



UNIVERSITY OF MISSOURI EXTENSION

Shelby County

2024 Annual Report

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**DELIVER
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Extension
University of Missouri

an equal opportunity/ADA institution



Office of Extension
and Engagement
University of Missouri

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December 2024

Dear county commissioners, elected leaders and friends of MU Extension and Engagement,

As we reflect on the past year, I want to express my deep gratitude for your support of MU Extension and for your partnership in enhancing the lives of Missourians.

Your support for MU Extension fuels Missouri's agriculture, strengthens families, prepares our youth and promotes the health, well-being and vitality of our communities. Over the past year, our programs have focused on addressing key needs throughout the state:

- **Expanding access to 4-H:** To make 4-H more accessible, we've introduced more in-school and after-school clubs, reducing barriers and creating opportunities for young Missourians to develop essential skills and leadership abilities.
- **Supporting agriculture and land stewardship:** We're addressing critical issues such as succession planning for family farms, rural mental health, agricultural business management and land stewardship. These initiatives are helping Missouri's farmers plan for the future and preserve the health of our land for future generations.
- **Advancing health initiatives:** Our team of community health field specialists, covering every region of the state, works directly with local leaders to assess health needs and bring UM System resources and expertise to these communities, supporting healthier lives and stronger communities.
- **Promoting economic development:** MU Extension is helping to create economic opportunities by working with individuals, supporting businesses in their growth and collaborating with communities to enhance local vibrancy. Through these efforts, we help bring new jobs, skills and possibilities to Missourians across the state.
- **Providing essential training:** Our continuing education programs prepare Missouri's firefighters and health care workers to meet the demands of their roles with the latest skills and knowledge, ensuring they are well-prepared to serve our communities.

As you read through this annual report, I hope you feel as proud as I do of the accomplishments we've achieved together. The dedication and professionalism of MU Extension's faculty and staff are inspiring, and I am grateful to work alongside them—and each of you—as we make Missouri a stronger, healthier and more vibrant place. Thank you for your continued support and partnership. Together, we are serving Missouri by delivering the University *for* Missouri.

Warm regards,

Chad Higgins, PhD
Vice Chancellor, MU Extension and Engagement
Chief Engagement Officer, UM System

Who we are

Faculty and staff



Michael Krauch
Regional Director



Lisa Doster
Extension Engagement Specialist



Gina Pollard
Youth Program Associate



Amanda Lehenbauer
Nutrition Program Associate



Brenda Schreck
Field Specialist in Livestock



Justin Key
Field Specialist in Horticulture



Robert (Nick) Wesslak
Field Specialist in Agronomy



Carrie Elsen
Field Specialist in Nutrition & Health



Rebecca Vanskike
Office Support Staff

Council members

Officers:

Troy Renner
Chair

Duane Wright
Vice-Chair

Melissa Ann Ellyson
Secretary

Linda Shores
Treasurer

Members:

Terry Mefford
Pat Greenwell

Kenny Wilson
Erin Maubach

Mark Wilson
Robert Hambelton

Christina Weideman
Cristy Jones

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County Commissioners

Terry Helmich
Presiding Commissioner

Tom Shively
Eastern District Commissioner

Terry Mefford
Western District Commissioner

Budget and more

Appropriations budget

Income

County Appropriations	50,000.00
Total Income	50,000.00

Expenses

Salaries/Expenses	28,810.00
Travel	3,100.00
Postage/Meter Rental	1,350.00
Telephone	900.00
Advertising	150.00
Rent/Lease Equipment	880.00
Office Supplies/Service	1,100.00
Insurance	900.00
Utilities	3,500.00
Capital Repairs/Improvements	250.00
Other Contract Services	9,000.00
Extension Council Election	60.00
Total Expenses	50,000.00

Local Support

Did you know you can donate directly to Shelby County Extension with a gift to be used immediately or as an endowment contribution for long term efforts. Monies put into the endowment are left forever to earn interest with the county office benefiting each year. You can also direct your donation to a specific program such as 4-H or Master Gardeners.



MU Extension is a unique funding partnership.

Extension funding is a three-way partnership of federal, state and county government. Federal and state money, through the University of Missouri system, pay professional staff salaries, training costs, computers and communication equipment. County funds support the local office, secretarial and youth assistant salaries, staff mileage and council expenses..

The Shelby County Extension Council, faculty and staff would like to express our appreciation to the Shelby County Commissioners for their continued support of extension programs.

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Shelby County



University of Missouri System

UM System Footprint in the county in 2024



FY24 county students

33 students

- 27 Undergraduates
- 6 Graduate and professional students
- 27 Full-time students
- 6 Part-time students



County employees and retirees

11 people employed by UM

- 5 Campuses
- 6 MU Health Care (includes additional employees gained via the recent integration of Capital Region Medical Center)

9 UM retirees and beneficiaries
 UM salary and retirement income: \$604,078
 UM state tax revenue: \$17,718
 UM federal tax revenue: \$74,265



County alumni

Selected school alumni

- 3 Medicine
- 16 Nursing
- 22 Health Professions
- 5 Dentistry
- 4 Pharmacy
- 7 Veterinary Medicine
- 112 Agriculture
- 33 Engineering
- 8 Law

Alumni teaching K-12

- 25 teachers
- 28.4% of all district teachers
- 2 principals and administrators
- 40.0% of all district principals and administrators



County breakdown

MU

- 27 students
- 245 alumni
- 5 employees

UMKC

- 2 students
- 12 alumni
- 0 employees

Missouri S&T

- 4 students
- 15 alumni
- 0 employees

UMSL

- 0 students
- 7 alumni
- 0 employees



County properties and offices

Greenley Memorial, Ross-Jones Farm
 MU Extension in: Shelby County



County population: 6,011



County services provided

Health care (FY24)

- 978 in-state patients seen at MU Health Care, with \$436,792 of uncompensated care
- MU Health Care's Missouri Telehealth Network recorded 166 visits to 102 patients having ZIP codes associated with the county

Extension (2023)

- 2,808 Total educational contacts from MU Extension to residents of the county, including:
- 274 contacts related to productive farming, better gardening, and managing natural resources
- 2,317 contacts related to healthy eating and aging, strengthening families, personal finance, or youth development
- 8 contacts related to starting businesses, developing community leaders, or renewing the local economy

Shelby County



University of Missouri System

UM System Statewide Footprint

Economic and Community Development Highlights

- In FY23, Business Development Specialists worked with small businesses and entrepreneurs statewide to create or retain 98,527 jobs.

