kentucky State University Cooperative Extension Program

# AgKnowledge

2018 Edition, Volume 4

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AgKnowledge magazine publishes annually by Kentucky State University Land Grant Program to promote the research and extension work of the 1890 Land Grant Institution.

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability. Kentucky State University, University of Kentucky, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.



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*Learn more about how*  
**KENTUCKY STATE UNIVERSITY'S**  
**COOPERATIVE EXTENSION PROGRAM**  
*works for Kentucky*

KYSU's Cooperative Extension Program operates under **7** core values:  
 Accountability, Inclusion, Integrity,  
 Partnerships/Collaborations, Service,  
 Relevant, Research-based



**92.5%** OF AFRICAN-AMERICAN FARMERS ARE CONSIDERED LIMITED-RESOURCE GROWERS

*KYSU will work to develop and implement educational programs, demonstrations and experiences that increase the knowledge and skills of small and limited-resource farmers to ensure the profitability and resiliency of their farms and communities.*



**67%**

of assessed Kentucky **rivers and streams** are deemed impaired due to sediment from **erosion and flooding** and runoff from fertilizers and pesticides

*KYSU will design and implement programming and build relationships with communities and organizations across Kentucky in order to share research-based information about natural resource conservation and environmental protection.*



*KYSU will work to improve the overall health conditions of individuals, families and communities through initiatives promoting healthy lifestyles.*

**26%** of children in the state live below the federal poverty level

**41%** of Kentucky children live in areas of concentrated poverty



*KYSU aims to strengthen family relationships and improve family well-being in economically distressed communities in targeted areas of Kentucky.*

**1/3** OF AMERICAN CHILDREN **AND** **2/3** OF AMERICAN ADULTS ARE OVERWEIGHT OR OBESE

*KYSU will provide communities with educational programs and resources to promote lifestyle changes.*



# NEWS BRIEFS

## Kentucky State University's Cooperative Extension Program Expands with New Agents and Assistants

KYSU's Cooperative Extension Program is preparing to make a bigger impact on Kentucky. Under the new leadership of Associate Extension Administrator Dr. Johnnie Westbrook who joined the program early in 2017, the Extension program outlined new strategic goals and a new mission and has expanded personnel in Kentucky's counties and on the university's campus. Just two years ago, KYSU Cooperative Extension had 12 agents in nine counties. Today, 26 agents work in 17 of Kentucky's counties. In addition, new statewide positions have been filled, particularly in areas of nutrition, community development, and 4-H youth development.

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## Community Group Established to Advise and Advocate for Land Grant Program

Kentucky State University's Cooperative Extension Program established a new advisory group to help promote the university's research initiatives and Extension programs and advocate for the Land Grant Program in communities across the state. The Kentucky State University Land Grant Program Extension and Research Advisory Council (ERAC) is made up of community members and business leaders from across the state. It serves as a grassroots leadership group that advises the KYSU Land Grant Program on important issues facing the citizens in the Commonwealth. Additionally, the group helps establish plans to research and address issues Kentuckians face. The ERAC works to ensure that research-based information is made available to the public by providing adequate leadership and support of the university's agriculture programs in their communities. Some areas of focus of the ERAC include advising staff on programs deemed appropriate as well as those that no longer meet the needs of communities, and establishing lines of communication to community leaders and local organizations.



