



UNIVERSITY OF MISSOURI EXTENSION

Howard County



UNIVERSITY OF MISSOURI
 Extension

January 5, 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.

2017 Howard County Extension Council

John Absinthe, elected	New Franklin
Angela Allphin, elected	Fayette
Richard Conrow, County Commission appointee.....	Fayette
Megan Felten, Co-Chair, elected	Fayette
Jessica Gregory, Treasurer, elected.....	Armstrong
Tammy Hackman, elected, elected	Fayette
Jeremiah Johnmeyer, elected.....	Higbee
Michele Johnmeyer, Secretary, elected	Higbee
Paige Kircher, Co-Chair, elected	Fayette
Walter Lane, elected.....	Fayette
Tina Rice, elected.....	Fayette
Chris Rohlfing, Farm Bureau appointee	Fayette
Paul Vossler, elected.....	Salisbury

2017 Financial Summary

INCOME	
County appropriations*	\$28,416.63
Balance transfer	(2,132.83)
Grants/gifts/contracts	<u>89.95</u>
TOTAL INCOME	26,373.75
EXPENSES	
Support staff wages**	\$8,482.60
Payroll expenses	1,478.42
Temp wages	1,763.38
Mileage reimbursement	4,757.09
Postage	791.69
Phone service	1,969.67
Advertising	561.35
Printing	614.97
Copier lease	988.26
Supplies and services	3,472.88
Professional services	31.00
Insurance	434.73
Miscellaneous	320.59
Working capital	3,485.17
Repairs and maintenance	105.05
Furniture and equipment	<u>602.07</u>
TOTAL EXPENSES	<u>26,373.75</u>
BALANCE	0

*One monthly payment not requested due to carryover from 2016

**Approximately 8 months at 30 to 35 hours per week

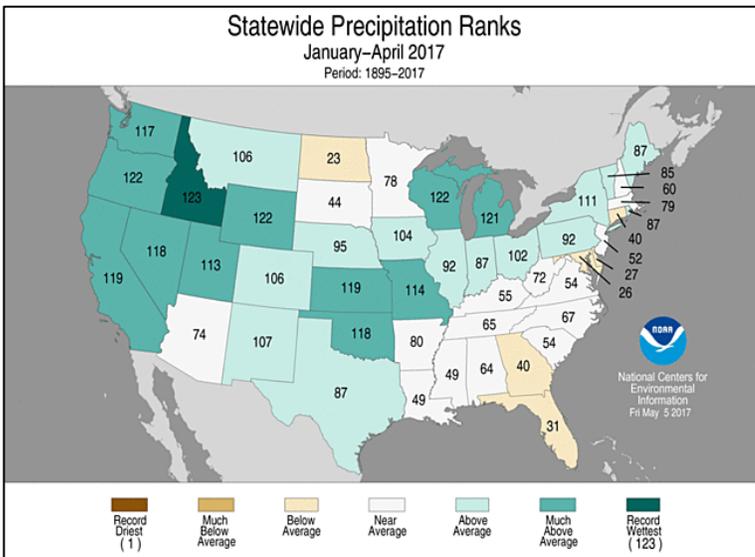
Agronomy and Horticulture

Todd Lorenz



Weather patterns were a major factor in production agriculture for the 2017 growing season. A droughty 2016 fall, with minimal winter precipitation allowed planting activities to start in early April. An estimated 67% of corn acreage was planted. Significant rainfall events in late April broke the drought by producing 9.5 inches of rain, which was the wettest in 123 years of climate records. Some areas of Missouri received 4-10 inches or rainfall in a 2-day period. Many

streams overflowed and thousands of acres of land were under water. The combined effect of precipitation in April resulted in the wettest spring (Mar-Apr-May) in more than 40 years and the 4th wettest spring on record for Missouri. By the end of May, most of the corn was planted and over 54% of soybeans were in the ground.



The summer was characterized as highly variable statewide. There were areas received over 25-inches during the summer period (Jun-Aug) while other areas of the state recorded less than 6-inches. For central Missouri, we appeared to have an unprecedented third year in a row of receiving timely rainfall for above average yields. A somewhat favorable fall weather pattern allowed for timely harvests. Once again, temporary bunkers and grain tubes were necessary to handle the overflowing bins.

