



# Boone County 2016 Annual Report

Using science-based knowledge to engage people to understand change, solve problems and make informed decisions.



UNIVERSITY OF MISSOURI  
**M** Extension  
Live. And Learn.

January 2017

Dear County Commissioners and Friends of MU Extension:

The past year was a busy one for University of Missouri Extension. As a long-time extension professional and newcomer to Missouri, I have found the support from people like you to be remarkable. Missouri is a special place with a promising future.

Through the efforts of faculty, staff and amazing volunteers, MU Extension connects millions of Missourians with knowledge they put into action in their daily lives. Using a range of learning experiences, we reach people of all ages and backgrounds, in every corner of the state.

In response to direct input received from local councils and the unique nature of each county, extension programs vary slightly across the state. This strength of local flexibility and public engagement enables county-based Mizzou faculty to provide local learning experiences that improve lives and community vitality. For example:

- MU Extension business specialists helped local Missouri businesses achieve sales increases of \$186 million while creating or retaining 7,766 jobs.
- Helping assure access to health care in local communities, MU Nursing Outreach made it possible for 2,094 nurses keep their skills up to date.
- Our 4-H youth development specialists and other extension team members worked with volunteers and community leaders to reach 269,000 youths ages 5 to 18 across the state.
- Anticipating the needs of Missouri's aging farm population, extension faculty developed workshops that target estate planning, succession and retirement planning specific to farmers.

These are just a few examples of how Mizzou's commitment to extension and engagement benefitted Missourians this past year.

In the interest of better serving Missourians, we are conducting a statewide needs assessment. It will include extensive input from local communities and stakeholders. It will result in stronger alignment between extension programs and local needs.

I encourage you to read the attached annual report from your county office to gain an understanding of how MU Extension has worked this past year to serve your community.

Your support of MU Extension and our efforts in your community is greatly appreciated. As always, I welcome your input on how the University of Missouri can better serve the people.

Sincerely,



Marshall Stewart, Ed.D.  
Vice Chancellor for Extension

Every Missouri county has an Extension Council comprised of elected and appointed citizens who guide local educational programming.

Council members are partners in the educational process, from needs assessment through program implementation and evaluation of outcomes.

Extension Council members...

- ✦ Work with regional faculty to determine educational programs for the county.
- ✦ Manage finances of local extension operations.
- ✦ Provide personnel to carry out Extension activities.
- ✦ Elect and organize the local Extension Council.

Hello,

Thank you for your interest in extension work in Boone County. Boone County is unique in the state due to its strong agriculture industry, close proximity to the facilities and research of the University of Missouri and level of diversity of its population. These factors are prominent in the development and execution of our county extension programming. In the pages of our 2016 Annual Report, you will learn about some of these programs and how they may impact the lives of a great majority of our constituents.

County extension programs began over 100 years ago by two acts passed by the US Congress. The Hatch Act, written by Missouri congressman, William Hatch, provided federal funds to establish experiment stations associated with each Land-Grant University across the nation. The purpose of these stations and their staff was to study problems plaguing major industries. The Smith-Lever Act established the Cooperative Extension Service to disseminate the results of that research to the citizens most likely to use it to improve the products, profits and communities at a personal and local level. Initially, there was to be no cost to the business or individual in receiving this valuable new information. While today's research is conducted, gathered, analyzed and reported in far different ways than at the beginning of the 20<sup>th</sup> Century, extension programming at the county level is still striving to provide usable cutting-edge information to the citizens that need it most at little or no cost.

This report will give you an idea how the Extension staff of Boone County has accomplished that goal in 2016. We are always interested in suggestions for improvement and new program ideas. We invite your thoughts.



Roger L Morrison, Chair  
Boone County MU Extension Council

### 2016 Boone County Extension Council

Roger Morrison, chair .....	Columbia
David Nolke, vice chair .....	Rocheport
Dan Downing, secretary .....	Hartsburg
Nancy Franklin, treasurer .....	Hallsville
Becky Bohlmeier .....	Columbia
Cheri Bullard .....	Ashland
Cindy Downing .....	Hartsburg
Julie Fleming .....	Rocheport
Brandon Glascock .....	Hartsburg
Maggie Jeffery .....	Columbia
Johnna Lakin .....	Rocheport
Nancy Nelson .....	Centralia
H.C. Russell .....	Clark
Tommy Sallee.....	City Representative, Columbia
Janet Snow .....	Columbia
Andrew Stanton .....	Centralia
Janet Thompson .....	Boone County Commission Representative
Katherine Vanskike .....	Columbia
Christine Vaughn.....	4-H Senior Council Liaison, Sturgeon
John Sam Williamson .....	Farm Bureau Representative, Columbia



# Youth Development

## Boone County 4-H Grows Future Leaders

4-H project work and related educational experiences help youth explore interests in citizenship, communications and leadership. 4-H youth report three times more opportunities than their non-4-H peers to engage in meaningfully community leadership roles. This interest in leadership and community service, along with 4-H members' 70% greater likelihood to go to college, is growing leaders today and for tomorrow.

