

AgKnowledge

COOPERATIVE
EXTENSION
PROGRAM

2019

KENTUCKY STATE UNIVERSITY
COLLEGE OF AGRICULTURE,
COMMUNITIES, AND THE
ENVIRONMENT



COMMUNITY HAPPENS HERE



Jefferson County 4-H connects youth to STEM skills using robotics



Dear Reader,

I am excited to present the 2019 edition of AgKnowledge magazine, an annual publication of Kentucky State University's (KYSU) Land Grant Program including its College of Agriculture, Communities, and the Environment and its Cooperative Extension Program. This yearly report is designed to highlight the research and Extension activities that our faculty and staff are conducting at Kentucky State University.

Over the past year, the Land Grant Program's faculty, staff and students have concentrated on research and Extension programming to serve the stakeholders of the Commonwealth, with an emphasis on serving minority and limited-resource populations in rural and urban settings. We held local and national workshops to further our efforts to support agriculture in Kentucky communities, we built new community partnerships, and we were awarded many hard-earned grants to help us further our mission.

In 2018, we hosted a Hemp Field Day in our efforts to lead the state in hemp research and Extension. With the passing of the Farm Bill in late 2018, which legalized industrial hemp production, KYSU will continue its educational outreach efforts to help current and new producers establish a market for this emerging crop. Also this year, we made great strides in our 4-H efforts across the state. We opened the Rosenwald Center for 4-H Youth Development at the university's campus in Frankfort where we will welcome youth for summer camps and after-school programs. Our Extension staff is also making great strides in 4-H work across the state, particularly in Jefferson County. Other Extension accomplishments throughout the year have included public safety workshops, successful work from our Small Farms Program, and outreach through our Small, Socially Disadvantaged Producers grant program.

In the coming year, our Extension administration as advised by our statewide advisory board will continue to build valuable partnerships with community and government organizations, and we will promote our programs and potential to prospective students and collaborators.

Kentucky State University's agriculture programs continue to make great strides. We are here to serve you, our stakeholders. Please give us your feedback and let us know how we can help you solve your problems. Follow us on social media—@kysuag on Facebook, Twitter and Instagram—and visit us on the web at kysu.edu/ag to keep up with our day-to-day activities in communities near you. Subscribe to our newsletters, sign up for our workshops. Join us for a campus visit or invite us to your school or community event. We can't wait to work with you.

Thanks again for reading, and we hope you can use the information provided in this magazine. If you have questions, please call (502) 597-5120 or email kysuag@gmail.com.

Kirk Pomper, Ph.D.
Land Grant Director and Interim Dean of the College of Agriculture,
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Check out KYSU AG on social media!



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Greetings,

Welcome to the 2019 issue of AgKnowledge magazine, an annual publication of Kentucky State University's (KYSU) Land Grant Program including its College of Agriculture, Communities, and the Environment and its 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. In 2017, we worked with a statewide advisory council to develop a 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 is available for download at kysu.edu/extension.

In 2018, we continued our work toward these strategic goals and we hope you find evidence of some of our accomplishments in the pages of this magazine. In 2018 we continued to grow as a program, adding additional Extension field staff and focusing our efforts in the areas of 4-H youth development, community development, nutrition, and small farm outreach. We work to develop research-based educational programs that address relevant needs affecting underserved and under-represented audiences in the state. Our Extension staff works to provide a broad array of educational programs related to agriculture and natural resources, community development, family and consumer sciences, and 4-H youth development. Throughout 2019 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 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

2019 Edition, Volume 5

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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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News Briefs

Apply for a grant today!

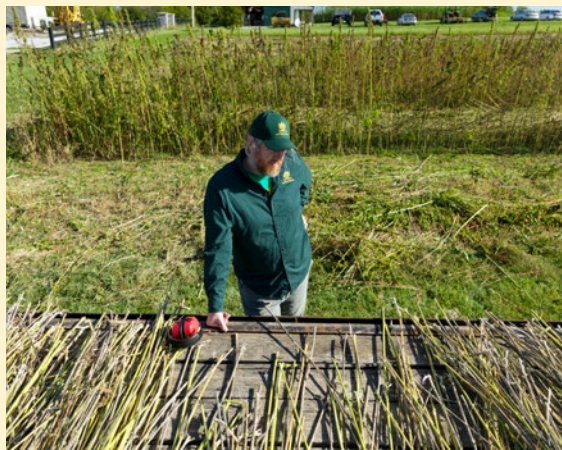


Kentucky State University's Land Grant Program works to develop resources to provide educational assistance to small-scale producers, or farms that sell less than \$250,000 of agricultural products each year. The Small-Scale Farm Grant and Farmer Education Grant are part of a partnership with the Kentucky Agriculture Development Fund that has been renewed through the end of 2019 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 Joni Nelson at joni.nelson@kysu.edu or visit www.kysu.edu/ssfg.