Japanese beetles continued to create havoc for both homeowners and some production agriculture fields. This is the 9th year of increasing populations. A whole new group of homeowners and orchards were inundated with the pesky pest. State entomologist predict that a 10 to 15 year increase in a new pest before environmental, disease or predator emerges to create a new balance in the population. If that holds true for central Missouri, we are more than half way there.



The Private Pesticide Applicator Training (PPAT) program certifies and recertifies producers in proper handling and application of restricted use pesticides. In 2017, there were 144 who attended this program and 43 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. In 2017 there were over 66 Howard County agricultural producers' contacts 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. There were 31 home horticulture clients served. Additionally, University of Missouri soil test reports were provided on 630 producer soil samples.

Pearls of Production: Financial Measures Program

Joe Koenen, Ag Business Specialist



Number of Howard County Learners	Total Hours of Collective Workshop Participation	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
21	21	<p>Participants learned about the different financial measures ag producers need to know in their business. They also learned:</p> <p>(1) what each different measure (financial statement, profit and loss, cash flow) does.</p> <p>(2) Acceptable ranges each of these financial measures need to be in for a financially strong operation.</p> <p>(3) Where they can find additional resources and assistance in completing and evaluating their individual situation.</p> <p>Attendee's quotes were "good talk, appreciated the information"</p>	<p>Because of attending the class:</p> <p>~ Participants have a better knowledge of how to complete financial measures for their business.</p> <p>~ Participants know what range financial measures need to be to have a strong farming operation.</p> <p>~ Participants and others expressed interest in doing a 6-night Annie's Project I class which is scheduled for 2018.</p>	<p>Knowing your farm operation's financial measures will strengthen their decision-making skills. This in turn will increase the farm's profitability and keep the farm in the family longer.</p> <p>This helps Missouri by decreasing the number of farm foreclosures and turnover, saving financial institutions money and effort.</p>



Pearls of Production: Beef Session

Heather Conrow, Livestock Specialist



Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total attendance for the Pearls of Production Conference Beef Breakout Session was 28 participants; representing 13 counties</p> <p>Participants included learners from:</p> <ul style="list-style-type: none"> Audrain (1) Bollinger (2) Boone (3) Callaway (2) Camden (1) Cape Girardeau (7) Carroll (1) Cole (2) Henry (2) Jackson (1) Jefferson (3) Linn (2) and Moniteau (1) Counties 	<p>A total of 8 hours per participant of learning</p>	<p>Participants learned how to process calves, including castrating, implanting, and administering injections, while learning the difference between modified live vaccines and killed vaccines as well as general husbandry and calf handling.</p> <p>~ Participants learned how to assess a body condition score to mature cows and how to determine a mature cow's age by observing teeth structure.</p>	<p>Based on the beef session exit survey, the following were the percentage increases (on a scale from 1 to 5) of understanding for the following areas of focus for the breakout session</p> <ul style="list-style-type: none"> • Understanding castration: 49% • Administering Vaccines: 37% • Body Condition Scoring: 78% • Aging Cattle: 107% 	<p>Hands on programs like this are improve experience and allow participants to ask questions as they experience a session. Women continue to play a large role in beef production:</p> <p>Participants current involvement with beef cattle production</p> <p>Seedstock: 2</p> <p>Commercial: 2</p> <p>Cow/Calf: 22</p> <p>Replacement Heifers: 7</p> <p>Stocker/Yearlings: 3</p> <p>Other: 4-H, feed out sell direct to consumer, Cow/calf in past, or looking to future</p> <p>~ When you support University of Missouri Extension livestock programs for female producers, women are more empowered to help on livestock operations and more able to make research-based decisions on a day-to-day basis. Women can then advocate for the agriculture industry as a more informed members of the industry.</p>