For every dollar invested from 2019 to 2021, the MU Extension Business Development Program has returned \$133 in economic impact for its clients by increasing sales more than \$1.6 billion. For a total impact of \$3.1 billion, the program has generated more than 37,000 jobs and attracted nearly \$451 million in capital investments and \$1.5 billion in government contracts.



- Between FY18 and FY23, UM System brought Missouri more than \$1.58 billion in federal and private research funds, funded primarily from outside the state, but spent within the state.



In FY24, UM System was issued 29 patents and filed 69 new U.S. patent applications.

- In FY24, the UM System awarded 707 design and construction project contracts throughout Missouri, for a total investment of \$287.3 million in the state.



In FY24, to improve access to medical and health related services, MU Health Care's Missouri Telehealth Network's Show-Me ECHO program provided 16,687 hrs of case-based instruction to 3,113 learners located in 105 of 114 Missouri counties and the city of St. Louis.

Education and Training Provided



40,542 police, fire fighters, and medical professionals attending continuing education (2023)



Agriculture and natural resource programs served 369,077 farmers and related businesses (2023)

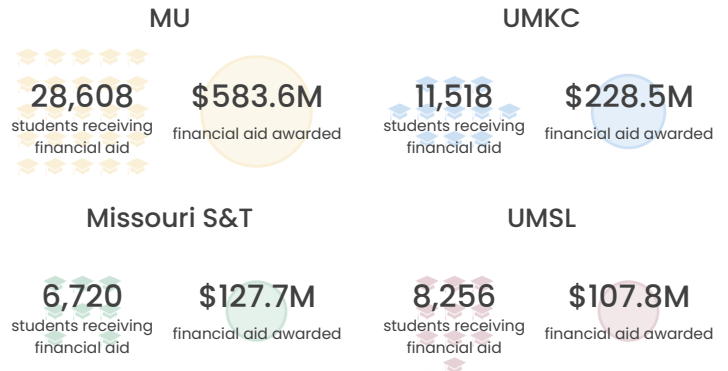


210,577 youth and stakeholder educational contacts in 4-H clubs, schools, camps and other programs (2023)

Education Highlights

FY24 Financial Aid Awards

In FY24, 69.7% of the UM System's 79,014 students received financial aid totaling \$1.048 billion



UM System's MOREnet (Missouri Research and Education Network) provides internet connectivity, access, support and training to 58 higher education institutions (230,000 students), 484 K-12 school districts (830,000 students) and 134 public libraries (serving nearly 3 million Missourians) in 2023.

- UM System awarded 50.5% of the 31,689 Bachelor's or higher degrees awarded by Missouri four-year public institutions in 2023-24.
- UM System awarded 35.0% of the 1,776 research doctorates and 26.8% of the 3,796 professional doctorates awarded by Missouri public and not-for-profit private institutions in 2023-24.
- In FY24, UM System's \$30.7 million in National Science Foundation (NSF) grants represented 96.9% of all NSF grants made to Missouri public colleges and universities.
- In 2024, over 12,400 Missourians accessed mobroadband.org, part of the UM System Broadband Initiative which helped the statewide build-out of high-speed internet infrastructure.

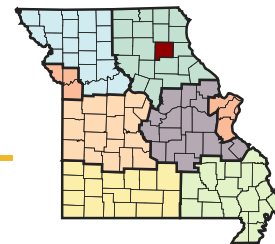
Supporting the University of Missouri is an investment in the future of Missouri.

The university advances Missouri citizens and communities through its mission of teaching, research, public service, and economic development across our four campuses and University of Missouri Extension.

Prepared in December 2024, based on the best available and most recent data. Data Sources include: Missouri Office of Administration • UM IR • MU Institute for Public Policy • Center for Applied Research and Engagement Systems (CARES) • MU • UMKC • Missouri S&T • UMSL • UM System • UM Health Care • MU Extension • US Census Bureau • US Dept. of Health and Human Services • National Science Foundation



Missouri Grand Challenges: Local Solutions



SHELBY COUNTY

Knowing Missouri's Needs

MU Extension asked Missourians to share the greatest challenges they and their communities face.

We heard that feedback and made big changes in the way we work with council and local partners to improve lives. Locally, a network of county engagement and subject matter specialists now share MU's knowledge, research and engagement, targeting programs, information and assistance in:

- agriculture and environment
- youth and family
- business and community
- health and safety

For each grand challenge, MU Extension and Engagement targets a specific gain by 2023:



Economic opportunity

Increase MU Extension and Engagement's economic impact to the State of Missouri from \$1 billion to \$1.5 billion overall, and from \$88 billion to \$100 billion in agriculture, the top economic sector



Educational access and excellence

Increase participation in postsecondary education from 66% to 70%



Health and well-being

Improve Missouri's health ranking from 40th to 35th in the nation

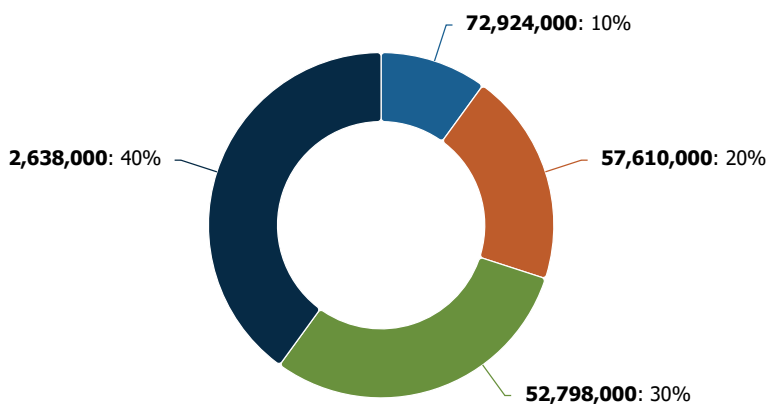
Knowing Local Challenges



CHALLENGE 1: Economic Opportunity: Agricultural Economics

Leading Agricultural Products

Total Rank (Sales): \$10



Data Source: US Department of Agriculture, National Agricultural Statistics Service, [Census of Agriculture](#). 2022.

Net Farm Income

Net farm income (total sales, government payments, and other farm-related income minus total farm expenses) reflects the strength of the local agricultural community and can be an important measure for lenders and policy makers. The report area had a combined net farm income of \$69,255,000 in 2017, an average of \$120,234 per farm. This compares favorably to the statewide average farm income of \$56,606.