KYSU hosts hemp field days



Kentucky Department of Agriculture monitored producers through a regulated licensing program. In the 2018 Farm Bill, industrial hemp was removed from the controlled substances list and is once again legal to grow.

Agriculture, the field day helped give farmers the opportunity to learn about proper growing techniques, best practices, and the qualifications to become a processor or grower. The second event was held at KYSU's Harold R. Benson Research and Demonstration Farm in partnership with the Organic Association of Kentucky. Both events attracted growers and potential growers interested in learning more about hemp and recommended marketing strategies, export opportunities and product development.

To learn more about hemp field day opportunities, contact Austin Wright in western Kentucky (austin.wright@kysu.edu) or Dr. Shawn Lucas on KYSU's Frankfort campus (shawn.lucas@kysu.edu).

In the early 1920s, Kentucky was a leader in industrial hemp production. But the industry saw a sharp decline following World War I as markets were recovering and tobacco rose as a cash crop. Hemp was later classified as illegal to grow by the federal government under the Controlled Substances Act of 1970. Under the passing of the 2014 Farm Bill, hemp was once again legalized as a controlled substance and the

Kentucky State University Cooperative Extension Program currently works to educate producers on how to grow hemp and what the most viable market is for this emerging commodity. The program hosted two hemp field days in 2018. The first was in western Kentucky to introduce farmers to the idea of hemp as an alternative to tobacco production. In collaboration with the Kentucky Department of

After school program for youth encourages conflict resolution and coping strategies

The Promising Youth Center for Excellence (PYCE) is a grant-funded, research-based, youth development after-school program on Kentucky State University's Frankfort campus. Currently, there are two programs under PYCE that work with at-risk African-American and Hispanic youth, ages 10 to 17. The first is funded by the United States Department of Health and Human Services with a focus on males; the second is funded by the U.S. Department of Agriculture (USDA) and includes both males and females. Youth attend from schools in Frankfort's partnering districts—Franklin County Public Schools and Frankfort Independent Schools—each day after school and all day during the six-week Summer Institute.

This innovative program partners with the Frankfort Police Department, the Franklin County Sheriff's office, the Franklin County Health Department, Bluegrass.org and others to provide participants with mentoring, and lessons and experiences covering a wide range of topics including academic and cultural enrichment, building resiliency factors and coping strategies, violence prevention, conflict resolution, substance abuse education, and career development. Lessons and mentoring are also provided by college students and other community members who have been screened and trained by program staff.

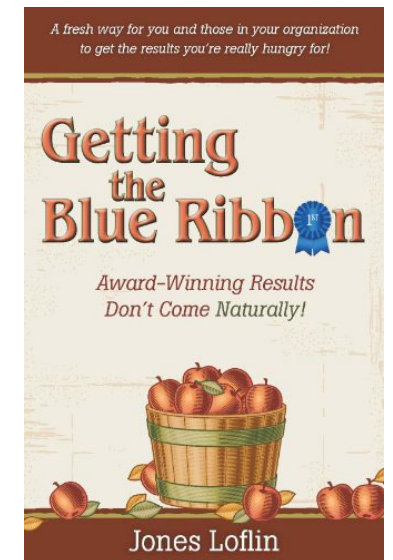
To learn more about this program, contact Dr. Herman Walston, (502) 597-5906 or herman.walston@kysu.edu.

Extension professionals collaborate with other 1890 Land Grant programs

In July 2018, West Virginia State University hosted the Kentucky State University Cooperative Extension Program in a two-day working session to identify cross sectional issues related to Extension. During this event, Extension faculty from both institutions worked in their program areas to discuss future collaborations to address common issues related to their clientele.

Also during the year, KYSU's Cooperative Extension Program hosted Extension professionals from Central State University Cooperative Extension to offer professional development training titled, "Getting the Blue Ribbon." Central State University toured KYSU's 14-acre Aquaculture Research Center and the over 300-acre Harold R. Benson Farm. Through this

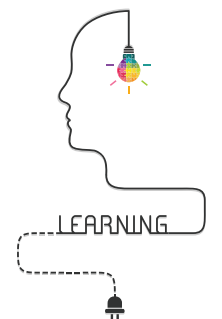
endeavor, participants were able to form and strengthen partnerships with KYSU's Extension state specialists in similar disciplines and compare issues that they face within the 1890 Land Grant community.