Youth in Agriculture Career Development

Darla Campbell, Ag Business Specialist

Penny Kittle, 4-H Youth Program Assistant



Number of Howard County Learners	Total Hours of Collective Workshop Participation	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>5 youth and 1 adult instructor</p> <p>A total of 185 youth and 17 Vocational Agriculture Instructors participate with assistance from 37 community partners.</p>	<p>48 hours</p> <p>(8 hours x 6 participants)</p>	<p>Participants had Career Development Experiences (CDE) in the following areas:</p> <ul style="list-style-type: none"> Farm Business Management Meats Equine Livestock Dairy Cattle Dairy Foods Forestry 	<p>This event helps prepare youth for District and State contests, as well as real life careers.</p> <p>It also meets DESE testing requirements for seniors who have been in a specific area of vocational agriculture for three or more years.</p>	<p>Youth engaged in Career Development Experiences are better prepared to compete at the district, state, and national level. Longer term, they are more involved and informed producers, consumers, employees and business owners.</p> <p>Vocational Agriculture instructors are able to use what they learned to teach future students and FFA teams.</p> <p>Some of these youth will pursue careers in agriculture, but all will have gained marketable skills. Youth will have more confidence in their supervised agricultural experience (SAE) project as they learn applicable life skills that will help them be better prepared to enter college and the workforce</p>



Business Counseling & Training

Charles Holland, Business Development Specialist



What Did They Learn?	How Does This Work Make Howard County and Missouri Better?	Number of County Learners	Statewide SBTDC Impact
<p>Business Development Program Specialist and business counselors with MU extension, Missouri Small Business & Technology Development Centers (MO SBTDC), counsel people and their companies with start-up and management counseling, training and other assistance.</p>	<p>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 per cent 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 decision leading to stronger businesses and a stable business community.</p> <p>Procurement Technical Assistance Center assists businesses-including small, disadvantaged and women owned firms in obtaining federal, state and local government contracts. MO PTAC specialists have years of experience helping identifying opportunities and understanding the contracting process so small businesses can take advantage of government sales dollars.</p>	<p>4 Clients/Companies Receiving Business Counseling</p>	<p>Loans and Equity \$91,002,145</p> <p>Sales Increase \$478,772,408</p> <p>Jobs Created 3106 Retained 3675</p> <p>New Businesses Created 198</p> <p>Number of Trainings 633 with 10,685 total participants and 1876 hours of classroom hours.</p> <p>3458 Client counseled with 25,110 hours of counseling.</p> <p>PTAC Awards \$403,359,341</p>



How to Get an “A” in Retirement

Cynthia Crawford, Retirement Planning Education



Statewide, a total of 299 participants learned “How to Get an ‘A’ in Retirement” in 2017 through a popular online University of Missouri extension course with that title. **Of those learners, 13 were residents of Howard County.**

The course combines research and best practices from both personal financial planning and positive psychology to help people take positive steps to increase their wellbeing in retirement (and in the years leading to retirement.) One hundred percent of this county’s participants recommend the course to you and say it was worth their time, energy and fees. 100% of participants would consider taking another Extension online course, similar to this one, on a different

topic. Over 98% have taken positive steps for retirement planning. Participants identified retirement goals they are excited about and feel less stressed about retirement.



When you support retirement planning education for Missouri residents, people replace worry with action solutions like having more adequate emergency funds and investments for retirement, which serves to reduce financial stress and increase productivity. There is a substantial cost to employers of financially distracted workers.

Individuals comment:

- "This is a **polished and professional course** based on years of research and experience."
- "I have really been pushing folks to sign up for this course as it really is a '**one stop shop' for all things retirement.**"
- "I liked the **positive psychology** the best... I think of courses about retirement as financial courses. This one was so much more."
- "Taking this course and going over what I've been learning with him (my spouse) has **brought us both a greater sense of calm.**"
- "I find the positive psychology aspect of this class to be very valuable... In addition to being financially sound, I want to be **happy and healthy in retirement**, too, and this is helping."

How to get an “A” in retirement will be expanded in 2018 to more counties and participants. This website gives details and registration information <https://extension2.missouri.edu/programs/how-to-get-an-a-in-retirement>

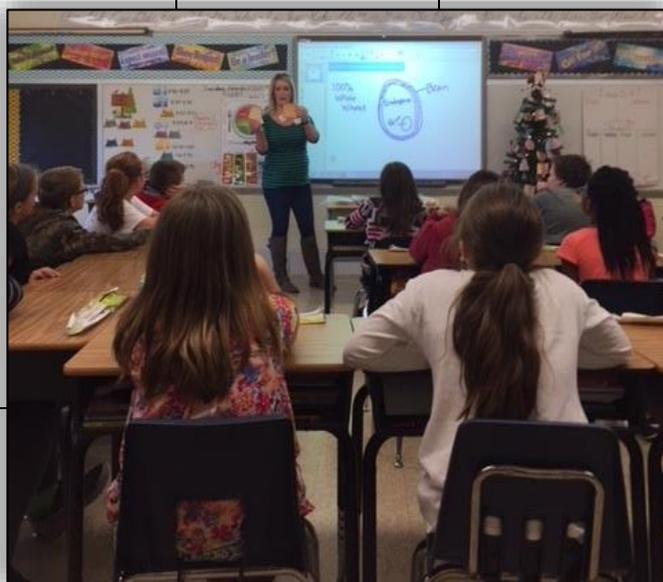
Contact your regional family financial education specialist or course author Dr. Cynthia Crawford at crawfordc@missouri.edu for details.