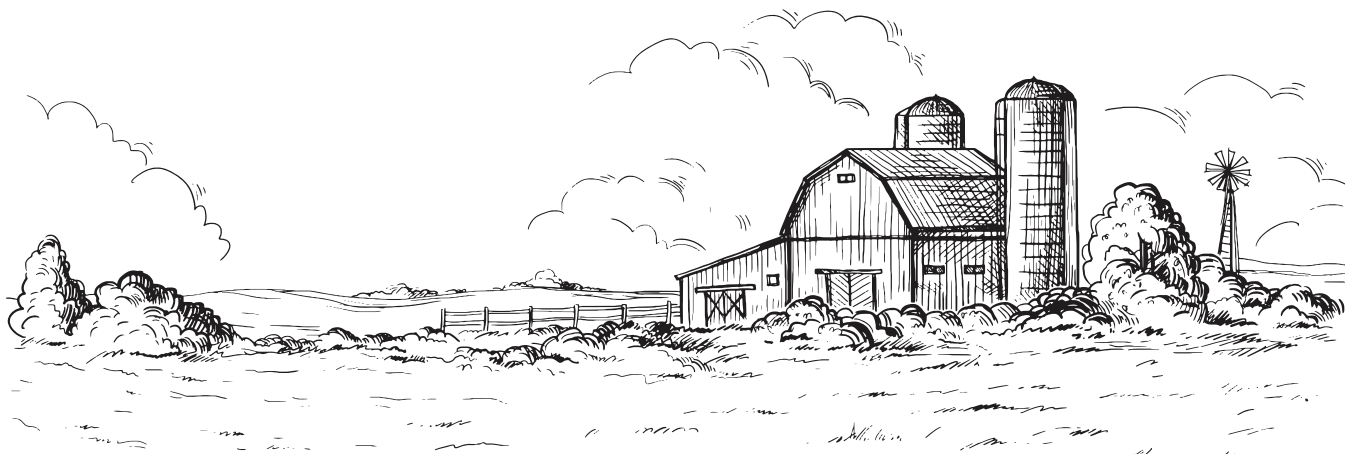
## Kentucky Grown Show Highlights Farmers Across the State and KYSU Partners

Kentucky State University's Land Grant Program impacts farmers across the state through its research and Extension. It focuses much of its work on small-scale, limited-resource and minority producers to encourage and promote new technologies and advancements in the agriculture industry as well as introduce them to available resources. Another important responsibility for the Land Grant Program is to showcase the state's farmers and to educate the public about the important role the agriculture industry plays in the lives of all people. *Kentucky Grown* is a documentary-style series that looks at the work of Kentucky farmers and shines a light on some of the lesser-known agriculture products from the state. This 30-minute show highlights farms and the people who run them to illustrate the under-appreciated work of one of Kentucky's proudest and most influential industries and agriculture's role in feeding Kentucky and the world. *Kentucky Grown* airs monthly on KET and KET affiliate networks. For a full schedule of shows, visit [www.ket.org/series/KKYGR](http://www.ket.org/series/KKYGR).

# Small-Scale Farm Grant is Renewed and Continues to Help Kentucky Farmers



Kentucky State University’s Land Grant Program works to develop resources to provide educational assistance to small-scale producers, or farms that sell less than \$250,000 of agricultural products each year. The Small-Scale Farm Grant and Farmer Education Grant are part of a partnership with the Kentucky Agriculture Development Fund that has been renewed for 2018-19 and will continue to help farmers across the state. This mini-grant program provides funding to farmers across the state who are motivated to improve their farming operations, to improve the marketability of their products with a value-added enterprise, or who need assistance with specific training. Extension Associate Joni Nelson facilitates the Small-Scale Farm Grant and works with farmers as they apply. The maximum each farm can receive is \$5,000; non-profit groups and organized businesses that support groups of farmers may qualify for up to \$15,000. To learn more or to apply, email Nelson at [joni.nelson@kysu.edu](mailto:joni.nelson@kysu.edu) or visit [www.kysu.edu/ssfg](http://www.kysu.edu/ssfg).