Report Area	Total Farms	Average Farm Income
Shelby	576	\$120,234
Missouri	87,887	\$56,606

Data Source: US Department of Agriculture, National Agricultural Statistics Service, [Census of Agriculture](#). 2022.



CHALLENGE 2: Educational Access and Excellence: *Early Childhood Education*

Access to Early Childhood Education

Head Start is an early childhood education program for at-risk children through age 5. Families utilizing Head Start have better success meeting developmental goals and achieving economic stability. In 2018, there were 2 Head Start programs in the report area, or 55.56 per 10,000 population. Access to head start is higher in this area than in the state.

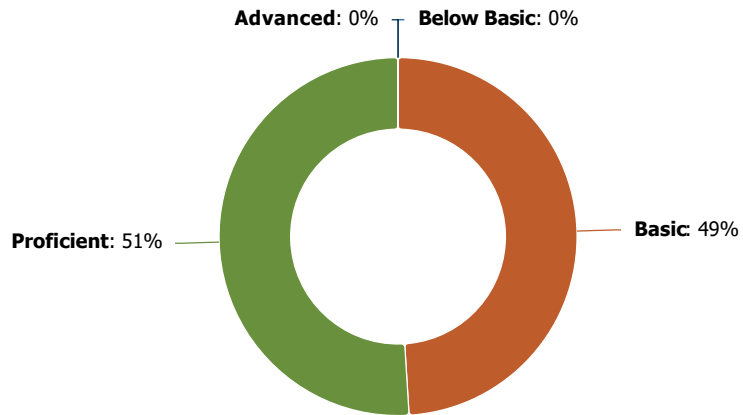
Head Start Programs, Rate (Per 10,000 Children Under Age 5)



Data Source: US Department of Health & Human Services, [HRSA - Administration for Children and Families](#). 2024.

English Language Arts Proficiency

Starting in the 4th grade, public schools emphasize proficiency in reading and reading comprehension. The ability to comprehend becomes the foundation to find and process information in later years and it is important to prevent children from falling behind. Of the 60.00 fourth graders tested in 2018, the known total number of students who had a basic level of English Language Arts was 25.00. The number tested as below basic was 0.00, basic was 25.00, proficient was 26.00, and advanced was 0.00.



Data Source: [Missouri Department of Elementary & Secondary Education](#). 2022.



CHALLENGE 3: Healthy Futures: *Healthy Weight*

Obesity (Adult)

This indicator reports the number and percentage of adults aged 20 and older self-report having a Body Mass Index (BMI) greater than 30.0 (obese). Respondents were considered obese if their Body Mass Index (BMI) was 30 or greater. Body mass index (weight [kg]/height [m]²) was derived from self-report of height and weight. Excess weight may indicate an unhealthy lifestyle and puts individuals at risk for further health issues.

Note: In 2021, the CDC updated the methodology used to produce estimates for this indicator. Estimated values for prior years (2004 - 2017) have been updated in this platform to allow comparison across years. Use caution when comparing with saved assessments generated prior to November 10, 2021.

Percentage of Adults Obese, 2016



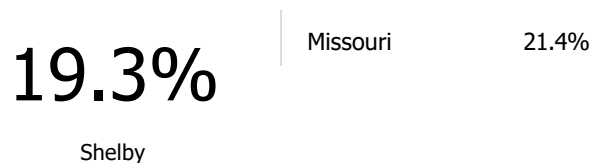
Data Source: Centers for Disease Control and Prevention, [National Center for Chronic Disease Prevention and Health Promotion](#). 2021.

Physical Inactivity

Within the report area, 940 or 19.3% of adults aged 20 and older self-report no active leisure time, based on the question: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" This indicator is relevant because current behaviors are determinants of future health and this indicator may illustrate a cause of significant health issues, such as obesity and poor cardiovascular health.

Note: In 2021, the CDC updated the methodology used to produce estimates for this indicator. Estimated values for prior years (2004 - 2017) have been updated in this platform to allow comparison across years. Use caution when comparing with saved assessments generated prior to November 10, 2021.

Adults Age 20+ with No Leisure Time Physical Activity, Percent



Data Source: Centers for Disease Control and Prevention, [National Center for Chronic Disease Prevention and Health Promotion](#). 2021.



CHALLENGE 4: Agricultural Growth & Stewardship: *Agricultural Economy*

Jobs Derived

Missouri has a diverse agriculture industry, strong in crops and livestock, as well as food and forestry processing industries. These industries remain a significant part of Missouri's economy, supporting more than 1 in every 10 jobs, on average. In 2021, agriculture, forestry, and related industries in Missouri were estimated to contribute: 456,618 jobs, \$93.7 billion in output and \$31.8 billion in household income. [Learn more about Missouri Agriculture's Economic Impact.](#)

Percent of Jobs Derived from Agriculture

30.6%

Shelby

Missouri

23.55%

Data Source: Missouri Department of Agriculture, [Missouri Agricultural and Small Business Development Authority](#). 2021.

Value Added

Value-added agriculture refers to production, manufacturing, marketing or other services that increase the value of primary agricultural commodities. In 2021, the total value-added derived from agriculture, forestry and related economic activity was an estimated \$34.9 billion. Meat processing, food processing, animal and pet food manufacturing, and crop production and related industries are Missouri's top value-added products: \$9.5 billion and 155,425 jobs from livestock production and related industries alone. [Learn more about Missouri Agriculture's Economic Impact.](#)

Percent of Total Value Added from Agriculture

42.2%

Shelby

Missouri

21.98%

Data Source: Missouri Department of Agriculture, [Missouri Agricultural and Small Business Development Authority](#). 2021.

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MU EXTENSION **Serves MISSOURI and Delivers MIZZOU** through credible statewide programs

Missouri 4-H for ages 8 – 18



Missouri 4-H Agriculture and STEM programs

employ hands-on activities that foster problem-solving, creativity, critical thinking and exploration in engineering and technology. Agriculture programming emphasizes biology, environmental science, agri-science, veterinary science and engaging activities such as animal care and agronomy. STEM programs delve into computer science, robotics, aerospace, physics, chemistry and veterinary science.



4-H Natural Resources programs employ hands-on activities in climate science, environmental sustainability, renewable energy, sportfishing and wildlife conservation. The

Shooting Sports program, which teaches marksmanship, safe firearm use, hunting and archery principles, is a prime illustration of how 4-H programs promote holistic youth development and responsible citizenship. Supported by caring adult leaders, these programs offer opportunities to cultivate life skills, self-worth and conservation ethics.