Missouri 4-H volunteers responding to a survey, report they contribute on average 100 hours per year. Valuing their time at \$19.00 per hour, based on average Missouri incomes, the contribution of Boone County 4-H volunteers was worth more than \$429,400.00 in 2016. More importantly, these adults serve as mentors for our youth helping them transition into healthy adulthood, priceless.

The 4-H Study of Positive Youth Development, an ongoing longitudinal study which began in 2002, discovered some measurable differences between 4-H members and their non 4-H peers.

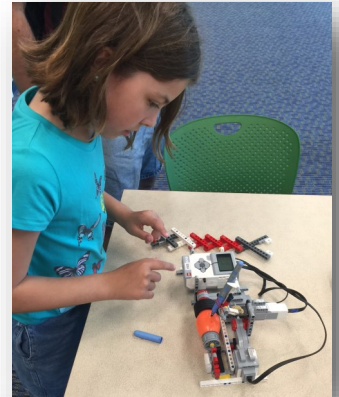
Compared to non-4-H Youth, 4-H Youth are:

- ◆ 41% less likely to engage in risky behaviors
- ◆ 70% more likely to participate in science, engineering or computer technology programs
- ◆ 40% more likely to pursue science, engineering or computer technology courses or careers
- ◆ 70% more likely to go on to college
- ◆ 20% more likely to graduate from college
- ◆ 25% more likely to positively contribute to their families and communities

4-H youth are equipped with the knowledge, skills, attitudes and health for the 21<sup>st</sup> century workforce. Missouri 4-H members spend almost nine times more of their leisure time than peers engaged in projects anchored in science. As a result, 4-H members are three times more likely to go into science related careers than similar peers. Fostering career development is the fact that Missouri 4-H members are connected to college campuses and faculty. MU Extension 4-H connects 8,500 young people to University of Missouri campuses. Being on campus is a predictor of youth going onto higher education.

Youth who earn their bachelor's degree, increase annual earnings by \$2 million over their lifetime. If 50% of the Boone County members participating in 4-H events on the MU Campus go onto earning their Bachelors, 4-H would help young people earn \$524 million more of lifetime earnings.

Missouri 4-H members, however, also learn to use these talents to engage in their communities. Young people in 4-H are engaged in twice as many leadership roles than their non-4-H peers. This provides them with the experience in problem-solving to step up and lead in a complex, changing world. In Boone County 522 youth were engaged in leadership and service experiences in their communities.



### 4-H is Growing Leaders!

#### Number of Boone County Learners:

- ◆ 522 4-H Members
- ◆ 226 Trained Volunteers

#### Boone County 4-H Attendance:

- ◆ Achievement Day: 6
- ◆ 4-H Summer Campers: 62
- ◆ Camp Counselors: 15
- ◆ Fashion Revue: 10

#### Regional, State, & National 4-H Attendance:

- ◆ Hippology/Horse Bowl: 10
- ◆ Horse Public Speaking: 1
- ◆ K-9 Camp: 9
- ◆ National Shooting Sports Team: 2
- ◆ Poultry Day: 7
- ◆ State Congress: 16
- ◆ State Fair Demonstrations: 4
- ◆ State Fashion Revue: 3
- ◆ State Horse Judging: 14
- ◆ State Livestock Judging: 8
- ◆ State Shooting Sports: 30
- ◆ State Sport Fishing: 1
- ◆ State/National Western Heritage: 3
- ◆ Teen Conference: 10
- ◆ Youth Civic Leaders Summit: 16

# Youth Development

## Drone Education Reaches a Youth Audience

Youth from Boone County were educated through the Drone Discovery curriculum developed by Cornell University Cooperative Extension. Through a hands-on engineering design challenge, youth explored the science behind drones and how they are being utilized to solve real world problems. In total 100 elementary, 4-Hers, and FFA students were reached in Boone County in 2016.

One specific real world problem explored was the potential uses of drone technology in agriculture. These uses included crop scouting for nitrogen deficiencies or disease detection through aerial photography. Current status of drone technology available was also covered from quad copters, helicopters, and fixed wing aircraft.

Participants gained an overall understanding of how drone technologies could be utilized today and in the future. With this knowledge, youth will be able to explore STEM (Science, Technology, Engineering, and Mathematics) careers in the future. In the area of agriculture, this means making better decisions in adopting and utilizing drone technology in the future.

