

EXTENDING KNOWLEDGE *Changing Lives*

IN LAUREL COUNTY

Extension provides practical education you can trust by helping individuals, families, businesses, and communities solve problems, develop skills, and build a better future.



Campers practicing how to sew a parallel circuit for LED bracelets.

Style Engineers

Kentucky was awarded a \$10,000 sponsorship from HughesNet® to implement a "Summer Camp STEM (Science, Technology, Engineering, and Mathematics) Experience." Laurel County 4-H youth participated in the statewide grant during 4-H summer camp by offering the Style Engineer program where youth learned about fashion through science. Summer Camp STEM Experiences are part of a national effort to spark youth interest in STEM education. During the STEM experience, local youth learned to integrate engineering concepts into fashion and learned how different types of textiles serve different purposes related to STEM. This year's camp included activities such as Fabric Flex, Knit Bombing, Confetti Rain and LED bracelets. Sixteen youth participated in the activities during 4-H Summer camp, learning how STEM is being integrated into fashion. They learned how various fabrics are structured to allow for more movement and comfort when designing athletic wear and learned to install LED lights into fabric by connecting parallel circuits. They also learned how science is used with fabric to monitor body temperature.

Priority Program Efforts

A total of **750** people are now involved in addressing significant community issues

- **96** youth made an impact in their community through service projects
- **250** local residents implemented practices that promote sustainable agriculture
- **900** Producers reported an economic impact (i.e., increase in agricultural productivity, increase in higher returns, decrease in expenses) in their agricultural operations
- **5400** youth indicated an increase in leadership skills, knowledge or confidence through participation in Extension-related leadership programs
- **9700** citizens (youth & adults) acknowledged utilizing the skills learned through Extension programming
- A total of **5900** individuals reported making lifestyle changes (diet, exercise, managing stressors, healthy home practices, etc.) for the purpose of improving their health
- A total of **11,000** youth and adults demonstrated informed and effective decision-making skills

Results of a post-test survey indicated the following results: 100% of participants liked learning about the subject, 94% of participants learned more about technology, 94% of participants could see themselves using this technology in their career, 100% of participants stated they understood how science, technology, or engineering can solve problems, 100% of participants learned how to use a new technology during the experience, 100% of participants learned more about science, technology, or engineering, 100% of participants are more aware of careers in science, technology, or engineering, 100% of participants would like to learn how to use other technologies.



A camper carefully stitching her parallel circuit into the bracelet

Eco EdVentures Camp

Statement findings from the 2011 PRIDE (Personal Responsibility in a Desirable Environment) campaign



UK Specialist Terry Connors teaching students about wood products

indicated that many students in Laurel County were unaware of the effects of pollution on the environment, environmental resources, and the stewardship of those resources. When surveyed, local teachers, school officials, the Laurel County 4-H council and the Laurel County Extension Council,

also identified environmental education as a

valuable "need" for local youth. As a result of this need assessment, the Laurel County 4-H agents, in collaboration with local schools and other environmental groups, presented a 4-day environmental education camp.

During the camp, students rotated among educational stations that focused on different environmental topics including pollinators and honey making by Southeast KY Beekeepers Association, wood magic (the value of Kentucky's trees and wood products) presented by the University of Kentucky Forestry Department, Kentucky fish and how pollution impacts them, presented by the Department of Fish and Wildlife), fur trade as an integral part of the settlement of America, presented by UK Cooperative Extension Ag Dept. (Bell County), birds of prey presented by Mitch Whitaker, Letcher County Cooperative Extension, recycling relay race by South Laurel High School Environmental Science students, tree I.D. by North Laurel High School FFA students, water quality by KY Division of Water, bear biology by Kentucky Department of Fish and Wildlife, terrestrial macroinvertebrates by U.S. Forestry Service, and soil conservation by Laurel County NRCS.

For the past eight years, the camp has been an environmental education tool that serves to increase student awareness about the environment and encourages long-term environmental stewardship among youth. This year, 712 students, grades 4-12, from six local schools attended the day camp at J.M. Feltner 4-H Camp in London, KY. Over 60 volunteers were involved in the planning and implementation of the program throughout the four-day event. Each day, students were given the opportunity to apply scientific processes and higher order thinking skills as they were exposed to different environmental topics. All the while, encouraging creativity, originality, and flexibility as they resolved environmental problems and issues. The objectives of the program is for participants to leave inspired and empowered to become responsible, productive, and participatory individuals pertaining to the environment. The following are some quotes of participating students:

- "I was happy to learn so much about trees, such as how to tell how old they are, how the uses of trees vary, and how some trees are more or less buoyant in comparison. I loved being outside and to had a wonderful time with my friends, running about to catch bugs and insects. "

•I had so much fun. My favorite activity was the recycling relay where we learned to put recycled items in the right can.”

•I learned so much about many new things including bees, trees and the environment. I hope I can come back next year. I had an amazing time and I really enjoyed getting to be outdoors and learning about wildlife and how to protect it.”