Family Nutrition Program (FNP)

Tennille Manson, Nutrition Program Associate



Number of Howard County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>University of Missouri Extension’s Family Nutrition Program (FNP) reached 258 participants directly and 140 indirectly with nutrition education in Howard County during 2017 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.</p>	<p>759 collective workshop hours</p>	<p>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.</p>	<p>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.</p>	<p>The Family Nutrition Program (FNP) brought \$9,681, 129.00 federal funds to the state of Missouri. These funds were used to provide nutrition education to 838,295 Supplemental Nutrition Assistance Program recipients and eligible citizens of Missouri. There were 3,831,270 educational contacts. This year we had 3,064,781 indirect educational contacts. Indirect contacts are reached through newsletters, health fairs, food pantries and the Show Me Nutrition help line. 398 of these participants reside in Howard County.</p> <p>Participants in FNP become more aware of nutrition, make healthier meal and snack choices, eat breakfast more often, are more willing to try new foods, increase their physical activity and in general make healthier food choices. Those who practice healthy eating and activity behaviors are more likely to enjoy a high quality of life as an adult and into old age. A healthy labor force is critical to attracting and keeping jobs in Missouri. In addition, this important programming effort serves to reduce healthcare costs over the participant’s lifetime, saving taxpayers money in reduced public healthcare benefits and insurance premiums.</p>



Show-Me-Quality Assurance

Heather Conrow, Livestock Specialist



Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total reported attendance for Show-Me-Quality Assurance training programs was; 145, representing 18 counties in Missouri</p> <p>~ In Howard County, 25 learners participated in Show-Me-Quality Assurance training</p> <p>~ Participants also included learners from Boone (1) Callaway (14) Cape Girardeau (3) Cass (1) Cedar (1) Cole (22) Cooper (1) Gasconade (3) Gentry (1) Green (2) Lafayette (11) Linn (1) Maries (5) Marion (15) Monroe (2) Phelps (19) and Randolph (18) Counties</p>	<p>A total of 435 hours of learning</p> <p>~ Hours of learning by county:</p> <p>Boone: 3 Callaway: 42 Cape Girardeau: 9 Cass: 3 Cedar: 3 Cole: 66 Cooper: 3 Gasconade: 9 Gentry: 3 Green: 6 Howard: 75 Lafayette: 33 Linn: 3 Maries: 15 Marion: 45 Monroe: 6 Phelps: 57 Randolph: 54</p>	<p>~ Participants learned what quality assurance is and why it is important to the consumer and producer</p> <p>~ Participants learned how youth market projects fit into the food supply and youth participant's part in assuring safe food product</p> <p>~ Participants learned what HACCP & Food Safety is all about</p> <p>~ Participants learned ways to use animal health products carefully</p> <p>~ Participants learned the different types of animal health products and their usage</p> <p>~ Participants learned the proper administration techniques for giving intramuscular and subcutaneous injections</p> <p>~ Participants learned what carcass quality grades are and why they are important</p> <p>~ Participants learned the importance of ethics and how youth livestock projects develop those traits</p>	<p>~ Youth participants are better equipped with the knowledge needed to produce a safe food product</p> <p>~ Youth participants provide a positive representation to the public regarding animal welfare</p> <p>~ Youth produce a safe, high quality meat product</p>	<p>~ The public is becoming further and further removed from the farm and knowledge of agricultural practices</p> <p>~ Youth livestock exhibitors represent to people who are not well acquainted with agriculture where their food originates. In some cases, providing the only contact the public has with agriculture through the fair setting</p> <p>~ This program has allowed the industry to maintain open markets for show animals to be processed</p> <p>~ Overall, the number of positive drug residue tests in show animals has decreased</p>