The Association for Unmanned Vehicle Systems International (AUVSI), a group representing drone researchers and manufacturers, estimates in the first three years of the integration of drones into the airspace, the economic impact will surpass \$13.6 billion as new companies and completely new industries form to market the technology. Of that economic boost, the AUVSI predicts much of it will be in agriculture.

Specifically for Boone County youth, this type of program stimulates interest in future careers, which ultimately may bring future jobs and businesses to the county.





# Human Environmental Sciences

## Food Nutrition Program Reaches Youth

University of Missouri Extension's Family Nutrition Program (FNP) reached 3,186 participants directly and 2,764 indirectly, totaling 1593 collective workshop hours, with nutrition education in Boone County during 2016 a significant percentage of which were low income. FNP provides information on nutrition, food safety, and physical activity for lifelong health and fitness by working with qualifying schools, community groups and agencies.



Youth from Pre-school to 8th grade learned through kid-friendly, hands-on lessons and activities. Activities include opportunities for taste-testing healthy foods and practicing skills that lead to good health. Education for adults also includes nutrition, food safety, and physical activity, as well as food resource management.

Nutrition Program Associates (NPA's) go into schools and other grant eligible locations and interact with community members to help them make healthier choices and build healthy habits. They see the difference the program makes in people's lives.

The Family Nutrition Program (FNP) brought \$8,582,289 in Federal funds to the state of Missouri. These funds were used to provide nutrition education to 951,652 food stamp recipients and food stamp eligible citizens of Missouri. 5,950 of these participants reside in Boone County. It also funds one full-time job with quality benefits plus expenses for making the programming available to qualified schools and agencies in the county.

## Success Stories:

- ✦ I was eating lunch at Shepard Blvd School, when some of the 1<sup>st</sup> graders approached me and showed me what they had in their lunch. They emphasized how many vegetables they added to their plates and they recalled how many times they needed to try new foods before they decide if they like it or not.
- ✦ Mary Paxton Keeley Elementary school. One of the kindergarten teachers showed me a message a parent sent to her: "I love the person who brought broccoli to school for the class to try. My son has texture issues and gags easily on food. Broccoli has been a problem, but now he said he likes it. He even ate cauliflower!"
- ✦ I was the one who brought broccoli to school. I empathize the importance to be a taster and try food at least 10 times before decide if he/she likes it or not.
- ✦ I was teaching first grade summer school at Rock Bridge when I noticed a child crying. This continued for about ten minutes while I was teaching my class. It came time for some physical activity and the food tasting when suddenly he stopped crying and looked at me. He started to play and laugh with other kids. His teacher told me this was the first time he had smiled since summer school started (3 days ago). He is new to The United States and he does not speak English only Burmese. He did not have any problem with the food tasting and he loves cantaloupe.
- ✦ I was making one of the recipes in our lesson when a lady approached me trying to communicate. At first, I didn't understand what she was trying to say and then I noticed she was deaf and she was trying to communicate with me through sign language. It took a while, but she told me that she comes to the Food Pantry often to see if I am there doing the nutrition classes. She said she is cooking healthier at home and she loves the recipes.



## Improving Health of Older Adults

The Centers for Disease Control and Prevention report that one out of three older adults age 65 years and above fall each year. Many older adults have a fear of falling as it can lead to broken bones, head injury, hospitalization, and even death. While it could be argued that this fear of falling is a rational response, there are several concerns associated with this fear that lead older adults to avoid activities, have a diminished social life, and lose confidence and independence. It is a vicious cycle that if left unchallenged could actually lead to an increased risk of falling. Many think that falling comes hand-in-hand with aging, but that is not the case. Falls can be prevented. Research has shown that doing strength and balance exercises, talking with a doctor about falls, as well as making the home a safer place are ways to reduce the risk of falling. In an effort to educate and improve lives of older adults, multi-session educational programs like Stay Strong Stay Healthy and single-session presentations based on the Matter of Balance program were offered in Boone County.



Due to presentations based on the Matter of Balance program, 20 individuals on two separate occasions were provided an educational opportunity with resources on how to prevent falls by improving balance. Due to the Stay Strong Stay Healthy program, 70 individuals through seven, 16-session programs were reached. It was reported that 90% of participants improved in at least three of the four fitness assessments for strength and flexibility. The most recently completed program of 10 individuals saw the following benefits:

- ◆ 75% of participants who had the issue of joint pain reported having less joint pain.
- ◆ 75% of participants who had issues with sleeping reported having better sleep.
- ◆ 90% of participants reported having more energy.
- ◆ 100% of participants reported a feeling of having better overall health, feeling physically stronger, and feeling more flexible.

Offering these programs has allowed older adults the opportunity to conquer the fear of falling and actively prevent falls.