## KYSU Cooperative Extension Realigns Program Areas and Goals with New Strategic Plan

Kentucky State University’s Cooperative Extension Program was created to develop educational programs that address relevant needs affecting underserved people in the Commonwealth of Kentucky. As the program prepares for the next five years, it developed a strategic plan titled, “Transforming Kentuckians: Racing Toward Excellence,” to provide a foundation for the KYSU

Cooperative Extension Program to become a premier provider of educational programs in the state. After an internal program review and interviews with Kentucky citizens, the strategic plan was based on relevant needs and issues identified by Kentuckians and Extension professionals. The core values of KYSU Extension are accountability, inclusion, integrity, partnerships/collaborations, service, relevancy and researched-based education. The strategic plan, which covers the next five years through 2023, outlines priority program areas including Small Farm Development, Urban Agriculture, Environment and Natural Resources, Community Health, Nutrition, Youth Development, Financial Management, and Community Leadership Development.

# KYSU Extension Shapes the Future Through USDA-Funded Agriculture Education Partnership

Today's world needs professionals to be prepared to solve global challenges related to agribusiness, climate change, a safe and reliable food supply, protection of natural resources, improved nutrition, public health, and alternative energy sources. Kentucky State University's College of Agriculture, Food Science, and Sustainable Systems strives to educate young people about the agriculture industry, the latest advancements in technology and research, and to get them interested in the wide variety of careers available in the agricultural and environmental sciences. Extension Associate Ken Thompson continues a program funded by a U.S. Department of Agriculture National Institute for Food and Agriculture (USDA-NIFA) Capacity Building Grant that pairs Kentucky State University with high schools across Kentucky to build aquaponics systems in the schools to engage students in aquaculture education. Building these continuing, longitudinal relationships with schools, Thompson hopes to create a pipeline from the university's service counties to KYSU. The Aquaculture Research Center will open its doors in summer 2018 to these high school students and their families as well as the local community for a day of tours and exciting activities. Stay up to date at [www.kysu.edu/ag](http://www.kysu.edu/ag).



Frankfort High School students install an aquaponics system.



**BOYS & GIRLS CLUB**

## Jefferson County Extension Office Works with Kentucky Boys and Girls Club of America

Extension agents in Jefferson County have partnered with a local Boys and Girls Club to present nutrition education using the U.S. Department of Agriculture's MyPlate curriculum. Following the USDA's Dietary Guidelines, MyPlate represents healthy eating from all five major food groups: grains, vegetables, fruits, dairy and protein. Members of the Boys and Girls Club also learn about the role physical activity plays in overall health by doing exercises together with Extension staff. In hands-on class sessions ranging from six to eight weeks in length, participants learn about the nutritional value and health benefits associated with each of the five food groups. Extension agents Stephen Lewis and Emma Robinson have also worked with local divisions of the Boys and Girls Club by providing after school programming and building garden beds for arts and gardening programs.





# *Focusing on* **Families**

## KYSU Extension Program helps reunite and strengthen families

**W**hen Donna Parker's two sons were removed from her care due to substance abuse, she knew it was time to live a different life. After years of battling her addiction, she had hit rock bottom and found herself serving time in county jail. Parker decided to do something different in her life and successfully completed substance abuse treatment and an anger management class. However, these things alone weren't enough to get her children back in her care.

Parker needed to complete a parenting class, which is how she found herself in Kentucky State University's Strengthening Kentucky (SKY) Families Program working with Carla Jordan, Fayette County Extension agent in Family and Consumer Sciences. SKY Families is a court-ordered, Department of Community Based Services-approved parenting program that provides instructional information on relevant issues that help divert crisis situations when parenting.

Parker completed the 12-week class and said that the most

important things she learned through the program was how to communicate with her children. She has been sober since Aug. 26, 2011, and after completing her goals with the state, her children were returned to her care. Today she is a constant and positive role model in their lives.

Parker's story has a happy ending, but hundreds of other families are going through similar issues as a result of the state's opioid crisis and other issues plaguing the state. Over the past few years, Prevent Child Abuse Kentucky reports that more than 54,000 reports of abuse and neglect occurred across the state. Fayette County alone accounted for nearly 3,500 of those cases. Neglect was cited in 75 percent of all reported cases.