Staff completes Impact Collaborative Innovation Kit workshop

In May 2018, Extension specialists, associates and agents from Kentucky State University (KYSU) and University of Kentucky participated in an Impact Collaborative Innovation Kit Workshop organized by eXtension foundation. The session was designed to enable professionals to work through the innovative thinking process. Through design thinking and experimentation principles, participants were charged with the task of turning an idea into a compelling innovative project. After completing the training at KYSU, Dr. Allison Young,

associate professor in family and consumer sciences in Kentucky State University's College of Agriculture, Communities, and the Environment, traveled to other institutions to facilitate the use of the Impact Collaborative Innovation Kit.



State Extension Council (SEC) summer meeting

Kentucky State University's (KYSU) Cooperative Extension Program hosted the State Extension Council for the first time in Summer 2018. Members from the Kentucky Cooperative Extension System volunteer for this leadership council to provide advice and suggestions to Extension administrators and to serve as advocates for Cooperative Extension programs in their communities.

Stakeholders from across the state attended the two-day event in Frankfort. After a day spent in thoughtful deliberation about the state of Extension in Kentucky, attendees were treated to a boat tour down the Kentucky River on the university's Kentucky River Thorobred boat.

Kentucky featured as the Spotlight State at the annual Sunbelt Agriculture Expo in Georgia

Known as North America's premier farm show, the annual Sunbelt Ag Expo features more than 1,200 exhibits that showcase the latest in farming technology. Farmers travel to the 100-acre exhibit area and adjoining 600-acre working research farm to obtain practical information on how to be better at what they do.

Each year, the Sunbelt Expo highlights the agriculture of one of ten southeastern states. The Commonwealth of Kentucky was featured in 2018 and Kentucky State University's Land Grant Program joined agriculture industry partners including



the Kentucky Department of Agriculture, Governor's Office of Agriculture Policy, Farm Credit Mid-America, Kentucky Farm Bureau, and the University of Kentucky College of Agriculture, Food and Environment for the event in Moultrie, Ga. The group set up an exhibit to showcase the state's agricultural commodities and its farming expertise.

KYSU works to connect underserved farming populations with available resources

The Kentucky State University (KYSU) College of Agriculture, Communities, and the Environment continued its work with the state's Socially Disadvantaged Groups (SDG) in 2018 with funding from United States Department of Agriculture's Office of Rural Development (USDA-RD) to help farmers in Kentucky through technical assistance for improving farm management and production, marketing of farm products, and increasing their participation in USDA programs. The common challenges that socially disadvantaged farmers face are lack of information about innovative farming techniques, pricing and branding methods for agricultural products, market information, and increasing cost of farm inputs and energy. Dr. Buddhi Gyawali, associate professor of geospatial applications

and human dimensions of the environment, and research assistant Cindy Rice work with this group to help farmers overcome these hurdles that have made it difficult for small-scale and underserved producers to sustain farming and participate in innovative farming practices.

Over the next year, Dr. Gyawali and his team will continue to work with Kentucky farmers to educate them about USDA programs to increase their participation, to provide training and outreach in developing cooperatives, and to provide one-on-one, need-based technical assistance, production, processing, and financial risk management strategies and practices. This project is supported by USDA-RD grant number 20-037-646489357.



Attend a Third Thursday Thing workshop in 2019

The Third Thursday Thing has become a statewide community of small farmers, researchers, Cooperative Extension staff, and U.S. Department of Agriculture and state agencies who speak and share ideas freely and equally. The goal of this sustainable workshop series is to improve the sustainability of agriculture on Kentucky's small, limited-resource, female-operated, and minority farms. The Kentucky State University Cooperative Extension Program's Small Farm Program staff continued its hard work on this ongoing series in 2018, which has continued success even after more than 20 years of implementation.

As a series, the Third Thursday Thing emphasizes introducing small farmers to a range of alternative farm enterprises and sustainable production and marketing systems so that they can make informed decisions and help mentor other farmers. It also helps agricultural professionals gain a better understanding of sustainable agriculture production and marketing systems including the special needs of small-scale farms. This program will continue to strengthen and build support groups for small and minority farmers in 2019.

If you are interested in attending a free Third Thursday Thing workshop, you can find a schedule of topics at kysu.edu/thirdthursdaything. Workshops are held on the third Thursday of each month except for December and begin at 10 a.m. at the Harold R. Benson Research and Demonstration Farm at 1525 Mills Lane in Frankfort. Lunch is provided.