### “Stay Strong Stay Healthy” Participants Respond...

- ◆ *“I feel physically stronger and was reminded how good it feels to exercise.”*
- ◆ *“I increased my balance, strength, and flexibility.”*
- ◆ *“I feel better about myself for taking this class.”*
- ◆ *“I can take stairs more easily now.”*
- ◆ *“It got me more active and comfortable to start walking more.”*

✦ *Falling - It's all a “Matter of Balance”*

# Human Environmental Sciences

## Child Care Training

The mission of Building Better Child Care for Missouri is to advance child care providers' knowledge and skill in caring for and educating our youngest citizens.

Building Better Child Care workshops center on (1) child care provider workforce preparation, (2) children's school readiness and, (3) the socialization of children's health, nutrition, and physical activity.

During 2016, Building Better Child Care workshops including "Avoid Behavior Problems-Teach Self-Control", "Making Math Fun", and "Improving Transition Times" were provided in Boone County to a total of twenty participants from the county.

After attending an MU Extension child care provider training workshop, 100% reported improved knowledge, skills, or understanding.

Our continued efforts to improve child care are vital to Missouri's economic development; a well-prepared and educated child care workforce is essential for families' workplace success and children's healthy development.



## Building Better Child Care



### Participant Quotes

- ◆ "Awesome class, look forward to more"
- ◆ "Good program"
- ◆ "Thank you!"
- ◆ "This was very informative and useful."
- ◆ "Very good!!"
- ◆ "Walking away with great ideas."

## Children in Family Transitions Helped Thru Mandated Class

### Participant Quotes

- ◆ "Very helpful towards understanding divorce."
- ◆ "Great educator!"
- ◆ "I think every parent should do this!"
- ◆ "Great job!!!"

The end of session evaluations showed that the majority of participants found the class worthwhile and helpful.

In 1998, the state of Missouri passed a law that mandated any person in court for a divorce, motion to modify a decree, or custody/paternity with children 18 years of age and under, must participate in a parenting class. Focus on Kids is a class that was developed by the Human Development and Family Studies Department at Mizzou to fulfill this need.

This program was developed not only to fulfill the mandate but also to reduce the number of parents that need to return to court for motions to modify their original decree. This saves money and time for the parents, the courts and therefore the community. With increased knowledge, parents will also be more cooperative and therefore reduce the stress on their children and themselves. With reduced stress children and parents are more productive in school, work and home.

In 2016, approximately one hundred sixteen parents participated in twelve Focus on Kids workshops provided in Callaway County. The number of Boone County parents were eight.



# Agriculture and Natural Resources

## Farm Stress in Rural Economies

A total of 153 people (20 from Boone County) attended at the Kirksville and Mexico sites, which were two of seven around the state. Producers learned current information to help them make better management decisions during tough economic times and influence policy change. Topics included:

- ◆ Regional weather impacts
- ◆ 2015 Prevented planting acres
- ◆ Lower land values
- ◆ Dropping farm commodity prices
- ◆ Local area broad issue impacts

Producer concerns were heard from around the state, compiled by a team of MU Extension and the Missouri Department of Agriculture. These concerns were then shared further with the United States Department of Agriculture. By networking and collaborating in this manner, more policy change will be influenced for livestock and crop producers.



## Fence Law Program

Knowing which fence law is in effect in your county and following that law helps lower conflicts between landowners. This in turn reduces litigation costs. Figuring an average of \$150 per hour for an attorney, this program can potentially save Missouri landowners \$45,900 in legal fees.

This helps Missouri livestock producers to be more profitable due to lower fencing costs of their own in addition to less litigation fees.

Participants learned about the two different fence laws in place in Missouri and what county has which law. They also learned:

- ◆ what each law requires the landowner to do fence-wise
- ◆ which portion of a boundary fence each landowner must maintain
- ◆ where they can find additional resources and assistance on the fence law in effect in their county.

## Private Pesticide Applicator Training

The Private Pesticide Applicator Training (PPAT) program certifies and recertifies producers in proper handling and application of restricted use pesticides. In 2016, there were 20 farmers who attended this program and 13 were certifying for the first time where they learned proper pest identification, economic thresholds and economic injury levels. Producers learned of the need for emergency planning procedures and the environmental ramification of improper application. By supporting the PPAT program, producers gain skills that lead to improved efficiencies of production, profitability and sustainability in their farming operations. This benefits the citizens by improving environmental quality through timely applications and improved utilization in critical watersheds which protect and enhance natural resources and water quality.

# Agriculture and Natural Resources

## Agricultural Lenders' Seminar

A total of 95 lenders from across 18 Missouri counties, along with attendees from Iowa and Illinois, gathered at locations in Kirksville, Hannibal, and Mexico this year for the Agricultural Lender's Seminar. At this seminar, lenders learned ag site assessment, macro economics, the latest in land values and rent rates, crop and livestock outlooks, updates on taxes and other legal issues, livestock risk insurance, the Affordable Care Act, and new Extension curriculum. Lenders also received the 2016 Missouri Farm Financial Outlook book which included budgets for all major crop and livestock enterprises in the state. Equipped with these and other guides, the lenders will be better able to help their agricultural customers to use the information and tools they were given.



