

# EXTENDING KNOWLEDGE

# *Changing Lives*

## IN LOGAN COUNTY

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



*Local elementary students prepare a rocket for launch.*

### ***Extending Knowledge through 4-H Rocketry***

There is a great demand for students involved with science, engineering and technology careers in the United States. According to the National Math and Science Initiative, 44% of high school students are ready for college level math and 36% of high school students are ready for college level science. Also, only 35% of eighth grade students performed at or above a proficient level in math and only 32% in science. This year, the Logan County Extension Service's 4-H program held school enrichment activities geared toward each of these areas.

Using research based, hands-on education, Logan County 4-H partnered with schoolteachers, administrators and librarians to complete a Science, Engineering and Technology series of lessons in rocket design and building, electricity and circuits and GPS technology taught by Logan County 4-H Extension Agent Gary M. Templeman. Each lesson series focused on one aspect of SET with hands-on lessons taught by the 4-H agent and classroom instruction by the teachers. Each series consisted of at least 6 hours of instruction. During this program over 700 elementary, middle and high school students were able to design, build and launch rockets of various materials and using different methods of fuel and propulsion. They also built circuits on a live circuit board. In conclusion they were able to utilize hand-held GPS units to navigate around their school or a community park and better understand how GPS technology works and its many uses in today's society.

## Priority Program Efforts

- A total of 106 people are now involved in addressing significant community issues
- 20 youth made an impact in their community through service projects
- 67 local residents implemented practices that promote sustainable agriculture
- 150 Producers reported an economic impact (i.e., increase in agricultural productivity, increase in higher returns, decrease in expenses) in their agricultural operations
- 954 youth indicated an increase in leadership skills, knowledge or confidence through participation in Extension-related leadership programs
- 3,917 citizens (youth & adults) acknowledged utilizing the skills learned through Extension programming
- A total of 2,394 individuals reported making lifestyle changes (diet, exercise, managing stressors, healthy home practices, etc.) for the purpose of improving their health
- A total of 300 youth and adults demonstrated informed and effective decision-making skills
- 20 individuals incorporated new or additional conservation practices.

Upon completion of the programs, follow up interviews and evaluation of the students and teachers concluded that:

92% of the students understood more clearly the science behind what propels a rocket

94% understood how the design could affect the rockets flight

82% learned more about what career opportunities there are in the field of science, engineering and math

89% of students gained knowledge on map reading and using math to determine distances

98% of students shown ability to understand and create a fully functioning electrical circuit

There was an increase in interest among Logan County students to pursue careers in the science, engineering and technology fields to meet the demands of today's world. There was also a significant increase in the desire to earn better grades in math and science.

### ***Changing Lives through Community Garden***

According to childhealthdata.org, Kentucky ranks 3<sup>rd</sup> nationally in overall childhood obesity. Among them, 41% of the black population and 48% of people in poverty are considered obese. These alarming numbers are costing the state roughly \$1.1 billion dollars annually. Elaine Russell, the state's obesity prevention coordinator with the Department of Public Health says families are choosing food that is, "high in calories with little nutrients. A lot of physical education has been taken out of normal daily routines". Youth in KY drink 89 gallons of soda a year; meanwhile only 17% of high school students report eating fruit or vegetables at least five times a day according to the CDC. Having access to fresh, local produce is a healthy, economical option to alleviate these issues. Add in growing the food yourself, and you've also incorporated physical activity into the mix.

The Logan County 4-H program is addressing this issue, working with community volunteer leaders, local elementary schools, Kentucky State University and the City of Russellville, and has created the Russellville Urban Gardening Project. This program, designed to reach minority and poverty level students, teaches youth to raise fruits and vegetables from seed, as well as how to prepare and preserve the harvest. Currently about 15-20 youth are active with the program heading to the garden after school and weekends to plant seeds, water, fertilize, pull weeds or harvest the crops. These urban youth, with no other exposure to agriculture, have

acquired the knowledge and skills to create and maintain a thriving community garden serving several members of the inner city neighborhood. Youth in the community have put in over 150 hours of service working in the garden. Over \$20,000 in grant and donation funding have helped grow the garden from a handful of raised beds in backyards, to the acquisition of a corner block where several raised beds, potted plants, fruit trees, a vineyard, and wildflowers have flourished.

Several of the participating students' involvement in other school programs have increased and student attitudes have improved as a result of the program according to discussion with parents and teachers. There is a renewed spirit of camaraderie and a sense of pride in the neighborhood that hadn't been there before. With volunteer work from both youth and adults, positive relationships have been formed.

Since joining the program and becoming an active part, several students have expressed an interest with careers in agriculture, biology and horticulture. Students have also shown a better understanding of the importance of sustainability in agriculture, nutrition and citizenship. "I had no idea there was so much diversity and potential with a career in agriculture" noted one student participant. This program continues to grow with an even greater impact on the young people involved. There are plans for the construction of two greenhouses, and expanding the project to include more acreage and crops to be sold at the local farmers market.