All aboard the KY River Thorobred

Welcome aboard the Kentucky River Thorobred, Kentucky State University's research and education vessel that offers water education voyages along the Kentucky River to learners of all backgrounds. Education programs on this floating laboratory classroom show how land use affects water quality and how organisms in the waterways are indicators of water quality. Using hands-on science education activities, learners test river water samples to see if their perceptions of the river are justified. Through the variety of programs offered aboard this 52-foot, Coast Guard certified vessel, students will gain a better perspective about their waterways and choose to actively participate in water resource stewardship to ensure their water is drinkable, fishable and swimmable.

Here are some of the programs offered on board the Kentucky River Thorobred:

- **Water Quality:** Many people have certain feelings about the Kentucky River and whether or not the river is safe for swimming, fishing or other recreation. This cruise uses investigative techniques to see if those feelings are justified and is great for learners from Grade 3 and up!
- **Kentucky River Go Fish!:** There are many different fish in the Kentucky River and it can be a challenge to identify them. This program gives passengers the opportunity to not only learn what fish are in the Kentucky River but how to identify them using a simple visual matching technique. This cruise is great for preschool to Grade 2 learners, but all learners are welcome.
- **Community River Education:** Since Frankfort's humble beginnings in 1786 to the present, there has been growth. By the end of the 1780s, there were only a couple of hundred people but now the population is over 25,000. Passengers learn how the area has developed and how water quality has been affected. This cruise is great for history buffs and learners of all ages.

Cruises leave from River View Park in Frankfort, Ky., April through October each year. To learn more, or to schedule your visit, contact Ed Wilcox at ed.wilcox@kysu.edu or (502) 597-6421. You can find more information online at kysu.edu/boat or [facebook.com/kysuriverthorobred](https://www.facebook.com/kysuriverthorobred).



Featured Stories

Agriculture in the **CLASSROOM**

KYSU EXTENSION WORKS WITH RUSSELLVILLE HIGH SCHOOL
TO CREATE AQUAPONICS GREENHOUSE AND NEW CLASS



Logan

- *KYSU helped Russellville High School build two aquaponics systems for hands-on learning.*
- *Russellville High School serves as a pilot site for a USDA grant project that hopes to create experiential learning opportunities in agriculture.*
- *The school has created a new course in aquaponics following the popularity of the systems.*

“We want an agriculture program, but we just can’t afford one.” Faculty and staff of the Kentucky State University (KYSU) Land Grant Program hear this from K-12 schools across the state, which has led us to partner with several programs in Kentucky to help bridge the gap between agriculture and the classroom. Russellville High School in Logan County is one school that hoped to integrate agriculture into its curriculum. In 2017, a conversation between Russellville High School teacher Chris Holloman, Dr.

Nancy Dawson, the director of the Russellville Urban Garden Project, and KYSU Extension Associate Mason Crawford sparked an idea that helped make this wish a reality.

Russellville High had a small dilapidated greenhouse that was being underutilized, but Crawford knew it could be converted into a fully functional aquaponics production system with a little work. However, the school lacked

the funding needed to build a new system. Crawford and KYSU Extension stepped in and began to scavenge for used parts and pieces that could be used to bring the vision for agriculture in the classroom to reality. With the guidance of KYSU Research Associate Janelle Hager, Crawford found all of the pieces needed to build an indoor aquaponics system. Crawford worked with

Holloman, who teaches visual art at the high school, through the summer to refurbish the school’s greenhouse and to install the new aquaponics system. The aquaponics system was fully installed in Summer 2017, and students from all different disciplines began using the system.

Crawford wanted to build on the success of this new

agriculture and aquaculture hands-on learning opportunity. He recommended Russellville High School as a potential pilot site for a KYSU Land Grant Program research and Extension effort funded by a Capacity Building Grant from the U.S. Department of Agriculture's National Institute for Food and Agriculture (USDA-NIFA).

The six-year effort is led by KYSU Extension Associate Ken Thompson and aims to create hands on, experiential learning opportunities in order to engage students in aquaculture education. The grant was funded in 2017 making Russellville High School a great location to build a small indoor aquaponics system in the biology classroom.

At the end of the Spring 2018 semester, students harvested their first batch of fish from the system and prepared a farm-to-table meal for teachers that included the fish and the vegetables grown as part of the aquaponics system.

As a result of the hands-on learning set up, more and more students have shown

interest in learning about aquaculture and agriculture at the school. Russellville High developed a course in aquaponics last year, and its students are currently utilizing the classroom and the greenhouse aquaponics systems to bring agriculture into the classroom.



Russellville visual art teacher Chris Holloman.

WHAT IS AQUAPONICS?

Aquaponics is a combination of hydroponics (growing plants in water instead of soil) and aquaculture (growing marine animals) in one system.

DID YOU KNOW?