The lenders in attendance manage 6,039 loans totaling \$637,960,000. By attending University of Missouri's Agricultural Lenders' seminars, lenders are able to help their clients make better decisions based on risk management tools, budgets, and other resources provided. This benefits their portfolio of producers and landowners by a better understanding of enterprise budgets and cash flow affecting families' and businesses' financial health. This is especially important with the downturn in the agricultural economy as both crop and livestock producers face low income, high input costs, and challenging marketing decisions. Collectively, the workshop participation totaled 522.5 hours for all the lenders, or 71.5 hours per participant in Boone county (5.5 hour x number of county participants).

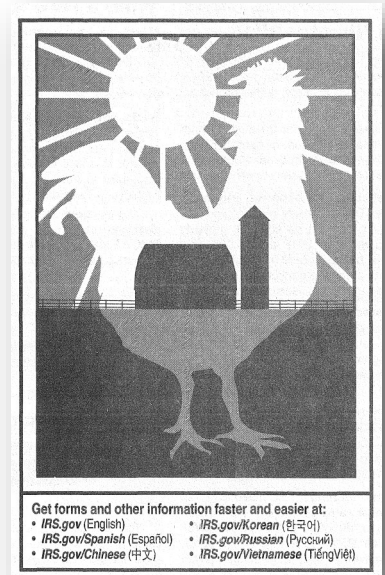
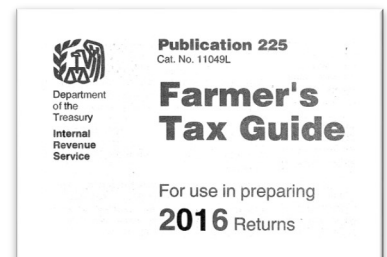
## Tax School

During 2016, University of Missouri Extension ag economics department and regional ag business specialists worked together to coordinate one summer and seven fall tax schools. The schools were designed for those who prepare taxes including: enrolled agents, tax preparers, CPA's, individuals and attorneys.

The training included new tax legislation, rulings and cases, individual taxpayer issues, affordable care act, IRS rules and regulations, business issues, retirement issues, death of a taxpayer, ethics and agricultural topics. The schools were approved for 8 hours of continuing education credit by the IRS and the Missouri Bar. Total continuing education hours reported to IRS for the schools was 2,607 hours.

The 2016 school attendance was a total of four hundred seven people. The schools were held in Cape Girardeau, Columbia, O'Fallon, St. Joseph and Springfield. The participants were from all over the state. There were 18 participants from Boone County.

The teaching teams included a CPA and former IRS employee, an IRS certified retired ag economics professor, an attorney and a regional extension ag business specialist. The trainings received positive evaluations and planning is underway to offer additional trainings in 2017. Local county residents benefit when local tax preparers have the opportunity to gain knowledge they can use to benefit their clients.



# Agriculture and Natural Resources

## Missouri Strip Trial Program - A New Opportunity for Boone County Farmers and Crop Advisors

The Missouri Strip Trial Program is a new, grower-focused program initiated in 2016, designed to help Missouri farmers and crop advisors compare on-farm management decisions and practices in a low-cost, low-risk setting.

This program uses on-farm and field-scale research to provide growers with farm-specific data and information they can use to guide decisions and evaluate best management practices while protecting or improving their bottom line.

Farmers utilize their own precision ag equipment to conduct on-farm research in their own crop fields. Participating farmers work with a specialist from the University of Missouri Extension, or other crop consultant of their choice to guide the planning, implementation and methodology used for the trial. This extra guidance and assistance helps ensure growers receive a reliable, statically valid and unbiased evaluation of a particular practice, method or idea.

When coupled with in-season aerial imagery collected with drone technology and GPS referenced yield monitor data, trials will allow farmers to evaluate two or three agronomic treatments through carefully managed, side-by-side comparisons.



Trials initialed in 2016 were as follows:

- ◆ Nitrogen application timing trials
- ◆ Cover Crop trials
- ◆ Phosphorus trials

Results are compiled into a personalized report for each participating farmer. Growers will also have access to aggregated results from trials in their area and across the state to evaluate the effectiveness and the economic pros and cons of the different management practices. Individual results are kept strictly confidential. Statewide and regional results will be summarized for outreach purposes and to highlight and promote existing farm practice advancements and BMP adoption in Missouri.