Agricultural Diversification

Since the demise of the Tobacco Quota System in 2004, tobacco producers have signed contracts with tobacco companies to produce the crop. Tobacco producers have faced several hurdles such as labor issues, stricter production requirements, higher input costs and lower prices. Cornett Farm is one of the largest tobacco producers in Laurel County and



they are in the process of diversifying the farm operation. The use of H2 immigrant labor has made the availability of labor easier but the nature of tobacco production leaves a window of low labor requirements during the growing season until harvest.

Grading and boxing tomatoes from harvest

The Cornett’s decided to use this window of opportunity to diversify their operation. University specialists joined Horticulture Agent, Bonnie Sigmon on several farm visits to discuss the conversion of tobacco greenhouses that remain empty from June-March into hydroponic greenhouses that produce fresh greens, tomatoes and other produce. We laid out a site for an acre of field grown tomatoes and a future site of a high tunnel. The tobacco trellis system was also used as a support system for growing vining green beans and cucumbers. The Cornett’s completed the GAP diploma educational course that teaches producers techniques to minimize the threat of microbial contamination of produce. The field grown tomato crop produced almost 60,000 lbs. of tomatoes that they were able to market to the produce auction and directly to customers off the farm.

The Cornett’s’ children are very active members of the Laurel County 4-H Livestock Club and NLMS 4-H Club and participate each year in the Laurel County Agricultural Fair and the Kentucky State Fair. The children show market hogs, market goats, market steers, chickens and rabbits. Their interest in showing market hogs and the limited availability of show quality hogs in our area has led the Cornett’s to develop a swine production operation. Gilts purchased as project animals for shows were kept and turned into farrowing sows. They utilize Artificial Insemination practices with the sows and show quality boars. The animals that are not sold for show animals were being marketed at local livestock auctions at a loss. The down turn in the price of grain along with the low live animal price led them to search for the requirements for selling fresh meat directly off the farm. After learning that KCARD and the Warren Co. Extension Office had offered a workshop for producers about selling farm fresh meat direct to consumers, we requested the information from KCARD. The Cornett’s started offering USDA inspected pork and beef from the farm in early April. They have also worked through the requirements to be able to accept EBT and Supplemental Nutritional Assistance Program Funds. This diversification has increased their farm profits and they are planning to decrease the amount of tobacco they produce in 2017 while increasing these new enterprises.

Aquaculture

The decline of tobacco production due to the tobacco buyout and the difficulty in procuring burley tobacco contracts has farm diversification at the forefront of farm owners’ priorities. The research that the London Utility Commission and Kentucky State University Division of Aquaculture are conducting in the County has added aquaculture to the list of diversification possibilities.



James Ulrich processing fish

KSU inquired about possible grower cooperators with suitable farm ponds for an upcoming research project using raceways for fish production and assessing the potential for new marketing channels for small Kentucky producers.

A local catfish producer whose main marketing outlet was selling live fish to pay lakes and other recreational fishing operations was top on the list. The producer is successfully producing and harvesting live catfish with marginal profits. The price per pound for live unprocessed catfish is anywhere from \$1 to \$1.40 per pound. KSU's Dr. Ken Semmens visited the grower to assess the pond and resources this summer for the beginning of the project next spring.

The grower expressed an interest in marketing value added fish directly to the public in the form of catfish fillets and fiddlers. Agriculture Agent Glenn Williams researched the FDA regulations and inquired about the Kentucky Department of Agriculture's Mobile Processing Unit (MPU). The grower was properly trained in Hazardous Analysis Critical Control Point (HACCP), a systematic preventative approach to food safety and the proper use of the MPU. The MPU was brought to the site by KDA personnel. University of Kentucky Extension Agents and the owner/operator processed 120lbs of catfish fillets which sold for \$6.50/lb. The fish was sold directly from the farm while we processed the fish. The demand for fresh fish fillets was much higher than the supply with many orders not being filled. The plan for next year's harvest is to incorporate an agritourism event including a fresh fish fry along with the processing.

Cook Together Eat Together

Preparing and eating meals at home can have several positive impacts on families. Research shows that eating family meals can strengthen family ties and lead to better physical and mental health for children. Also, children who have regular family meals eat better, are less likely to be overweight, do better in school and are less likely to smoke, drink alcohol or use drugs. In an effort to encourage more families to make family mealtime a priority, the Laurel County Extension Family & Consumer Sciences department offered an 8-week cooking social entitled Cook Together, Eat Together to SNAP or SNAP eligible families with children ages 5-18.

The program offered Moms and their children a hands-on opportunity to develop basic cooking skills while learning about healthy foods and, food preparation, meal planning and budgeting. Six

families with a total of 13 people participated in the program. One hundred percent (100%) of families reported a positive dietary change as well as eating more vegetables. One family reported "I've noticed that I have been making better food choices when I shop and I buy more fruits and vegetables."

As a result of the program the parents reported that they were doing a better job of planning meals in advance and that their children had gained more confidence in their cooking skills, we're trying different foods, eating more vegetables and making healthier choices.



Teaching Chefs of Tomorrow



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Laurel County

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Changing Lives*

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