Afterschool clubs

These clubs meet after school for periods ranging from a few weeks to a full 4-H program year. These clubs typically focus on a single project at a time but can rotate through more than 100 different project topic areas. Members can elect officers and plan learning activities with options of public speaking, community service and links to career readiness.



Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being

Shelby County

Missouri 4-H

Local Impact

Youth Development and 4-H

By: Gina Pollard

Shelby County Youth Development was able to reach 1 out of every 5 youth, through the various modes of interactions and activities held during 2024

2023-24 4-H Enrollment

Ninety-two members
Five community clubs
Increase of fifteen members from 22-23

Grants

\$1500 was secured and used for the Kessler Park mulching project
Over \$15,000 was secured and used for acquisition of resources for the new shooting sports club

Community Clubs

Trash Pickup
Planting flowers at the Shelbina Library
Decorating the bandstand for Christmas
Made and delivered crafts to the nursing home and Villa
Maintained a butterfly garden at Kessler Park
Clean-up and mulching of Kessler Park
Swim party
Fall Kickoff

Embryology

Presented in eight classrooms (161 youth)
Grades ranging from PreK through Fourth grade
North Shelby & South Shelby



SMQA

Thirteen youth were certified in Show-Me Quality Assurance, qualifying them to exhibit livestock at the county level and state fair.

Achievement Day

Over 100 members and volunteers attended and participated in the judging events held at this event in April. All five clubs were represented and events were public speaking, project demonstrations, table setting, photography, collection displays, and personal development interviews.

Clover Kids

Older 4-H members planned and executed two different clover kid day camps for clover kids to attend. Fifteen youth attended in the summer, with an emphasis on nature, including a nature walk around the courthouse. Seven clover kids attended the second event, held during Christmas break. It had a winter theme with STEM activities and craft making centered around snow.



Shelby County

Missouri 4-H

Local Impact

Livestock Judging

Five members competed at the State Contest in June at the University of Missouri. The junior team place 5th overall, 1st in the swine division, and 3rd in sheep & goats. Three of the members placed in the top 10 individuals in the 8-10 year old age group and one was 9th high overall in the junior division

Club Leader Summit

Nine adult volunteers were trained by our Youth Specialist on various 4-H procedures and were given tools to help them in their role as club leaders

Shelby County Junior Fair

The junior fair was held June 30-July 2. There were 158 exhibitors who participated in the various competitions including 135 Shelby County Youth

Shooting Sports

Twenty-one youth completed the shooting sports training course

Six members competed at State Contests with one placing second for Junior BB Rifle.

Officer Training

Twenty youth were educated on the specific office responsibilities and learned about parliamentary procedure and conducting an effective, efficient meeting

Recognition Forms

Ten youth completed End of Year Report Forms. The previous year only had one completed.

Four youth moved on to compete at the regional level and one has advanced to the State Level and opportunity to be selected as a delegate to the 2025 National 4-H Conference





MU EXTENSION **Serves MISSOURI and Delivers MIZZOU**
 through credible statewide programs
Agriculture and Environment



The Missouri Integrated Pest Management Program (IPM), funded by USDA grants, has been an important extension program for more than 30 years. Mizzou IPM distributes articles, pest monitoring data and publications on how to improve the application of integrated pest management strategies and systems in crops. In addition, the new Soybean Growth Monitoring Report is released through IPM every two weeks during the growing season.

The MU Soil Testing Program delivers research-based nutrient and lime recommendations to more than 32,500 customers annually.



The Missouri Master Gardener program

enables people of all ages to get in-depth horticultural training and then apply what they've learned to improve their communities and educate others about gardening.



In 2024, over 3,600 Missouri Extension Master Gardeners completed 98,200 VOLUNTEER HOURS – giving back over \$3 million to their communities.



Missouri Grazing Schools teach management-intensive grazing by dividing large fields into smaller paddocks and systematically rotating livestock among them. Producers who attend the grazing schools learn how to reduce costs through improved livestock grazing and pasture management while getting insights into fencing, watering systems and grazing system design.

The annual impact of management-intensive grazing is estimated to be \$125 MILLION per year in Missouri.

Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being

Shelby County

Agriculture and Environment


Local Impact

Performance Tested Bull Sale

by: Brenda Schreck

MU Extension livestock faculty visit farms and record yearling weights and hip heights for all bulls enrolled in the NEMO Beef Cattle Improvement program. These measurements provide producers valuable information for keeping performance records as part of herd management. Producers in this program sell bulls in the Northeast Missouri Performance Tested Bull Sale held annually in Palmyra, Missouri, as well as off the farm.

Missouri producers benefit by increasing access to alternative markets for their products that contribute to a more sustainable business. Two Shelby County beef producers sold bulls in the sale. Thirty-four bulls sold at the 2024 sale with an average of \$4,509. Total sales were \$153,306. These dollars are brought into the community and benefit northeast Missouri.



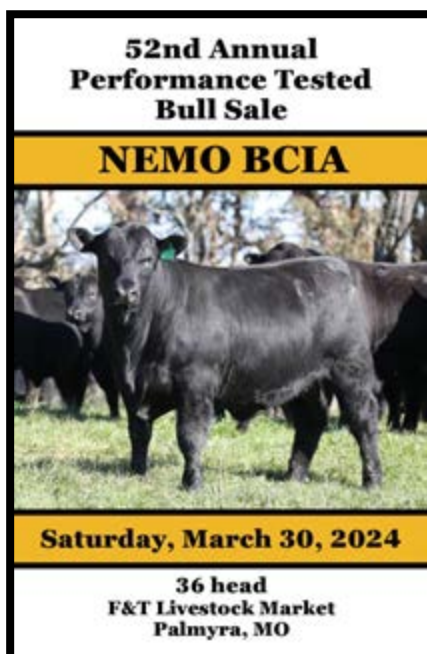
NEMO BCIA
52nd Annual Performance Tested Bull Sale
Saturday, March 30, 2024
Sale 1:00 p.m.
Weighing & Grading begins at 7:00 a.m.
F & T Livestock Market
Palmyra, MO

36 Bulls
32 Angus - 1 Hereford - 2 Simmental - 1 Charolais


All bulls evaluated sale day for height, structural soundness and conformation. Performance, pedigree and EPD data available.