SKY Families uses a strength-based, community partnered approach to facilitate the Nurturing Parenting curriculum, which enhances existing parenting skills. The program focuses on preventing or intervening in familial crisis situations that lead to abuse or neglect. The goal of the SKY

Families Parenting Program is to help parents develop effective parenting skills that promote positive health and wellness as well as to learn accountability, responsibility and effective communication skills. Parents also learn to model healthy behaviors, such as anger management and conflict resolution, increase family bonding and non-violent discipline techniques.

During this 12-week program, participants meet once a week and receive a light meal, free childcare, and instructional information in small group settings. Program facilitators like Jordan encourage and engage parents to strengthen their protective factors to enhance the quality of life for families and their communities. SKY Families offers an evidence-based, culturally competent program to aid the family reunification process and helps individuals move toward self-sufficiency.

Over the past two years, Jordan has served more than 100 families in central Kentucky through SKY Families.

**Top:** Family and Consumer Sciences Extension Agent Carla Jordan with SKY Families participant Donna Parker. **Bottom:** Donna Parker is honored at the 2017 Kentucky Small, Limited-Resource, Minority Farmers Conference by Associate Extension Administrator Dr. Johnnie Westbrook and Land Grant Director Dr. Kirk Pomper.

# Leadership Across Kentucky

New county operations directors promote KYSU Extension's mission in the state

**A**s Kentucky State University's Cooperative Extension Program grows and expands its outreach efforts, new leadership helps implement strategies for continued growth in developing culturally and linguistically appropriate programs across the state. District directors of county operations provide leadership and supervision of the university's county-based Extension agents and program assistants and work to enhance an understanding of diverse and inclusive living, learning and working environments in Kentucky communities.

Nancy Cáliz serves as director of county operations for districts 1, 2, 3 and 4, and Louie Rivers Jr. is director of county operations for districts 5, 6 and 7.

Cáliz provides technical advice to the Kentucky Extension system in the areas of language access for clients with limited English proficiency. She is currently serving as co-principal investigator for the Children, Youth, and Families at Risk (CYFAR) U-Connect sustainable community project grant. Cáliz has a graduate degree in public administration with

an emphasis in international development and administration and an undergraduate degree in education. She has 23 years of professional work experience and has served communities, families and children in elementary education, in higher education, in Cooperative Extension, and in early childhood settings.

Rivers is committed to developing educational programs focusing on local food systems, rural housing, U.S. Department of Agriculture Farm Service Agency loans, farm production and farm management to the small-scale, limited-resource, minority, veteran, and female farmers to ensure that they remain a viable part of the agriculture economy. Rivers earned his bachelor's degree from South Carolina State College and master's from the University of Florida. He is a graduate of the United States Army Command and General Staff College. He has worked in Extension for more than 25 years. Before joining Cooperative Extension, Rivers served with distinction on active duty as a regular commissioned officer in the United States Army for over twenty years, retiring with the rank of Lieutenant Colonel.

Louie Rivers Jr. and Nancy Cáliz, County Operations Directors for the Cooperative Extension Program





A man with short grey hair, smiling, wearing a green zip-up jacket with the Kentucky State University logo and "LEAD GREEN PRIORITY" text. He is also wearing a green collared shirt, a yellow and green striped tie, and khaki pants.

A woman with long dark hair, smiling, wearing a bright yellow jacket over a black top and black pants. She is also wearing a green scarf with a yellow and green pattern and black high-heeled shoes.



# *Improving the* Health of Kentucky

**KYSU nutrition programming tackles youth and adult obesity, hunger and healthy living on campus**

**O**besity rates in both children and adults have steadily increased over the past two decades. Currently, nearly 33 percent of children in the U.S. are either overweight or obese. For adults, that percentage increases to nearly 70 percent. Kentucky State University's Center for Family Nutrition and Wellness Education works to share research-based information about healthy living to communities across the state.