Tilapia are one of the most popular species raised in aquaponics systems because they can survive in wider pH, temperature and ammonia ranges than other fish species. Additionally, they are fast growing and very efficient at converting food into body mass.



Extension Associate Mason Crawford, Dr. Nancy Dawson, Extension Agent Austin Wright, Russellville High School visual art teacher Chris Holloman and Mrs. Mullen's aquaponics class sit next to their hands-on aquaponics system.





Jefferson County 4-H agent Louis Milligan introduces youth to robotics at a STEM Day event in Franklin County. OPPOSITE: Jefferson County 4-H agent Patrice Thompson.

Get Ready for ROBOTICS

4-H IN LOUISVILLE
USES THIS
HANDS-ON
TECHNOLOGY TO
TEACH YOUTH
STEM SKILLS

- *4-H agents reach underserved youth through robotics.*
- *Robotics introduces hands-on way to teach STEM skills.*
- *4-H is an important part of KYSU's Cooperative Extension Program mission.*

Robotics is a fun way for kids to learn STEM skills in an active hands-on environment. Robotics is a branch of technology that deals with the making, programming and designing of robots. While many parents find this technology a bit complicated and technical, educators and toy companies have repackaged robotics into something fun and educational, focusing on those key areas of Science, Technology, Engineering and Mathematics (STEM).

Kentucky State University's (KYSU) Cooperative Extension Program houses a flourishing 4-H program and agents based in Jefferson County are building an intriguing STEM education program using LEGO Robotics, OzoBots, and an innovative Tech Wizards program. Tech Wizards is a mentoring program for youth ages 6 to 18 who are interested in emerging technology as a way of involving under-represented children and their families in learning basic life and workforce skills and aspiring to post-

secondary education, productive jobs and careers, and community engagement.

4-H agent Patrice Thompson has met with several schools and community programs in Jefferson County who have expressed the need for STEM education as academic enrichment in their communities. Many of these programs have little to no resources to meet this need. Over the past year, Thompson has worked with more than 100 non-traditional 4-H kids through a grant with the Americana Community Center that targets under-served youth to introduce them to technology.

This 4-H programming is an important part of KYSU's Cooperative Extension mission. More than 279,450 youth from all across Kentucky—approximately 35 percent of the K-12 population—participate in 4-H.

Nationally, nearly 6 million youth participate in 4-H programs.

Louis Milligan, Thompson's 4-H agent colleague based in Louisville, has been working with the McFerran Preparatory Academy in Jefferson County to offer the 4-H robotics program using LEGO EV3 robots to the elementary school students. This program was the first of its kind and engaged 12 students in a weekly after-school initiative where youth learned how to build and program the robots. This team of students competed in a scrimmage with the robots they built and went on to compete in the VEX IQ Robotics Tournament at Marion C. Moore High School in Louisville. The McFerran students placed 36th out of 67 teams in their first time participating in a robotics competition as a team and as a school.





Dr. Travella Free, assistant Extension professor and 4-H youth development specialist, at the opening of the Rosenwald Center for 4-H Youth Development on the campus of Kentucky State University in Frankfort. The Rosenwald Center was reopened in 2018 as a 4-H center and will house after-school and summer programs for youth from various backgrounds encouraging participation in 4-H and STEM programs.

KYSU Relaunches Rosenwald Center for 4-H Youth Development

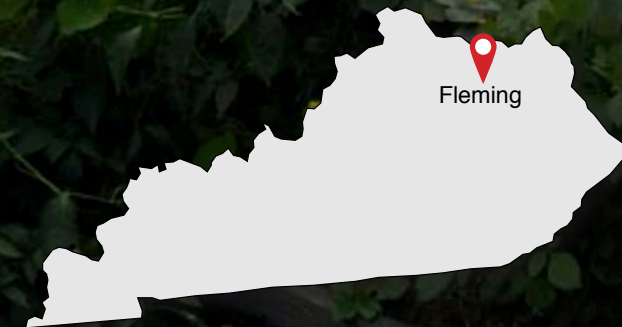
Kentucky State University (KYSU) reopened its state-of-the-art child development center as an innovative education and research model for 4-H youth programming. The Rosenwald Center for 4-H Youth Development opened in May and will develop and implement programs such as 4-H Clubs, 4-H Camps, and in-school and after-school programs to give youth safe and supervised places to spend time and the chance to learn new skills, develop their interests and spend meaningful time with their peers and mentors. These 4-H programs are designed to serve children and youth in kindergarten through eighth grade. 4-H enrichment activities focus on the sciences, health and well-being, and civic education and will be delivered