Breed	Number	205 Wt.	365 Wt.	365 Frame Score
Angus	32	743	1519	6.1
Polled Hereford	1	742	1388	6.8
Simmental	2	760	1222	5.7
Charolais	1	706	1231	6.0

For information or a sale catalog contact:
F & T Livestock Market
P.O. Box 309
Palmyra, MO 63461
800-769-2237



52nd Annual Performance Tested Bull Sale
NEMO BCIA



Saturday, March 30, 2024
36 head
F&T Livestock Market
Palmyra, MO



Shelby County

Agriculture and Environment

Local Impact

Show-Me-Select Replacement Heifer Program

by: Brenda Schreck

The Show-Me-Select (SMS) program focuses on increased adoption rate of management practices by Missouri farmers, offers potential to improve long-term herd reproductive efficiency and increases profitability. Program participants learn about the importance of pre-breeding examinations and how it affects their operation on an economic and productivity level. Four Shelby County beef producers enrolled in the SMS program this year and three consigned to a sale. The northeast region has two Show-Me-Select Heifer sales held in Palmyra, Missouri each year. Four hundred and fifty-nine heifers sold in the spring and fall sales, with a combined average price of \$3,391.

The SMS program focuses on increasing marketing opportunities for, and adding value to, Missouri-raised heifers with the creation of reliable sources of quality replacement heifers in terms of genetics and management. By increasing the quality of reproductive efficiency in their beef herds, producers in northeastern Missouri added \$1,595,550 to the local economy.



Shelby County

Agriculture and Environment

Local Impact

Beef Quality Assurances (BQA) Certification

by: Brenda Schreck

BQA is a national program that provides guidelines for beef cattle production. The program helps producers identify management processes that can lead to increased herd profitability and a commitment to quality within every segment of the beef industry. The beef cattle industry has seen a 15% reduction in costs due to BQA education and the recognition of quality defects in cattle. Thirty-nine Shelby County participants learned about animal biosecurity, feeds and feed additives, antibiotics and residue avoidance, non-ambulatory cattle and euthanasia, vaccine administration and principles of cattle handling. As part of the certification process, a short assessment was given to the group to evaluate their understanding of raising and managing quality beef.



Food Safety Modernization Act

by: Brenda Schreck



Food Safety Modernization Act (FSMA) aims to ensure the United States food supply is safe by shifting the focus from responding to preventing contamination in livestock foods. MU Extension livestock specialist Brenda Schreck met with agriculture firms that provide and/or process livestock feed. Schreck created one new firm plan in the state and continues to maintain 16 in the northeast region including three in Shelby County.

Discussions were held on the implementation of documentation for animal feed safety preventive controls on-site, and the firm's efforts for animal feed safety as required by FDA. Feed safety manuals aid firms in maintaining accurate documentation of preventive measures as they are conducted on-site.

Shelby County

Agriculture and Environment

Local Impact

Women in Agriculture Workshop

by: Brenda Schreck

Missouri Beef Industry Council, University of Missouri Extension, Missouri Department of Conservation, USDA Natural Resources Conservation Service employees presented a hands-on workshop geared to women involved in agriculture in northeast Missouri. One Shelby County workshop participants heard an update about the Missouri beef industry, pond management, greenhouse gardening. Participants also enjoyed a hands-on activity of creating home-canned sweet spreads, melting and pouring their own car freshies as well as observing a live soil health demonstration.

By offering programs targeting women in agriculture, MU Extension empowers women to make informed decisions about farm and home management.

- ❖ 96% of participants rated their overall satisfaction of the Workshop as "very good" or better
- ❖ 93% of respondents rated their over impression of the information gained at the Workshop as Very Good or better
- ❖ 89% of respondents rated their overall impression of the materials presented at the Workshop as Very useful or better
- ❖ 65% of the returning participants reported they have changed the way they manage their home and/or farm life



Shelby County

Agriculture and Environment

Local Impact

Private Pesticide Applicator Training (PPAT)

by: Nick Wesslak

Nick Wesslak taught 20 participants for private pesticide applicator training (PPAT) in Marion County, 31 participants in Ralls County, 6 participants in Knox County, 38 participants in Shelby County, 29 participants in Lewis County, 52 participants in Clark County, 18 participants in Scotland County, and 56 participants in Monroe County. 250 total applicants were trained for PPAT licensing by Nick Wesslak in the Northeast Region.

Nick presented at the 2024 Pesticide Safety Education ISE on the MU Extension Pesticide Safety Education Program's youth programming initiative. There was a total of 40 participants at this event, which was held in Columbia. Nick also presented about the 2025 Pesticide Use Act changes to the Missouri Department of Conservation (MDC) at a resource management conference held at Margaritaville at Lake of the Ozarks to 520 participants and also presented the same material to MDC administrators.

Nick Wesslak and Valerie Tate taught youth pesticide safety programming to high school age children so they could learn safe usage of pesticides and other chemicals. The program aimed to help youth better understand why pesticides and other chemicals are important to human safety and food production, while also helping them to a better understanding of the risks involved with the use of these products. The ultimate goal was equipping the next generation with the knowledge necessary to reduce easily avoidable pesticide and other chemical exposures caused by misuse, improper storage, lack of

personal protective equipment (PPE), and improper disposal. 266 students participated in this programming. Individual county attendance is as follows: Shelby: 125, Scotland: 110, Knox: 31.

Nick also put on 3 adult pesticide safety education programs. 2 programs were held for the Mississippi Hills Master Naturalists with 75 participants and one program was held for the Salt River Master Gardeners with 10 participants. Other pesticide related projects Nick was involved in included coauthoring the 2025 pesticide safety training action plan for the state of Missouri and aiding in establishing 3 floating treatment island experiment locations throughout central and northeast Missouri to determine the efficacy of aqua bioremediation for water bodies affected by runoff from agricultural production fields.



Shelby County

Agriculture and Environment

Local Impact

Integrated Pest Management (IPM)

by: Nick Wesslak

Nick Wesslak participated in several activities regarding MU IPM (Integrated Pest Management) efforts in the field. Several photos and videos related to IPM were captured for later educational use during field activities. Lewis, Ralls, Shelby, and Marion County were home to several activities including corn and soybean disease scouting. Ralls County also held migratory insect trapping stations for the IPM Pest Management Network. This network served as an alert system for the entire northeast Missouri region and helped indicate to producers what species of migratory pests should be scouted for in the field. Participants gained weekly knowledge of migratory pest levels to inform them on scouting decision thresholds. Nick served as an MU Extension IPM Scouting School (MU Extension in the Field Crop and Forage Chat) host and presenter in Marion County. The event was advertised directly in the immediate surrounding counties. The MU Extension 3rd Annual Crop and Forage Chat was held in the Northeast Region in Marion County. There were 17 in person attendees. Media coverage of the event that date generated 12,000 media views based upon circulation numbers for the Quincy Herald Whig,

which covers the Northeast region, specifically the counties of Clark, Knox, Lewis, Marion, Monroe, Pike, Ralls, Scotland, and Shelby. In person participants and article readers took from that day a better understanding of current plant disease issues in corn and soybeans, mostly focusing on red crown rot and tar spot and possible management options, strip trial program results, grazing management practices to reduce cost, and grain storage management strategies. Nick also conducted an in-field TV interview with WGEM discussing crop conditions just before harvest and gave an outlook for how harvest was looking to shape up for the fall 2024 season. This interview broadcast to approximately 99,000 homes throughout northeast Missouri and west central Illinois.