71st Annual Howard County Farm Tour

Heather Conrow, Livestock Specialist



Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	How Does This Work Make Howard County and Missouri Better?
<p>~ Total reported attendance for the 71st Annual Howard County Farm Tour was 35 participants; representing 2 counties in Missouri</p> <p>~ In Howard County, 34 learners participated in the 71st Annual Howard County Farm Tour</p> <p>~ Participants also included learners from Boone (1) County in Missouri</p> 	<p>~ A total of 105 hours of learning</p> <p>~ Hours of learning by county:</p> <p>Boone: 3</p> <p>Howard: 102</p>	<p>~ The 71st Annual Howard County Farm Tour visited two sites, beginning with the Franklin Island Conservation Area, followed by Hammes Farms</p> <p>~ Participants learned the following about Franklin Island:</p> <ul style="list-style-type: none"> • Consists of 1626 acres • Approximately 150 acres are farmed with 15% of the corn reserved for wildlife benefit • Approximately 35 acres are planted in sunflowers for dove attraction and other wildlife use • Approximately 10 acres of wheat is planted to supplement the sunflowers • Other areas discussed included a pollinator plot, bottomland hardwood tree planting, and wetland management <p>~ Participants learned the following about Hammes Farm:</p> <ul style="list-style-type: none"> • Approximately 4300 acres- half corn, half soybeans • Features 16 center pivot irrigation systems • Each pivot can spray 1800 gallons of water per minute • The 50-degree water comes from wells 60 feet below ground, and have never run dry • Pivots take approximately 33 hours to make a full circle to apply ½ inch of rain • Irrigation adds about \$3.00/acre to the cost of production; however, irrigation allows for twice the number of bushels to be harvested <ul style="list-style-type: none"> • The corn and soybeans produced are marketed for hog or turkey feed 	<p>~ When rural residents and townspeople understand each other, they can better utilize their talents to increase economic and business development opportunities in their county and throughout the state of Missouri</p> <p>~ When you support University of Missouri Extension programs, such as the 71st Annual Howard County Farm Tour, participants are provided the opportunity to gain knowledge regarding agriculture, the tools and technologies the industry uses and the depth of agri-business in their county. This in turn benefits the county as well as the state of Missouri</p> <p>~ The agriculture industry is responsible for feeding a growing population. Tours such as this one, allow non-agriculture people to see how the industry accomplishes this large feat</p>

Regional Management Intensive Grazing Schools

Heather Conrow, Livestock Specialist



Number of County Learners	Total Hours of Collective Workshop Participation	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total reported attendance for the Management Intensive Grazing Schools was 34 participants; representing 13 counties in Missouri</p> <p>~ In Howard County, 2 learners participated in the Management Intensive Grazing Schools</p> <p>~ Participants also included learners from Boone (7) Callaway (7) Chariton (1) Cole (1) Cooper (4) Jackson (1) Macon (3) Moniteau (1) Monroe (1) Montgomery (1) Randolph (3) and Warren (2) Counties in Missouri</p>	<p>A total of 595 hours of learning</p> <p>~ Hours of learning by county: Boone: 122.5 Callaway: 122.5 Chariton: 17.5 Cole: 17.5 Cooper: 70 Howard: 35 Jackson: 17.5 Macon: 52.5 Moniteau: 17.5 Monroe: 17.5 Montgomery: 17.5 Randolph: 52.5 Warren: 35</p>	<p>Management intensive grazing schools are designed to teach producers the art and science of management intensive grazing with a hands-on approach</p> <p>~ This two-day intensive workshop provided opportunities for in-depth discussions, field exercises, and reference materials which cover both livestock and agronomic topics related to grazing</p> <p>~ Livestock producers saw the impact of management intensive grazing through hands-on farm tours/pasture walks with much input and discussion covering the positive and negative aspects of what works on a producers farm</p> <p>~ The following topics were covered: Introduction to Management Intensive Grazing, Resource Evaluation, Plant Growth, Forage Quality, Livestock Nutrition on Pasture, Soil Fertility and Landscape Ecology, Layout and Design, Fence and Water Technology, and Economics</p>	<p>Based on an end of program survey, participants indicated they would make the following changes to their operations:</p> <ul style="list-style-type: none"> • Use rotational grazing: 57% plan to adopt; 43% currently use • Extend the grazing season: 93% plan to adopt; 7% currently use • Better manage soil fertility: 93% plan to adopt; 7% currently use • Interseed legumes or plant warm-season forages: 67% plan to adopt; 33% currently use • Add more livestock: 87% plan to adopt; 7% currently use; 7% plan to discontinue • Feed less harvested forage: 86% plan to adopt; 7% currently use; 7% plan to discontinue • Feed purchased supplements: 8% no plans to adopt; 33% plan to adopt; 33% currently use; 25% plan to discontinue 	<p>Participants benefit by improving on-farm management of their forage resources, extending the grazing season, improving forage quality, and decreasing input costs</p> <p>~ Forage production is key to Howard County's agricultural industry. Skills learned in these schools improve production and profits for county livestock producers</p> <p>~ Management Intensive Grazing Schools help producers conserve soil and water for future generations by providing knowledge and resources</p> <p>~ When you support University of Missouri Extension conferences, such as the Mid-Missouri Grazing Conference, producers are provided the opportunity to gain hands on experience with tools and technologies which may increase the profitability of their operations. This in turn benefits the county as well as the State.</p>