Kentucky State University collaborates with the Food and Nutrition Service to ensure that those eligible for nutrition assistance through the Supplemental Nutrition Assistance Program (SNAP) can make informed, educated nutritional decisions. From October to December 2017, over 280 adults and over 1,400 youth from six different Kentucky counties were enrolled in Kentucky State University SNAP-Education (SNAP-Ed) programs. SNAP-Ed programs address a variety of wellness topics, including budgeting, healthy cooking classes, proper food safety procedures, exercise and how to apply for benefits.

Along with SNAP-Ed efforts, Kentucky State University's Land Grant Program also works to reduce food insecurity throughout the Commonwealth. Over 230,000 children in Kentucky may not know

where they will get their next meal. In summer 2017, KYSU started a mobile summer feeding route, which provided two meals a day to children at various stops in Henry County, Ky., a population that did not have summer feeding prior to this program. Kentucky State University's Cooperative Extension Program will continue this feeding initiative in summer 2018. To increase participation in this food distribution, nutrition Extension staff renovated and branded a vehicle that will be easily recognizable for participants. Extension personnel will increase the number of stops to include four additional locations in Franklin County.

Even with community outreach to educate Kentucky communities about nutrition, the Cooperative Extension Program acknowledges that change must start on campus. KSU FIRST, a program developed to encourage university faculty and staff to live healthier lifestyles, is an integral part of the Land Grant Program's nutrition education and research initiatives. This initiative offers nutrition education and strategic personal training to any faculty, staff or student who joins KSU FIRST. Basic nutrition, sports nutrition, cooking and food budgeting classes will help participants improve their diets, health and performance.



# *Taking Ag* **on the Road**

Mobile processing units help save farmers money and provide agricultural education

**K**entucky State University's Cooperative Extension Program assists farmers throughout the state to become more sustainable by providing access to mobile processing facilities.

The Shaping Our Appalachian Region (SOAR) network is a 54-county program that strives to expand job creation, enhance regional opportunity, innovation and identity, and improve the quality of

life in Appalachian Kentucky. KYSU focuses Extension programs in seven SOAR counties, including Laurel, Clay, Rockcastle, Jackson, Whitley, Knox and Pulaski.

The KYSU Fruit and Vegetable Mobile Processing Unit is a fully permitted and certified mobile commercial kitchen that enables farmers to process their fresh fruits and vegetables into value-added products, such as jams, jellies, pickles, salsa and frozen bagged fruits

Jacob Vincent, research and Extension associate, with the Bee Autoclave, which is used to sterilize used beehives.

and vegetables, to be sold in local grocery stores, gift shops and farmers markets. It allows farmers to process produce at a higher level than typical home-based production. Developing value-added agricultural products is a worthwhile endeavor for limited-resource farmers because of the higher returns that come with the investment, the opportunity to enter new markets and extend the producer's marketing season as well as the ability to create new recognition for the farm.

The Poultry Processing Unit is a USDA-permitted and certified mobile processing facility for poultry, fish and rabbits to help small-scale farmers prepare for packaging and sales.

KYSU's newest mobile service is the Bee Autoclave, which began operating in May 2017. The autoclave is used to sterilize used beehives that could be contaminated by viruses, pests, diseases and pesticides, which would affect the health of a bee colony. Each load

of equipment sterilized in the autoclave can potentially save a beekeeper over \$2,000 in equipment alone and provides future bee colonies a safe and sterile home.

The KYSU Land Grant Program also manages the Thorobred Nutrition Kitchen, a 24-foot mobile kitchen that works to provide education to communities and families across Kentucky on topics of nutrition, healthy cooking and improving food access with fresh produce and ready-made healthy foods, as well as a mobile sorghum press. The mobile sorghum press can be transported to a farmer's field to help with on-site processing of sorghum, which makes the cutting and squeezing production processes for sorghum easier.