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Shelby County

Agriculture and Environment

Local Impact

Agriculture Lender Seminar

by: Mary Sobba

Seventy-two lenders from 20 Missouri counties and Illinois attended an ag lender seminar in Mexico. There were 4 lenders from Shelby County in attendance. Lenders learned about crop and livestock outlook, agriculture policy, rental rates & land values, MU budgets, wind and solar leasing, input costs and enterprise budgets, Missouri farm business management summary and Missouri Agricultural and Small Business Development Authority (MASBDA) programs.

By attending University of Missouri's Agricultural Lenders' seminars, lenders gain knowledge to help their clients make better decisions based on objective education and resources. More information and better decisions benefit their portfolio of producers, landowners, and agribusinesses through enhanced understanding of enterprise budgets, market expectations, and other decision influencing factors affecting families' and businesses' financial health. Lenders in attendance manage farm loans totaling \$155,250,000.



Horticulture Programming in Northeast & East Central Regions

by: Justin Keay

In 2024, there were 2,565 direct contacts from 38 educational programs that Justin organized or co-taught. Participants in these in-person and online programs are actively engaged in the learning process. Programs were in-person and online. Programs included home vegetable gardening, commercial fruit and vegetable production, on-farm produce safety tours and trainings, value-added agriculture workshops, selling local foods workshops, grant opportunities for small farmers, soil fertility management, integrated pest management, and many more.

There were 475 requests for horticulture information through calls, emails, walk-ins from 39 Missouri counties. Justin performed 22 farm visits across the Northeast and East Central regions to help small farmers solve crop production problems on their farms.

Online programming through webinars, videos, and e-newsletters has a state and national reach. The monthly Missouri Produce Growers Video Newsletter reaches over 1100 subscribers every month with a 155 increase in subscription during 2024.

Shelby County

Agriculture and Environment

Local Impact

Topics include fruit and vegetable production, small farm business management, pesticide safety, produce safety regulations, invasive pests, and more. Twenty-three educational videos were created and hosted on the MU IPM YouTube Channel. Videos from the newsletter received over 36,744 views in 2024.

Participants who engaged in horticulture programming learned about insects, weeds, diseases, soil health and fertility, general plant care, and variety selection. Small farmers learned how to increase their fruit and vegetable yields, grow their farm revenue, and protect Missouri's natural resources.

- ❖ Justin connected 7 small farms with MU Center for Regenerative Agriculture grant opportunities, who received a total of \$35,000 to support conservation projects on their farms.
- ❖ One-hundred and thirty-four fruit and vegetable farmers were trained on the Produce Safety Rule Food Safety Modernization Act. This training satisfies a regulatory requirement of the Food and Drug Administration.

Expanding Value-Added Production in Missouri

Adding value to fresh fruit and vegetables by processing them into finished products such as juice, ready-to-eat meal kits, sauces, and jams can help small farmers increase farm revenue and grow their farm businesses. This can allow growers to hire more staff and contribute more to the local economy. Justin hosted two all-day workshops to help producers understand marketing opportunities, food safety, and regulatory compliance to help producers bring their products to market.



Pictured above: Justin teaching at the Selling Local Foods workshop in Hannibal.



Pictured above: Justin teaching farmers about federal produce safety regulations at a farm in Audrain County.

Training Growers on Federal Requirements for Produce Safety

The Food Safety and Modernization Act Produce Safety Rule places regulatory requirements on produce growers to ensure consumers are provided with safe produce, free of common pathogens such as e. coli and salmonella. In partnership with Missouri Farmers Union, Justin hosted four on-farm produce safety tours, where participants learned how to implement federal regulatory requirements on their farms and to ensure the produce they provide to consumers is safe. In addition to on-farm tours, Justin helped train 134 growers during six separate Food Safety Modernization Act Produce Safety Rule trainings.

Shelby County

Agriculture and Environment

Local Impact

Genetic Lockbox

by: Heather Conrow

Objectives: “Obtain a basic understanding of genetics. Distinguish genotype and phenotype. Define dominant and recessive alleles and how they are represented.”

Genetic Lockboxes are an innovative and interactive means to educate the public about genetics. Participants exercise communication techniques as they work together to solve the puzzles. The puzzles are designed to make participants think through and apply problem-solving skills to genetic concepts. Participants will struggle, make mistakes, and rely on teammates.

Through a partnership with Ellis Fischel Cancer Center, the Genetic Lockbox has gone statewide with **64 boxes** located across the state. Teachers, 4-H volunteers, FFA advisors, Boy and Girl Scout leaders, etc. can reserve box(s) free of charge. It comes with all the puzzles, hint cards, answer sheets, and a 25-page Facilitator’s Guide.



*Crack the codes to open the locks to get the *prize* in the box.*

*Prize not included

Fun Facts

- ❖ If all DNA strands in all the cells of **ONE** person were stretched out, it would reach to the sun and back more than **600** times
- ❖ Scientists can never clone a dinosaur because DNA has a half-life of **521** years
- ❖ Humans are **80%** genetically similar to cows
- ❖ Bone marrow transplant patients end up with **2** different DNA profiles
- ❖ All humans receive **3** feet of DNA from Dad and **3** feet from Mom
- ❖ Heart, eye, and brain cells never replicate; therefore, they can never be replaced if damaged
- ❖ Less than **2%** of our DNA codes for proteins - the rest is called “junk DNA,” but is still useful
- ❖ A mouse uses more DNA from its father than its mother
- ❖ Almost all tortoiseshell cats are female, only **ONE** in **3,000** calico cats is male

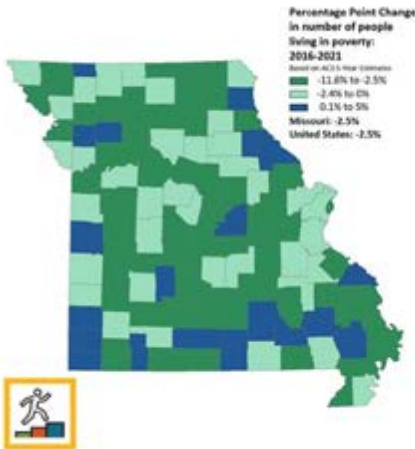


Learn More





MU EXTENSION **Serves MISSOURI and Delivers MIZZOU** through credible statewide programs **Business and Community**



The **Missouri Economy Indicators (MEI)** series explores business, industry and workforce topics that affect Missouri's economy. The data is shared through newsletters and on social media. MU Extension faculty and staff receive talking points and collateral to share with local stakeholders.