In Boone County, two on-farm strip trials were initiated. One was a cover crop trial comparing cereal rye, wheat, or no cover in a corn-soybean rotation. The goal of the cover crop trials were to help farmers gain important knowledge about utilizing cover crops in a corn-soybean rotation. Initial results in Boone County of corn following a cover crop showed a 16 bushels yield increase over no cover crop with cereal rye, and an 8 bushel yield increase with wheat as the cover crop.



The other trial evaluated was phosphorus fertilizer management by installing strips of no phosphorus application as part of a corn-soybean rotation. The strips of no phosphorus are utilized to evaluate phosphorus management both from an economic and environmental standpoint. Initial results have shown farmers could temporarily eliminate phosphorus applications to help the bottom-line as well as protect the environment. This could have an economic impact to the farmer of \$16.00 per acre.

This program is made possible by support from the Missouri Corn and Soybean Merchandising Councils, their checkoff and University of Missouri Extension.



# Agriculture and Natural Resources

## Weather - Drought or Flood

Weather was the topic for production agriculture in 2016. January started the year more than 2 inches above normal. February through June resulted in an 8.9-inch moisture deficit from the 30-year average. While emergence and early growth were uninhibited, by mid-June, the area was experiencing early stages of severe drought marked by a critical pollination period with corn leaves rolling. Abnormal precipitation in July and August 11.2 inches above 30 year averages resulted in a quick rebound and a second consecutive year of bumper crops. A significant amount of grain was stored in temporary bunkers and plastic tubes.

At this writing, we are currently running 2+ inches below normal for fall precipitation and that number is expected to double by the end of the year. November 3, went into the record books as a three way tie for second all-time latest frost and December 5, appeared to be the first true “killing” frost. The year 2016 will go down as the warmest in the last 85 years. Weather this year emulated the Missouri adage of never being more than two weeks from a drought or flood. Moisture deficit winter and spring were squelched by timely rainfalls resulted in high yields followed by a relatively long, dry and bin busting harvest period.

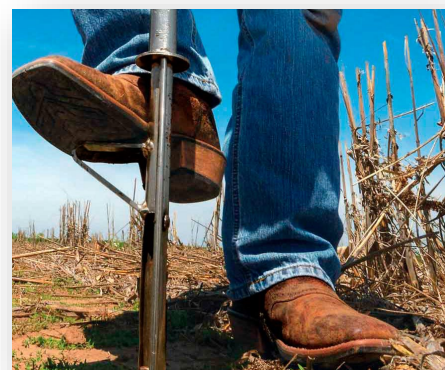
## Japanese Beetle Population Explosion



The presence of Japanese beetle populations was exponentially higher in central Missouri than we have seen in the past 8 years of trapping. The highest population explosion occurred about one week after corn pollination and created little damage. However, homeowners, landscape plants, and the horticulture industry was experiencing damage on a scale that has not previously been seen.

## Soil Sampling Helps Crops

In 2016, there were 66 Boone County contacts to communicate with agricultural producers to provide information and/or resources to manage the forage production, crop management systems and watershed management situations that were being encountered in their production efforts in forage and row crops. Additionally, University of Missouri soil test reports were provided on 71 producer soil samples.



# Agriculture and Natural Resources

## Missouri Livestock Symposium

The Missouri Livestock Symposium is an annual educational program and trade show that attracts participants from throughout Missouri and beyond. It is recognized nationally as an outstanding program that targets agricultural producers and landowners. The curricula includes workshops led by nationally-known speakers in the areas of horses, beef, sheep, stock dogs, meat goats, forages, around the home, small poultry production and farm continuation planning. Based on post-session (retrospective) evaluations:

- ◆ 82 percent of participating producers indicated that they had an increased level of understanding on the principles provided in the sections of beef cattle, horse, sheep, meat goats, forages and stock dogs.
- ◆ On average, 87.5 percent of responding participants indicated they will adopt technologies presented in their respective sessions.

Public funding helps support the Missouri Livestock Symposium with objectives to provide educational opportunities for livestock producers and landowners representing all species of livestock, forages, and renewable resources and to promote the adoption of best management practices that are economically and environmentally beneficial. The producer benefits from this program by being better able to manage their livestock and their financial resources. Financially successful producers provide a basis for successful communities. Missourians benefit by keeping farm and ranch families in rural communities and improved natural resource stewardship.



*Above: Over 80 agriculturally-related businesses, commodity groups, and organizations displayed their products for area producers to see in the trade show.*

### 2016 Symposium Feedback

- ◆ “Interesting speakers and able to reach a group that without the Symposium we would not be able to meet.”
- ◆ “Great event highlighting livestock production and ag.”
- ◆ “Draws a diverse crowd.”
- ◆ “Good attendance, with people that have a need for our product.”