*High tunnels were installed this November at the Community Garden.*

### ***Changing Lives through Money Habitudes***

Since 2007 the number of people below poverty in the state of Kentucky has increased. Even though the recession has officially ended, poverty rates in Kentucky have not decreased to pre-recession levels. Currently, Logan County has a 19.1% poverty level. In November 2014, the FCS agent in Logan County presented Money Habitudes to two classes at Auburn School. The objective of the Money Habitudes program is to educate individuals about how their habits and attitudes affect the way they think about and spend money as well as leading them to think about their values and goals as they relate to their

personal finances. Thirty-three students total participated in the Money Habitudes lessons. The results of the lessons were as follows:

Question topic: How to manage money to reach financial goals  
Knowledge before program: 39%  
Knowledge after program: 97%  
Percent increase: 58%

Question topic: Confidence in handling money issues or questions  
Knowledge before program: 45%  
Knowledge after program: 100%  
Percent increase: 55%

- 100% of students plan to learn from money experiences and make better future decision
- 85% of students agree or strongly agree that the subject matter was timely for them
- 91% of students agree or strongly agree the information was practical to them
- 91% of students agree or strongly agree they can apply what they learned in their everyday life

Participant comments include:

- “I like that I’m more secure about how I spend my money”
- “I now have a better understanding of how to use my money wisely”
- “I can apply what I learned in my everyday life”
- “It made me realize that the real world will be a challenging thing. I should be prepared”
- “It taught me how to manage money”

### ***Changing Lives through Snap-Ed***

The Logan County SNAP-Ed Assistant conducts nutrition education programming throughout Logan County and reaches children, youth and families with basic nutrition education, skills in food preparation, and food budgeting. She continues to network with community agencies such as the Logan County Family Resource and Youth Services Centers, Logan County Good Samaritan, Russellville, Adairville, and Auburn Senior Centers, Logan County School System, Russellville School System, Logan County Head Start, and Life Skills Industries in order to deliver her materials to a broader audience.



*Food Preservation is one of the many programs offered through Logan County SNAP-Ed.*

The SNAP-Ed Assistant graduated 56 enrolled families during the 2014-2015 program year and has 18 families continuing into the 2015-2016 year for a total of 82 program families and 248 individuals. Some results of her programming efforts include: 88% of families showed a positive change at exit of the program, 74% demonstrated acceptable food safety practices at exit, 60% improved on food resource management and 62% showed improved nutrition practices.



*The SNAP-Ed Assistant leads “Cooking with Kids” classes.*

In addition, the SNAP-Ed Assistant promotes the Plate It Up Kentucky Proud project by partnering with the Logan County Family and Consumer Sciences Extension Agent and the Logan County Farmer’s Market. Each month between June and September Plate It Up recipe samples and cards are distributed to customers at the farmer’s market with a different commodity featured each month.

### ***Extending Knowledge through Livestock Shows***

2015 marks the 27<sup>th</sup> Anniversary of the Logan County Market Steer/Heifer Show, Sale, and Carcass Contest. Twenty 4-H and FFA members from Logan County exhibited 31 steers during the 2015 show and sale. Unlike many cattle shows, the Logan County Market Show is a terminal show and sale. Every steer or heifer that participates in the program in its entirety is shown in the live show, sold at a live auction in front of a very supportive community, and the sent directly to slaughter to complete the program in the carcass contest. The purpose of this program is to offer learning experiences for youth in the following areas: responsibility, commitment, animal science knowledge, record keeping, marketing, and leadership. The program is a seven month commitment for the exhibitors and their families. Each of the exhibitors weigh in their steers or heifer in

December and put countless hours of hard work until the day of the final weigh in and show in June.



20 students participate in the 2015 Steer Show.

We were really excited to add a few new dimensions to the program this year. The Logan Proud Program highlights the local producers in Logan County. For an animal to qualify as Logan Proud, the animal had to be born on a farm with a Logan county address. Another new program we introduced this year was the Junior Businessman Contest. This was a two part program. First, the exhibitors kept up to date records in their own record books that highlighted inputs and other costs as well as outcomes and weight gain. Second, the exhibitors were to make a marketing piece that would help sell their animals. The marketing piece could be a sales page, poster, or even a three part display board. To complete the program, both parts of the program were completed, judged, and put on display for all the buyers to view.

The average weight of the calves were 1231 pounds in which sold for an average of \$2.81 per pound. Over 150 buyers from the community extended support for our youth. Most of the money earned by the youth will go directly into saving funds to pay towards higher education. The skills and lessons learned throughout this whole journey are ones that last far beyond this project.

### ***Changing Lives through Safety***

Logan County is a second home to many Migrant Laborers for the majority of the year. Most of our Migrant friends are here to do a variety of jobs that put them at risk for potential safety hazards. The Cooperative Extension Office partnered with the Logan County Migrant Education Program and Logan Memorial Hospital Affiliates to provide a Migrant Worker Safety Program. Through this program, participants were taught about Pesticide Safety, Food Safety, and Emergency First Aid. All of the material and presentations were given in Spanish to insure understanding. Farmers and workers alike, completed the program with a better understanding of each other's needs and an overall better understanding general safety practices.

### ***Extending Knowledge through Crop Management***

The Cooperative Extension Services took the opportunity to set up two moth traps (as seen in the picture to the right) to help farmers and agriculture retailers stay ahead of possible insect problems that have the potential to be very costly. Over the course of the outbreak times, moth counts were taken weekly to help determine when the most impact was going to occur. By counting the moths, we can predict when the caterpillars will be active, which is a great indication of the best time to spray insecticides to protect the crops. When we know the time frame of damage, we can more accurately spray the fields, helping the producers be most efficient in their crop management. It can also tell if the fields need to be sprayed at all, saving everyone money.



<p>COOPERATIVE EXTENSION SERVICE</p> <p><b>UK</b> UNIVERSITY OF KENTUCKY® College of Agriculture, Food and Environment</p>	<p><b>The Logan County Cooperative Extension Service</b></p> <p><i>Extending Knowledge, Changing Lives</i></p>
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