# *Thirty Three* Years of Service

## KYSU Extension agent supports northern Kentucky communities during her three-decade career

**F**or 33 years, Linda Brown-Price has been helping families in northern Kentucky develop skills in financial management, family well-being, and professional development. Brown-Price, an Extension agent for Family and Consumer Sciences in Kenton County, Ky., has had a meaningful impact on young women, parolees, children, laid-off workers, and the elderly in her community throughout her years of service.

In northern Kentucky, community members can attend Kentucky State University workshops coordinated in partnership with local Social Security and Medicare professionals to help answer questions that senior citizens may have to simplify enrollment processes. Brown-Price works with seniors to budget their finances so they can afford necessities, such as prescriptions and food. She also provides home security and disaster preparation workshops as preventative safety and security measures for these populations.

When Comair, a subsidiary of Delta Air Lines, ceased operations in northern Kentucky, many former

Comair employees were jobless. The Teamsters Union contacted Kentucky State University Cooperative Extension to work with these employees. Brown-Price taught the laid-off workers resume writing and technology skills to make them more marketable for other employers, thus making the transition a little easier for the jobless individuals. She also conducted similar professional development workshops with parolees to help reintegrate them back into society.

As an Extension professional, Brown-Price also works closely with the county's Family Resource Center to reach limited-resource families in order to deliver education on money management skills. She encourages budgeting and "looking past the commercials," to help these individuals make smart, economical decisions. This year, Brown-Price is building a program that will focus on stressing the importance of communication in the family dynamics of blended families.

Linda Brown-Price, Extension agent for Family and Consumer Sciences in Kenton County, Ky.

# Tackling Bullying

## Extension works with communities to combat youth violence

**Y**outh violence is a significant public health problem affecting thousands each day and impacting families, schools and communities. According to the Center for Disease Control and Prevention, youth violence—which is defined as fighting, bullying, threatening someone with weapons, or gang-related violence—is the third leading cause of death for adolescents 15-24 years of age in the U.S. Socially disadvantaged and urban areas are hit the hardest.

Dr. LeChrista Finn, assistant professor and state Extension specialist for public health, has spent the last two years working to educate leaders and communities about systemic and cultural barriers in dealing with domestic violence, bullying and gun violence. Although violence is preventable, efforts require a multi-faceted, collaborative approach over a significant period of time.

Finn works with educators, administrators and students in partnership with the Kentucky Association of Blacks in Higher Education to engage minority students in conversations about community violence. This meaningful conversation has continued and expanded to concerned community members in central Kentucky, government agencies, faith- and community-based organizations, school representatives and youth. At community events, such as the annual Roots and Heritage Festival in Lexington, Ky., Finn convenes

citizens to identify concerns, strengths and opportunities and to work toward solutions or strategies for bringing populations together to improve gun violence, domestic violence and bullying.

Collaborations with organizations, such as UeducateU and Lexington Parks and Recreation, to address social determinants and improve the overall health of individuals, families and communities have also helped provide Science, Technology, Engineering and Math (STEM) activities to minority youth in grades K-12 in central Kentucky. Other programs, such as Whistle Work, which empowers youth in leadership, and Motivated All Day Every Day (M.A.D.E.), a gang violence prevention initiative for students in Fayette County Public Schools, help equip students with the tools they need to be successful academically and socially.

On Kentucky State University's campus, Finn partnered with the Betty White Health Center on a social media campaign to address domestic violence and help increase awareness on campus. Finn's work in the community serves as a bridge for partnerships that focus on leadership development, creating positive community interactions, and fostering awareness for building a culture of nonviolence. Her collaborations continue to seek creative ways to address community violence.