*Right: Saturday workshop participants engaged in one of the 48 individual sessions.*





# Agriculture and Natural Resources

## Heart of Missouri Master Gardeners



After completing a thirteen session training program featuring seminars, field trips and hands-on learning conducted by MU Extension, the Master Gardener program graduates agree to volunteer a minimum of 30 hours for community projects and educational events. In 2016, the local Heart of Missouri Chapter logged 1,025 volunteer hours reaching over 500 Boone County citizens.

A new volunteer effort was initiated this past year through collaboration with Jefferson Farm and Gardens. Jefferson Farm and Garden is a 67-acre educational farm designed to engage the community in experiences about food and agriculture. Chapter accomplishments over the past year included helping establish the Native Butterfly House at Jefferson Farm and Gardens.



Heart of Missouri Master Gardeners setup and preview the Native Butterfly House At Jefferson Farm and Gardens  
*(photos by Julie Deering)*

## Missouri Master Naturalists - Boone's Lick Chapter



Upon completion of the three month training program, Boone's Lick Chapter Master Naturalists contribute a minimum of 40 hours of public service in natural resource conservation.

During the past year, members assisted with plant and animal surveys, natural community restoration, native plant demonstration gardens, speakers bureau presentations, outdoor classroom programs, and interpretive guide opportunities. In 2016, the chapter logged 5,270 volunteer hours, a continued increase over the previous year.

A highlight of 2016 was the continued work of Master Naturalists in the community. Stacy Barr and Robbie Scholes have worked on educating Missouri citizens on the importance of monarch butterflies. Monarch butterfly population has decreased 90 percent since 1997. There are many reasons for this, but many are man-made. Pesticide use, herbicide use and mowing during Monarch migration are just a few of the causes. The goal of this effort is to establish new pollinator habitat in Central Missouri as part of an overall plan.



Stacy was featured through the Missouri Department of Conservation - Conservation Profiles for her work raising monarchs — <https://www.youtube.com/watch?v=nMh2Y-9yMeo>



# Community Development

## Build Your Board Training

Boone County Missouri currently has 1,642 nonprofit organizations with a combined total income over \$1 billion dollars. While some of these are large, professionally staffed organizations, a significant number are small, volunteer dependent organizations with very limited access to training resources.

Build Your Board is a comprehensive training that Extension offers either as a face-to-face workshop or as a convenient statewide online course. The course, designed by Extension regional community development specialists, helps board members understand their legal responsibilities and become more effective while serving on their local boards.

The Build Your Board course is comprised of 16 lessons, organized into five learning modules. Course participants participating in the online course can log in any time and have the option to go through all the lessons at once or break the training into short sessions. For more information, visit the Build Your Board website at: <http://extension.missouri.edu/buildyourboard> or contact Tish at the Boone County Extension office.



## New Online Leadership Program

Leadership Online for Today is an innovative 11-week program geared towards up-and-coming leaders seeking professional development.

The program explores nine leadership concepts, including the strengths-based approach, communication for today's world, understanding defense mechanisms, and community engagement.

Learners can log onto the program anytime, anywhere, which conserves valuable time and travel resources. Experienced leadership coaches guide the learning process by posing questions and helping participants make progress towards their goals.

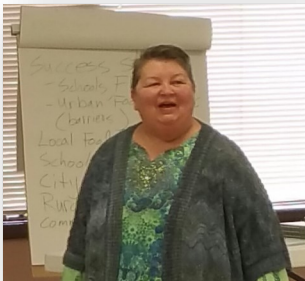
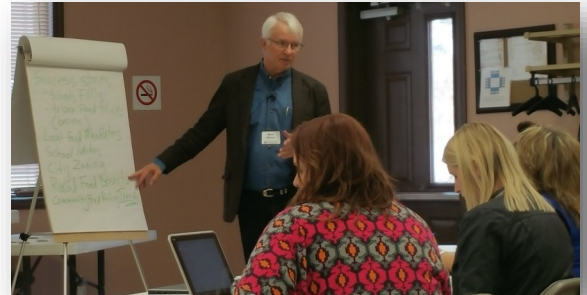


# Community Development

## Local Food Systems Seminar

A one-day seminar, “From the Ground: Building a Movement for Food System Change,” held in February, attracted audiences from across the state. The event featured two nationally known speakers, Mark Winne and Sharon Thornberry. The seminar was held in conjunction with the Universities Fighting World Hunger conference at MU.

Mark Winne has been called “the father of food policy work” and is most known for his work with establishing local food policy councils. He presented some key examples of communities and organizations that have had success in addressing food security and local food systems, and engaged audience members in a discussion of barrier and strategies to establishing local food policies.



Sharon Thornberry is the community food systems manager for the Oregon Food Bank. She spoke on the FEAST program, a community organizing process that “allows participants to engage in an informed and facilitated discussion about food, education and agriculture in their community.”