In 2022, MEI published 15 issues, and MEI online resources were accessed MORE THAN 5,000 TIMES. Two out of five MEI newsletter recipients reported using the information to help guide policy or decision-making in their work.



Missourians from all walks of life celebrated the **2023 Missouri Good Neighbor Week**, Sept. 28 to Oct. 4, by completing and reporting neighboring acts and nominating others as the most engaged neighbors in their counties.

In 2023, the goal was to document 15,000 acts of neighboring. That goal was surpassed with 19,752 Missourians being positively affected during MISSOURI GOOD NEIGHBOR WEEK.

AMERICA'S SBDC MISSOURI **CLIENT HIGHLIGHT**

LOGS OF GLORY

The **Missouri Small Business Development Centers** (SBDC) provide professional training and customized one-on-one counseling to small businesses across the state. Working with the Missouri SBDC helps business owners make confident decisions.

FY2020-2022, Missouri SBDC ASSISTED 878 STARTUPS and helped Missouri small businesses earn more than \$440 MILLION.

Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being



MU EXTENSION **Serves MISSOURI and Delivers MIZZOU**
 through credible statewide programs
Community and Professional Health Education



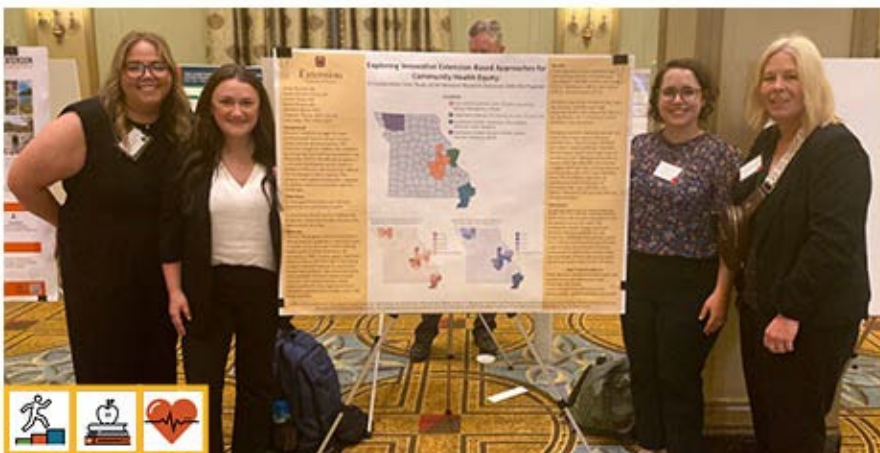
The **Diabetes Prevention Program** is recognized as “Full Plus,” the highest status given by the CDC and is provided by licensed lifestyle coaches to prevent type 2 diabetes. Through lifestyle changes participants can achieve sustainable weight loss, increase in physical activity and learn coping skills to manage stress.

More than 1 IN 3 PARTICIPANTS
have reached the
5 - 7% WEIGHT LOSS GOAL.



Strengthening Families Program: for Parents and Youth 10-14, is a seven-session series for parents or caregivers and their young teens to attend together to improve family communication, resolve conflict and improve parental skills.

A research study conducted by the Partnerships in Prevention Science Institute found a RETURN OF \$9.60 for every dollar spent implementing the Strengthening Families Program.



The **Missouri Research-Extension (MO-RE)** Protocol emphasizes the role of Community Health Field Specialists in transforming health and well-being across the state. Following a comprehensive county health needs assessment, each specialist is sharing their findings with partners, stakeholders and organizations in their regions to address the identified priorities.

Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being



MU EXTENSION **Serves MISSOURI and Delivers MIZZOU**
 through credible statewide programs
Continuing Education



The **Missouri Extension Disaster Education Network** provides education and technical assistance to individuals and families, local governments, schools and organizations so they can prepare for and respond to natural and man-made disasters. Because of the unique relationship it maintains with each community, MU Extension is a key resource for the public, emergency services and public officials.



The programming from the **MU Fire and Rescue Training Institute** (FRTI) is available to all qualified fire and emergency first responders. Seventy percent of courses are held at the local departments or agencies. With most of the state's fire service personnel considered volunteer or part-time, this local access and flexibility assures training opportunities for all firefighters and emergency responders.



The **Law Enforcement Training Institute** (LETI) offers advanced training on a wide variety of topics, including defensive tactics, firearms, use of force and de-escalation. LETI offers customized programs for all required continuing education areas of concentration.

Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being



MU EXTENSION **Serves MISSOURI and Delivers MIZZOU**
 through credible statewide programs
Health and Human Sciences



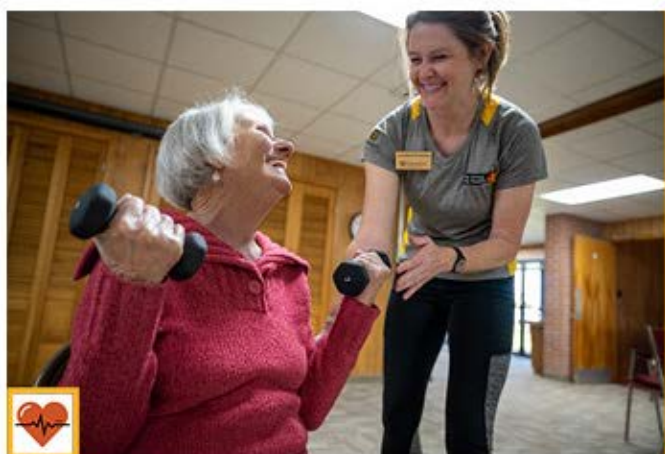
Building Strong Families

Studies show that people with strong family bonds tend to have lower stress levels. Building Strong Families helps families deal with disagreements, manage stress and show their love for one another.



Divorcing or separating parents encounter distinct challenges when living apart. **Focus on Kids** guides parents in fostering effective co-parenting strategies to support their children through this process.