Howard County Calving Clinic

Heather Conrow, Livestock Specialist

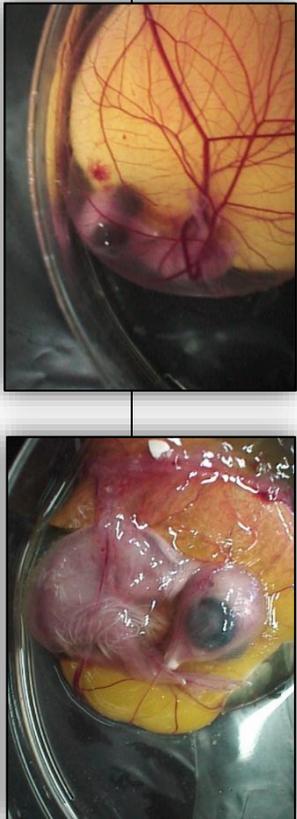


Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total reported attendance for the Howard County Calving Clinic was 16 participants; representing 3 counties</p> <p>~ In Howard County, 5 learners participated in the Howard County Calving Clinic</p> <p>~ Participants also included learners from Cooper (8) and Randolph (3) Counties in Missouri</p>	<p>~ A total of 48 hours of learning</p> <p>~ Hours of learning by county:</p> <p>Cooper: 24 Howard: 15 Randolph: 9</p>	<p>~ Participants learned strategies and tools needed to prepare for a successful calving season</p> <p>~ Participants learned how to decide when intervention is necessary and differences between heifers and cows during parturition</p> <p>~ Participants learned the different presentations of unborn calves and manipulation techniques to correct</p> <p>~ Participants learned how to apply traction to assist in delivery</p> <p>~ Participants learned techniques to care for the new born calf and post-partum mother</p> <p>~ Participants learned the make-up of colostrum and its importance, as well as, the difference between colostrum replacers and colostrum supplements</p> <p>~ Participants learned management techniques to prevent and treat calf scours</p> <p>~ Hands-on opportunities included: pulling cadaver calves in various presentations from calving phantoms, chain placement, and how to tube a cadaver calf using an esophageal feeder. Body condition scoring and weights were also learned through live cow evaluation.</p>	<p>~ 100 percent of respondents “agreed” or “strongly agreed” they learned something which would increase their calving success and would recommend this clinic to others</p> <p>~ 100 percent of respondents “agreed” or “strongly agreed” the hands-on portion was beneficial</p> <p>~ The following is the percentage of participants who learned three or more informational tidbits for each topic:</p> <ul style="list-style-type: none"> • Possible presentations of calves: 85 percent • Application of traction: 53 percent • Care for newborn calves: 61 percent • Tubing a calf: 61 • Body Condition Scoring (BCS): 70 • Estimation of body weight: 46 	<p>In Missouri, livestock sales account for 50 percent of all agriculture products sold</p> <p>~ Howard County has over 25,400 head of cattle and calves</p> <p>~ When you support University of Missouri Extension programs, such as calving clinics, producers are provided the opportunity to gain hands on experience with tools and technologies which may increase their calving success. This in turn can benefit the profitability of their operations, which benefits the county as well as the state of Missouri</p>