## Mizzou Alternative Break

In November, twelve students from MU donated a weekend to improving the building and grounds of the Boone County Extension Center. The students, mostly freshmen and sophomores, were participants in the Mizzou Alternative Breaks (MAB) program. MAB sends groups of students all over the country to engage in service projects.



The students undertook a long “to-do” list of maintenance and improvement projects, including digging out and restoring the rock garden at the office entrance, painting doors, replacing handicapped signs, dismantling an old picnic table and bench (to be replaced in the spring), cleaning gutters, mulching beds, removing branches from the roof and yards, and painting paw prints on the driveway entrance to increase the visibility of the turn. Equipment and supplies were contributed by Extension Council members and office staff.



Mizzou Alternative Breaks provides students with the opportunity to gain a wider perspective of the world while immersed in service to people and communities. “By igniting a passion for service in our generation, MAB promotes the idea that grassroots service something larger than a week or an event – it is a movement that starts with caring about the people around you and the community that brings you together.”

# Business Development

## Supporting Boone County Businesses

As Entrepreneur's and innovators, Missouri's small businesses are becoming a more diverse group that continues to make the state's economy productive. There are approximately 500,000 small businesses in Missouri. Nearly 98% of all businesses with employees are categorized as small businesses. In assisting owners and managers of those businesses, MU Extension contributes to a county's economic development through growth in jobs, sales, innovation, technology development and commercialization. Training and business counseling result in businesses making better financial and management decisions leading to stronger businesses and a stable business community.

During 2016, MU Extension served Boone County residents and their companies. Consultations included information and training to successfully start, run and expand businesses. The resulting increased business activity creates jobs, increases consumer demand, promotes economic development and generates tax revenue for the public's welfare.

Note that the business programs offered in Boone County range from basic to advanced and include:

- ✦ Exploring Entrepreneurship: a monthly program that introduces future entrepreneurs to the challenges of starting a business.
- ✦ Understanding Financial Statements: demystifies how to read as well as understand and use the information found in the balance sheet and income statement.
- ✦ Building an Investor Ready Technology Company: helps entrepreneurs who understand technology but do not understand financing to successfully compete for private funding.
- ✦ Fast Trac for Displaced Workers: provides training on how to start a business to individuals who have lost their jobs due to a plant closing.

## 2016 Impact of MU Extension Small Business Services in Boone County

- ✦ 101 new jobs
- ✦ 11 jobs retained
- ✦ \$649,619 in increased sales
- ✦ 8 new businesses started
- ✦ \$19,193,986 in business loans and investments
- ✦ \$11,963,337 awarded in government contracts
- ✦ 244 clients and companies received business counseling
- ✦ 1,146 business training attendees and conference participants

## Developing Boone County Businesses



The business development faculty contributing to Boone County business successes are from the programs identified above. These staff have regional and statewide assignments and work with businesses in all counties across the state. Overall, the University of Missouri's Business Development Programs (BDP) served people and their businesses state-wide. The total impact for all businesses assisted by the BDP amounted to \$347,900,000 in government contracts. The Northeast region had an overall award of \$46,655,160. There were 63 clients counseled with 325 counseling sessions. This is job creation along with increasing small business opportunities in Rural Northeast Missouri.

Clients learned the registration processes for state and federal contracting along with potential opportunities that pertains to their product or services offered. Also, possible contracts give them opportunities to bid on and ultimately receive contracts from their bid proposals.



# Faculty and Staff

## Boone County MU Extension Funding

Funding is a three-way partnership of federal, state, and county governments. Federal and state money, through the University of Missouri, pays for faculty salaries, benefits, training costs and part of the equipment used in the local office. Boone County appropriations provide for operational expenses as noted below.

<b>Operational Revenue</b>	<b>2016</b>	<b>2015</b>
County Appropriations	\$84,000	\$93,000
Fundraising Support	\$2,409	\$488
<b>Total Revenue</b>	<b>\$86,409</b>	<b>\$93,488</b>
<b>Operational Expenses</b>		
Salaries, wages, benefits	\$43,699	\$41,013
Travel	\$6,960	\$8,400
Telephone service	\$3,050	\$3,075
Publishing & Printing	\$500	\$1,100
Supplies/services	\$6,250	\$7,000
Utilities	\$6,000	\$6,000
Contract services	\$8,200	\$9,500
Insurance	\$2,500	\$2,400
Miscellaneous	\$250	\$500
Repairs/maintenance	\$3,000	\$3,500
Furniture/equipment	\$2,000	\$2,000
Capital Repairs/Improvement	\$4,000	\$9,000
<b>Total Expenses</b>	<b>\$86,409</b>	<b>\$93,488</b>

### Kent Shannon

County Program Director  
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### Brooke Jameson

4-H Youth Development Specialist

### Megan Samson

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**Web access** makes hundreds of fact sheets available on topics of interest to individuals and organizations in the community.

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