Dr. LeChrista Finn, assistant professor and state Extension specialist for public health







# *An Engaging* **Environment**

Environmental Education and Research Center looks to expand acreage, offerings and impact

**K**entucky State University's Land Grant Program proudly manages the Environmental Education and Research Center (EERC) in Henry County, Ky., a little more than 15 miles from the university's campus in Frankfort. Originally acquired from the Kentucky Heritage Land Conservation Fund Board, the center serves as a land preserve of part of Kentucky's 12.5 million acres of forested land and is maintained using environmentally sound management practices that aim to protect, enhance and educate about Kentucky's wilderness.

The EERC is a collaborative learning facility that connects students, faculty and staff to the environment. Visitors are welcome in all four seasons to explore its 1.6-acre pond, its extensive rough walking trails, and its sites for anthropology, aquatic sciences, forestry, biology and science education.

Each year, hundreds of youth, educators and families visit the EERC for educational programs in forestry, watersheds, energy and other environmental issues and to enjoy its pristine acres for hiking, fishing and camping. Jennifer Hubbard-Sánchez, state Extension specialist in environmental systems, manages the center and aims to give students and other citizens across the Commonwealth an opportunity for outdoor

experiences and activities.

In 2017, nearly 1,000 people visited the EERC, and in 2018, Hubbard-Sánchez and Kentucky State University's Land Grant Program have plans for research and Extension activities to increase that number. One of the focuses this year will be to expand the center's current 307 acres to potentially add an additional 82 adjoining wooded acres. This expansion will also include the addition of an indoor classroom facility to enhance the resources available for educational activities.

The center will also increase its research projects to continue plant species documentation, water quality testing and invasive species inventories, as well as add research projects on the American chestnut tree and native grasses and forbs. Hubbard-Sánchez is working with students in the College of Agriculture, Food Science, and Sustainable Systems and the Green Society environmental group to plan and build a Braille Trail, which will open the center up for visitors of all abilities. The center plans to open its gates on weekends in 2018 for members of the community to enjoy and learn together.

To learn more or to schedule a visit, contact Jennifer Hubbard-Sánchez at [jennifer.sanchez@kysu.edu](mailto:jennifer.sanchez@kysu.edu).

Jennifer Hubbard-Sánchez, state Extension specialist in environmental systems and manager of the Kentucky State University Environmental Education and Research Center





# Rebuilding the Home

## Agent helps limited-resource farm families with needed repairs

**A**n important mission of Kentucky State University's Cooperative Extension Program is providing technical assistance to small-scale and limited-resource farmers. The Small Farm Program achieves this through frequent one-on-one farm visits to identify farmer needs and establish possible solutions.

Edwin Chavous, an Extension agent serving central Kentucky, observed that limited-resource farm families often have sub-standard housing. In some cases, their roofs leak, there is no bathroom facility, or they are simply in need of major home repairs. Some need improved heating or cooling and many need ventilation replaced. Many times their potable water supply is a problem because they live where the county's water sources are not available so they rely on cisterns or untested wells as their source of water.

Chavous and the KYSU Cooperative Extension Program work with these families by connecting them to the U.S. Department of Agriculture (USDA)

Rural Development program. Chavous works closely with these farm families to complete their loan or grant application process, to secure bids from contractors to complete improvements, and to follow up with families to help them maintain their improvements. Chavous also enrolls those families who rely on well water in Kentucky's Extension Well Testing Program, which provides information and testing services throughout the year.

KYSU Cooperative Extension has helped more than 79 limited-resource families from 12 counties across the state improve their quality of life by helping them secure funding to make home repairs. To get more information about financial services available through the USDA agencies, including the Farm Service Agency, Rural Housing Development, and the Natural Resources Conservation Service, contact Edwin Chavous at [edwin.chavous@kysu.edu](mailto:edwin.chavous@kysu.edu) or at (502) 597-5758.

Edwin Chavous (right), Extension agent in central Kentucky works with Kentucky farmer Tatum Lewis.