Embryology

Brooke Jameson, 4-H Youth Specialist



Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total reported attendance for the Embryology program was 77 participants in Howard County</p> 	<p>A total of 58 hours of learning</p>	<p>Participants learned the day-by-day development of a chick embryo through a series of pictures. A video was included of the first heartbeat of the chick embryo still inside the shell</p> <p>~ Participants learned the difference between the eggs we eat (unfertilized) and the eggs which hatch (fertilized)</p> <p>~ Participants learned the parts and their functions of an unfertilized egg through hands-on discovery by dissecting an egg</p> <p>~ Participants were introduced to key terms using a worksheet they labeled during the hands-on portion. Key terms included:</p> <ul style="list-style-type: none"> • Air cell • Chalaza • Germinal Disk • Shell • Shell Membrane • Thick Albumen • Thin Albumen • Yolk • Vitelline Membrane <p>~ Participants discovered the inside of the egg when the shell of an egg was dissolved in vinegar without breaking the inner membrane of the egg.</p>	<p>~ 100 percent of students participated in the hands-on portion</p> <p>~ No exit survey was provided to the youth; however, feedback included:</p> <p>- "Very knowledgeable, good info-facts and info was fun, yet informative."</p> <p>- "Love the visuals and the handout-very informative."</p> <p>- "Hands-on and you knew how to interact with the kids."</p> <p>- "Very engaging-great pace!"</p> <p>- "Great depth of information; not too deep, not too simple."</p> <p>- "You were excellent with expectations and directions for our students."</p> <p>- "Explanation, student engagement and management were terrific."</p>	<p>The embryology program utilizes resources from the National 4-H Cooperative Curriculum System, INC. Thanks to the partnership with the United States Department of Agriculture and Department of Education, all curriculum has been designed to be grade-level appropriate and correlated to the National Science Standards</p> <p>~ Missouri 4-H promotes the experiential learning model, which allows youth to experience the activity, share results and reactions, process the information, make generalization as it pertains to the world, and apply what they have learned</p> <p>~ When you support University of Missouri Extension programs, such as the embryology program, the following occurs:</p> <ul style="list-style-type: none"> • A broader audience is engaged in the 4-H program • Youth are challenged to participate in hands on STEM programming • Awareness of agriculture and food systems is built • Partnerships with educators and school systems are created

Roundtable Luncheon with Dr. Eric Bailey and Farm Visits

Heather Conrow, Livestock Specialist



Number of County Learners	Total Hours of Collective Workshop Participation in 2017	What Did They Learn?	What Action Did They Take?	How Does This Work Make Howard County and Missouri Better?
<p>Total reported attendance for the Roundtable Luncheon with Dr. Eric Bailey and Farm Visits was 32 participants; representing 2 counties in Missouri</p> <p>~ In Howard County, 29 learners participated in the Roundtable Luncheon with Dr. Eric Bailey and Farm Visits</p> <p>~ Participants also included learners from Boone (3)</p>	<p>A total of 72 hours of learning</p> <p>~ Hours of learning by county:</p> <p>Boone: 6</p> <p>Howard: 66</p>	<p>~ Participants were introduced to the recently hired State Beef Nutrition Specialist</p> <p>~ Participants learned results of previous research conducted on pasture efficiencies</p> <p>~ Participants learned the future direction of nutrition research at the University of Missouri</p> <p>~ Participants learned the importance of using ionophores properly</p>	<p>~ Participants felt better connected to the University of Missouri</p> <p>~ Participants felt more confident in reaching out to state faculty</p>	<p>Forage production is key to Howard County's agricultural industry. Skills learned help improve production and profits for county livestock producers</p> <p>~ When you support University of Missouri Extension programs, producers are provided the opportunity to gain knowledge, tools and technologies which may increase the profitability of their operations. This in turn benefits the county as well as the state of Missouri.</p>



Missouri Livestock Symposium

Zac Irwin, Livestock Specialist



Total hours of collective workshop participation in 2017.	What did they learn?	What action did they take?	How does this work make X County and Missouri better?
<p>3,425 hours</p>	<p>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. 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.</p> <p>Comments:</p> <ul style="list-style-type: none"> • “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.” 	<p>Based on post-session (retrospective) evaluations:</p> <ul style="list-style-type: none"> • 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. 	<p>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.</p> <p>The producer benefits from this program by being better able to manage their livestock and their financial resources.</p> <p>Financially successful producers provide a basis for successful communities.</p> <p>Missourians benefit by keeping farm and ranch families in rural communities and improved natural resource stewardship.</p>



RIGHT:: Over 80 agriculturally-related businesses, commodity groups, and organizations displayed their products for area producers to see in the trade show. One of the trade show participants keeps coming back because this event “draws diverse crowds.” Another one stated, “good attendance, with people that have a need for our product.”