through curricula developed by Dr. Travella Free, assistant Extension professor and 4-H youth development specialist, and her team in partnership with the National 4-H Council. “Youth build key life skills by participating in hands-on activities,” Free says. “Our goal is to increase opportunities for youth with accessible, inclusive, high quality, educational youth development programs.” The Rosenwald Center is a 15,000-square foot facility that was constructed with funding from the U.S. Department of Agriculture (USDA) and completed in January 2013. The center has six classrooms, three observation rooms, four offices, one large multi-purpose room, one conference room, and a fully-certified kitchen. Its design allows Kentucky State University

students to observe practices in teaching and learning in classroom settings. KYSU professor Dr. Herman Walston is already utilizing the center. He was awarded a Capacity Building Grant through the USDA to implement an after-school mentoring program for African-American and Hispanic youth. Dr. Walston’s program aims to develop a positive youth development mentoring after-school program to serve 75 at-risk youth ages 10 to 17. It will also help families of the youth maintain and increase parenting skills as well as provide learning experiences for Kentucky State students studying early childhood development, family and consumer sciences, and food and agricultural sciences.



Supporting Small Farms



INNOVATIVE SMALL-SCALE FARM GRANT PROGRAM HELPS KENTUCKY FARM FAMILIES GROW THEIR ENTERPRISES



- *Three Silos Farm utilized the KYSU Small-Scale Farm Grant to build a commercial kitchen.*
- *The Small-Scale Farm Grant brings opportunities to Kentucky farmers who want to increase production opportunities.*
- *Grants are awarded quarterly and applications can be found at kysu.edu/ssfg.*

Kentucky State University's (KYSU) Cooperative Extension Program has been working to develop resources to provide educational assistance to small-scale farms for many years. Partnering with the Kentucky Agriculture Development Board, KYSU manages a grant program that provides funding to small-scale farmers across Kentucky who are motivated to improve their farming operations, to improve the marketability of their products with value-added enterprise, or who need assistance with specific educational trainings. This program has allowed KYSU to impact hundreds of small farmers throughout the state.

Three Silos Farm in Hillsboro features an authentic barn that serves as an event space where Andrew Mitchell and Amy Hinton host weddings and special occasions. What makes the farm special is its food and flowers that are grown on site and prepared for authentic farm to table meals. Mitchell and Hinton had a dream to turn their small, crowded, repurposed milk parlor kitchen into a commercial grade kitchen that would allow them to cater the events hosted on their farm with produce from their own gardens. They received a generous gift from a relative, all the equipment needed to make their dream a reality, however, they had no building space to hold all the kitchen equipment. With no extra money to upgrade and build on to the existing space, they applied for the KYSU Small-Scale Farm Grant.

With funds from the grant they were able to construct a nearly 300-square-foot kitchen to house all their commercial kitchen equipment. This addition has allowed them to serve more meals, use more produce, and grow more to supply for their increased demand. The once underused kitchen is now used nearly constantly to cater on farm events with food fresh from their farm.

Without this grant Three Silos Farm may not have been as successful as it is now, "There isn't a day that

goes by that I'm not deeply grateful to Kentucky State for giving me the grant and helping me to actually make a living on this farm," Hinton says.

For more information and to apply for the Kentucky State University Small-Scale Farm Grant, visit: kysu.edu/ssfg or contact Joni Nelson: joni.nelson@kysu.edu or (502) 597-6831.

DID YOU KNOW?

It is estimated that food travels an average of 1,500 miles from farm to plate in the U.S. The Farm to Plate movement is the result of consumers seeking out locally sourced foods, boosting the local economy, supporting local farmers and decreasing the distance food travels.

FUN FACTS:

51% of all land in Kentucky is farmland, and over 57% of the farms in Kentucky are small, family-owned operations.

Amy Hinton and Andrew Mitchell, owners of Three Silos Farm in Hillsboro in Fleming County, received a Small-Scale Farm Grant from Kentucky State University. The funding allowed them to construct a kitchen space to house commercial equipment that allow them to offer on-site catering for their event space.



Community AQUACULTURE



INDOOR SHRIMP FARMS AT SCHOOL GREENHOUSES HELP KENTUCKIANS EXPLORE SUSTAINABLE AQUACULTURE

- *KYSU staff works with K-12 students on growing plants and fish in high tunnels.*
- *Two new shrimp producers opened operations in Kentucky in 2018.*
- *Indoor shrimp farming can be profitable in niche markets.*

Indoor shrimp production is a growing industry in the United States. Farmers are repurposing unused agricultural infrastructure and capitalizing on niche markets to sell fresh, local, healthy seafood which is otherwise difficult to acquire in landlocked states. In Kentucky, Dr. Andrew Ray, assistant professor of aquaculture in Kentucky State University's (KYSU) College of Agriculture, Communities, and the Environment, is working with producers to develop indoor aquaculture systems where shrimp can be grown year round.