# *Securing* **Strong Soil**

KYSU works with USDA-NRCS to analyze benefits of cover crops on soil and apply findings to Kentucky farms

**H**ealthy soil is a key component of successful agriculture production. However, agriculture soil loss and degradation is a serious environment issue in the United States that costs producers more than \$44 billion each year.

Dr. Maheteme Gebremedhin, assistant professor of soil science in Kentucky State University's College of Agriculture, Food Science, and Sustainable Systems, and his research team are studying the benefits of cover crops, crop rotation and the use of manures for enhancing soil health, in a project funded by the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS).

In addition to the research, this grant also facilitates community activities to educate the public about new production techniques. In summer 2017, Kentucky State University faculty and Extension staff were joined by USDA-NRCS, USDA's Agricultural Research Service and the University of Kentucky to host a field day at Bunton Farms in Logan County, Ky. More than 40 farmers from central and southern Kentucky attended and

openly discussed assumptions and beliefs about soil conservation practices. Soil experts provided participants with information on new and improved sustainable soil conservation methods that focus on a holistic land management approach. Hosts and attendees of the field day also discussed better ways to communicate soil research findings to small-scale, limited-resource farmers in an effort to eliminate information barriers between researchers and producers.

Dr. Gebremedhin and his research team continue their research work with USDA-NRCS and regularly collect soil and biomass samples and analyze the data these specimens provide. Preliminary analysis seems to confirm the benefits of cover crops. The measurements that have been collected indicate relatively higher soil organic carbon in test plots that have been cover cropped when compared to plots without cover cropping. Research will continue to confirm these findings and to assess the benefits of minimal tillage and crop rotation on the physical, biological and chemical properties of soil.



# *Strengthening* **Refugee Farms**



## Extension helps farmers grow and market produce

**S**mall-scale agriculture can be a lucrative production and economic success in an urban or sub-urban setting. Urban food deserts, or areas where there is not access to healthy sources of food, are often found in inner cities where populations have been separated from agriculture for generations. Many people living in these areas are not accustomed to the flavor of foods that can only come from fresh produce and meats. In addition, many of these urban populations include refugee families who are not familiar with how to grow agricultural products native to or often found in Kentucky.

Kentucky State University's Land Grant Program works with groups of refugees who are beginning farmers to start operations that will help meet a growing demand for fresh food in urban areas. Dr. Sid Dasgupta, an agricultural economist, professor, and Extension specialist, and his team are working to develop agricultural systems with high profitability, low investment and relatively low risk for these beginning farmers. With funding from the U.S. Department of Agriculture National Institute for Food and Agriculture (USDA-NIFA) Beginning Farmers and Ranchers Development and 1890 Capacity Building Grant programs, this program has seen remarkable success. Over the last year, Kentucky State University has provided support to more than 290 beginning farmers to start farming or improve their farming practices.

In Bowling Green, Ky., refugees at the International Center use a quarter-acre field donated by U.S. Bank to grow produce. These beginning farmers use black plastic mulching and fertigation technology to produce onions, lettuce, greens, turnips and other vegetables as well as kale grown in a hydroponics system—plants growing in water without soil. All of this produce was harvested and sold locally through local promotions and Facebook marketing. Another refugee farmer in Bowling Green

started his own African market where he sells preferred produce to African clientele. The city of Bowling Green donated five acres to support that project.

In Louisville, Ky., Dr. Dasgupta and his team work with the Hope Community Farm and Louisville Grows to help refugees produce a variety of vegetables on an organic farm in Kentucky's largest city. This produce is sold in areas considered to be food deserts by the USDA.



Kentucky State University helped construct a high tunnel at this farm and educated refugee farmers on season extension procedures and extended production in a high tunnel. In 2018, Dr. Dasgupta with the help of research associate Richard Bryant, will help refugees start their own farmers market targeting food deserts and organic produce sales to Louisville restaurants.

Refugee farmers plant and harvest vegetables at a Louisville Grows urban farm in Jefferson County, Ky.



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**LAND GRANT PROGRAM**