MU Extension Continuing Education

MU Conference Office

The MU Conference Office provides full-service meeting management for a variety of noncredit educational programs. In FY 2017, the MU Conference Office organized 72 conferences for more than 20,000 people in teacher education in math, science and writing; crop management and agricultural lending, as well as statewide youth leadership programs, generating \$3.2 million in revenue. muconf.missouri.edu

Fire and Rescue Training Institute (MU FRTI)

In FY 2017, MU FRTI celebrated its 85th anniversary of providing continuing professional education and training to Missouri's fire service and emergency response personnel. In addition to fire training, courses prepare firefighters for medical emergencies, hazardous materials response and disaster preparedness and mitigation. In FY 2017, MU FRTI trained 11,319 firefighters and emergency responders from 932 departments, organizations and agencies throughout all 114 Missouri counties. mufrti.org

Law Enforcement Training Institute (LETI)

LETI provides training and education for Missouri's 17,000 personnel and police recruits and presentations to community and civic groups, as well as collaborative programs with agencies from 31 states. In FY 2017, LETI reached nearly 2,000 police and emergency responders. With MU's Human Environmental Sciences department, LETI piloted Taking Care of You and Mental Health First Aid for Law Enforcement, helping participants better understand mental illness and how it impacts their work. Other programs include advanced animal cruelty investigations training and armed intruder and personal safety response. Students receive over 700 hours of basic training and certification, with other topics and certifications like Crisis Intervention Team Training available. leti.missouri.edu

Missouri Training Institute

The Missouri Training Institute provides continuing education programs in business, as well as customized training programs and consulting services for business and industry and public, nonprofit and educational organizations and institutions. In FY 2017, 10,630 people enrolled in the institute's 371 programs that cover diverse business practices, such as human resource management, team building, decision-making, strategic planning and leadership. mti.missouri.edu

MU Nursing Outreach

Nursing Outreach serves mainly rural health-care workers with high-quality, affordable continuing education programs using face-to-face and online delivery methods. In FY 2017, nurses from 77 Missouri counties and the city of St. Louis attended continuing education programs. Another 867 nurses and 1,986 health care professionals — including social workers, nursing home administrators and psychologists — were served through multidisciplinary programs. nursingoutreach.missouri.edu

Center for Continuing Medical Education and Physician Lifelong Learning (CME/PLL)

CME/PLL educates physicians and other health care providers to improve the standard of care in Missouri. In FY 2017, CME/PLL offered 1,678 noncredit programs, courses and activities, serving 27,345 people, as well as 14 accredited medical conferences, including the annual Missouri Telehealth Network Summit on trends in this emerging healthcare arena; an Ellis Fischel Cancer Symposium on holistic approaches to cancer care; and one of the world's largest multidisciplinary conferences on dialysis. CME/PLL also provided online training for 6,400 state mandated child protection reporters in 20 occupational fields. medicine.missouri.edu/cme

Veterinary Medical Extension and Continuing Education (VMECE)

Veterinary Medical Extension provides information and consultation to veterinarians and livestock owners on issues such as disease risks, rising input costs and regulations that impact farming operations. In FY 2017, VMECE provided 17 continuing education events for veterinarians needing credit to renew their licenses. Twelve events addressed antibiotic label changes that went into effect on January 1, 2017, and how to write a veterinary feed directive. Others dealt with preventing and responding to disease outbreaks. VMECE presented at 40+ meetings across on topics such as antibiotic label changes. They taught food animal production medicine to MU Veterinary Medicine students; and collaborated in research that addressed bovine reproduction. vmth.missouri.edu

Labor Education

The Labor Education Program works with members and leaders of workplace-based organizations across Missouri to help them develop skills, act effectively in the workplace and be informed and active participants in their communities. In FY 2017, the program offered 35 courses and conferences to 952 participants, most of whom are leaders of organizations representing the economic interests of more than 20,000 working people in Missouri and surrounding states. labored.missouri.edu