KYSU's Aquaculture Production Sciences Laboratory helped two new shrimp farms get established in 2018. Rolling Blue Farm in Fayette County converted a tobacco barn into a year-round marine shrimp production facility.

They renovated the barn and put up insulation and weather-resistant panelling to make an approximately 3,000-square-foot facility that houses nine above ground swimming pools to serve as tanks and 50-gallon plastic drums as filters. The farm stocked its first batch of shrimp in March 2018.

In Henry County, Faul Family Riverside Farm converted a hay storage shed into a shrimp production facility, which is currently capable of producing shrimp about eight months of the year.

KYSU's aquaculture program has been successful selling this shrimp for \$12 to \$17 per pound at farmers markets in Kentucky. Additional research is needed to ensure those prices can be upheld for regularly harvested shrimp produced in large quantities, but

there is strong potential for profit with prices in that range.

To help local K-12 students engage in and learn from sustainable aquaculture practices, Dr. Ray's Aquaculture Production Sciences Laboratory works with two schools—Versailles Montessori School in Woodford County and Providence Montessori Middle School in Fayette County—to build high tunnel greenhouses. These greenhouses include aquaculture systems, plant growing beds, solar powered fans, and in one case aquaponics, hydroponics and aeroponics production systems. These research systems are used by KYSU staff and school educators to engage students in STEM (Science, Technology, Engineering, and Mathematics) principles and to explore a variety of agriculture production systems.



Dr. Andrew Ray, assistant professor of aquaculture, helped Jason Whitis establish his sustainable shrimp production facility in Fayette County.



Rookie *of the* YEAR

INNOVATIVE NUTRITIONAL COOKING CAMPS
TEACH COOKING AND LIFE SKILLS TO ALL AGES

- *Pilot nutrition program teaches students basic cooking skills for healthy eating.*
- *Cooking camp builds confidence inside and outside of the kitchen.*
- *Nutrition education helps combat obesity in children and adults.*

Over the past 20 years, obesity rates in both children and adults have steadily increased. Currently, nearly 33 percent of children in the United States are either overweight or obese. In adults, that percentage rises to nearly 70 percent. Kentucky State University's (KYSU) Cooperative Extension Program is doing its part to promote nutrition and wellness education in order to equip Kentuckians of all ages with the information and skills they need to live a healthy lifestyle.

KYSU Cooperative Extension's nutrition team piloted the Rookie

Cooking Camp program in Summer 2017 and invited youth ages 12 to 15 to a day camp to learn basic cooking skills and other valuable experiences such as meal planning and grocery shopping and budgeting. This successful program grew tremendously in 2018. Rookie Cooking Camps have since been adapted in KYSU's six SNAP-Ed counties: Anderson, Bath, Franklin, Montgomery, Rowan and Whitley.

This cooking camp's core curriculum includes learning about MyPlate, the current nutrition guide published by the U.S. Department of Agriculture's (USDA) Center for Nutrition Policy

SNAP-Ed Extension Assistant Kathleen "Happy" Raffaele works with community members in Anderson County to learn basic cooking and life skills through Rookie Cooking Camps, a pilot nutrition program of Kentucky State University.



Kentucky State University Cooperative Extension Program's SNAP-Ed team provides nutrition education and practical skills to communities in Anderson, Bath, Franklin, Montgomery, Rowan and Whitley counties.

and Promotion. Rookie Cooking Camp also includes basic knife skills for safety and technique in the kitchen, food safety for proper food storage and cleaning in the kitchen, meal planning, shopping, and implementation.

Participants create a meal wish list on the first day of camp, often tweaking popular choices into healthier versions of our favorite meals. The students are responsible for preparing lunch each day, a task that builds their confidence

in reading recipes and in their kitchen skills. It is very rewarding to sit down to a meal that they have prepared. The camp also includes field trips to grocery stores or local meat processing plants and other lessons on etiquette and table manners, the value of which cannot be overlooked. Young people are taught how to properly set a table and how to put their cell phones away and enjoy the engagement of conversation with others. For the camp's finale, participants prepare a

four-course meal together for their families.

In order to reach Kentucky communities in need of nutrition and wellness education, Rookie Cooking Camps are planned during spring and fall breaks and through the summer months. "We want kids to have something constructive and fun to do while they're at home," says Gidgett Sweazy, SNAP-Ed Nutrition Program coordinator.

The camp has also been adapted to serve other age groups



Kentucky State University SNAP-Ed Program Assistant Andrea Munoz helps youth in Whitley County grocery shop as part of the Rookie Cooking Camp curriculum.

including elementary-aged students and adults. "We had a group of young ladies that just didn't have good cooking or meal planning skills and they really wanted to improve the nutrition of their family." Sweazy says. "The program core remained the same, and it was a wonderful experience to help these ladies learn more about nutrition and healthy food preparation to care for their families."

WHAT IS SNAP-ED?

The Supplemental Nutrition Assistance Program Education (SNAP-Ed) is a federally funded grant program that supports evidence-based nutrition education and obesity prevention interventions and projects for persons eligible for the Supplemental Nutrition Assistance Program (SNAP)—formerly food stamps—through complementary direct education, multi-level interventions, and community and public health approaches to improve nutrition. This program is supported in part by the USDA Food and Nutrition Service (FNS) and National Institute of Food and Agriculture (NIFA).



Mobile Meats

PROCESSING TRAILER ALLOWS SMALL PRODUCERS TO PREPARE POULTRY, FISH FOR MARKETS

- *KYSU mobile processing unit offers clean and safe facility for processing poultry, rabbits and fish.*
- *The unit is free to FFA clubs, 4-H members, and farmers and producers across Kentucky.*
- *Additional docking stations are under construction across the state to allow the unit's service area to grow.*

Many of these small-scale farmers faced a problem: they were looking to expand their operations and access niche markets by producing free-range or organic poultry, but they were limited to selling whole live products because their production was insufficient to justify the expenses associated with commercial processing facilities. KYSU's Cooperative Extension Program wanted to create a service that could help these small, limited-resource, under-served producers in a practical way.

In 2001, after several years of planning and developing partnerships with several organizations across the state, Kentucky State acquired a mobile processing unit for poultry, rabbits and fish. The unit is a 20-foot-long, 8-foot-wide trailer that is equipped with a hot water heater, water lines and electricity. The unit contains everything needed to process

poultry (excluding waterfowl), rabbits and various aquaculture species. Farmers only have to provide their own knives.

To use the processing unit, producers must complete a one-day training course, which must be renewed every two years. This course certifies the trained individuals to become facility managers, thus allowing them to process their own products. Products processed in the unit are able to be sold at markets anywhere in the state. By utilizing this unit, farmers can process their animals at a lower cost than if they utilized a private processor.

Steve Skelton, a farm technician and member of the Small Farm Program staff, manages to mobile processing unit. "Cost and pride in your product are the bottom line for using this facility for processing," he says. "This unit

allows the farmers to take pride in how they raise their animals."

Producers wishing to process poultry or rabbits must do so at one of the approved docking stations: one is located at KYSU's Harold R. Benson Research and Demonstration Farm in Frankfort, Ky., one is at the farm at Morehead State University in Morehead, Ky., and a third location is currently under construction at the Laurel County African American Heritage Center.

The unit is more in demand than ever. In the past year, the unit was utilized by seven FFA chapters, two 4-H clubs, and numerous farmers across the Commonwealth. The mobile processing unit was also showcased at the Sunbelt Agriculture Expo in Moultrie, Ga., in October where various organizations learned how they could potentially replicate the unit in their own state.

DID YOU KNOW?

KYSU's mobile processing unit is considered a pioneer in mobile processing, and many producers and organizations from across the country have visited it or requested information about replicating it.

KENTUCKY CHICKEN

Poultry, or more specifically broilers, is Kentucky's leading agriculture commodity. The state's poultry industry is valued at over \$1 billion and directly employs more than 7,000 people.



For more information about the mobile processing unit or to use its services, contact Steve Skelton at (502) 597-6103 or steven.skelton@kysu.edu.



Environmental Education & RESEARCH CENTER

Kentucky State University's Environmental Education and Research Center (EERC) in Henry County is a collaborative learning facility that connects students, teachers and community groups to the environment through meaningful hands-on learning activities. The Center is actively managed with environmentally sound management practices and aims to protect, enhance and educate about Kentucky's wilderness.

Located in Pleasureville, Ky., the EERC is home to a 1.6 acre pond, extensive rough walking trails and sites for anthropology, aquatic sciences, forestry, biology and science education. Sixmile Creek (seen in the photo) runs through the EERC and has an Outstanding State Resource Waters designation by the Kentucky Division of Water.

EERC staff are equipped to work with formal classroom teachers, summer camps, community groups, and after school programs to tailor field trips to each group's educational and recreational needs and Kentucky Academic Standards. In 2019, work will continue to progress in the EERC's mission to make the center accessible to visitors of all abilities with the implementation of trails and resources for those with visual and physical disabilities.

To learn more, contact Louis Ross at louis.ross@kysu.edu.



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