“Understanding that divorce doesn’t ruin children, but parents can significantly influence positive outcomes through good communication, was invaluable.”



Stay Strong, Stay Healthy teaches older adults basic exercises to boost strength, balance and overall daily functionality. Participants also gain insights into nutrition and wellness for healthy aging and active living.

After eight weeks, Stay Strong, Stay Healthy participants significantly IMPROVED their STRENGTH, BALANCE and SLEEP QUALITY.

Legend



Agricultural Growth & Stewardship



Economic Opportunity



Educational Access & Excellence



Health & Well-Being

Shelby County

Health and Human Sciences

Local Impact

Community Garden

by: Carrie Elsen

MU Extension is leading the way with community gardening by engaging the community in healthy eating and physical activity while focusing on community activities such as nutrition education, food distribution, and even taste tests. Additionally, research shows community gardens increase socialization and cooperation among neighbors within communities. Together with Shelby County Extension Council, 4-H, and community partners made these four raised garden beds available for the community at the Shelby County Extension office in Shelbyville, MO tended by Becky Vanskike. This year added another community garden at the St. Mary's Catholic Church in Shelbina MO. This community Garden was supervised by Shelby County Master Gardener and Shelby County Extension Council member Pat Greenwell.

The Shelbina Garden gardens produced:

- 75 Tomato plants. 6 different varieties. Harvesting estimated over 25 pounds a week for over 23 weeks.
- 15 Pepper plants 3 different estimated about 2-4 pounds per week about 15 weeks.
- 35 pounds of Potatoes estimated over 450 pounds of Potatoes.
- 18 Watermelon plants over 50 Watermelons.
- 18 Muskmelon Plants over 40 Muskmelon.
- Green Beans both bush and pole. Estimated over 25 gallons.

They estimate serving 150 different households and had approximately 20 volunteers assisting with the garden.



Tai Chi for Arthritis

by: Carrie Elsen



Two classes consisting of 32 sessions with a total of 80 contacts were offered at the Shelby County Extension Office. Tai Chi for Arthritis for Fall Prevention (TCAFP) is an evidence-based exercise program recommended by the CDC to benefit overall well-being. It is especially beneficial for those with joint pain, mobility limitations, at risk of falling, and for those who wish to improve their physical and mental health. The photo to the right is a participant named, Linda. She participated in my inaugural Tai Chi program at the Shelby County Extension office in Shelbyville, MO. Linda, in the picture stands confident, proud, and balanced after her Tai Chi programs. Linda could not balance on one foot prior to Tai Chi. She has now taken 2 Tai Chi programs at the Shelby County Extension office with me and is proud to show off her newfound balancing skills. She loves how this low impact program has improved her strength, balance, and confidence to do daily tasks.

Shelby County

Health and Human Sciences

Local Impact

In Celebration of May's National Beef Month

by: Carrie Elsen

Monroe and Shelby County Cattlemen's Association, in partnership with MU Extension in Monroe and Shelby County, has undertaken a commendable initiative to promote healthy protein consumption, particularly beef, within the community. Their efforts and collaboration with Hopewell Farms and C&R Market provided 708 pounds of ground beef to citizens of Shelby and Monroe counties through food banks in Bethel, Faith Walk Ministries, Monroe City, and Shelbina. This effort has contributed to 1 pound of beef equaling \$5.37/ pound delivering a value of \$3,801.96 to community citizens to improve food security. 708 pounds was significant to achieved due to the two counties serving 708 household collectively. These food banks demonstrate a commitment to addressing local food insecurity while advocating for nutritious dietary choices.



The distribution of ground beef within the communities celebrates May's National Beef Month. "May's celebration of Beef Month highlights the significance of beef production in the United States, emphasizing its role as an essential protein source. By leveraging this national recognition, the partnership aims to raise awareness about the importance of incorporating beef into a balanced diet" Jess Unterbrink, Monroe, and Shelby County Cattlemen's Association.



People are becoming more aware of the importance of eating a balanced diet. Carrie Elsen, MU Extension Field Specialist, states "this event helps promote healthy home-cooked meals and encourages community members to make healthier choices for themselves and their families. MU Extension aims to foster healthier habits and improve overall well-being by supporting communities with educational resources and meal planning initiatives."

In addition to the ground beef distribution, the local cattlemen's affiliate's initiative to donate 160 beef sticks to third graders in Monroe and Shelby counties serves to promote healthy snacking options, especially during periods of heightened stress such as state testing. By targeting schools in the area, including North Shelby, South Shelby, Paris, Holliday, Madison, Middle Grove, and Monroe City, the initiative seeks to instill healthy eating habits at a young age and support students' nutritional needs during critical academic periods.



MU Extension group coordination with Gina Pollard YPA, Kathy Hasekamp YPA, Amanda Lehenbauer NPA, and Carrie Elsen HES contributed to the data collection, coordination, and distribution of Shelby and Monroe Counties four food banks and seven local school districts. In addition, 708 tiger cards, and 708 NC130, Quick and Easy Beef Skillet Recipe cards were handed out with each 1 pound of beef during food bank distribution days in May.

Shelby County

Health and Human Sciences

Local Impact

The Gift of Aging Conference

by: Carrie Elsen

On October 1, 2024, older adults from the Hannibal area gathered for a one-day conference, the Gift of Aging, held at the Rialto on Broadway Street. The event, organized by the University of Missouri Extension, was designed to support the health and well-being of Missourians at all stages of life. It was free to attend, with a complimentary lunch provided, thanks to the generous support of local sponsors including the Riedel Foundation, Marion County Extension, Griffen's Floral Studio, and Hannibal Regional Hospital. The conference ran from 10:00 AM to 2:00 PM and brought together community members and experts to discuss a wide range of important topics on Aging. The conference featured presentations on health, cybersecurity, and estate planning, aimed at helping older adults navigate critical aspects of aging. The sessions included:

- **"Watch Out for Scammers"** by JR Bareis, which educated attendees on identifying and avoiding common scams targeting older adults.
- **"Navigating Finances and Relationships in Family Caregiving"** by Dr. Naomi R. Meinertz, offering insights into managing financial and personal relationships in caregiving situations.
- **"The Pearls of Aging"** by Dr. Allyson Willimann-Munch and Alexis Houser, PA, covering the natural aging process and how to maintain health and vitality.
- **"Estate Planning and More"** by Attorneys John Wilcox and Michael Williams, which addressed key legal considerations for older adults, such as wills, trusts, and long-term care planning.

In addition to these informative sessions, the conference featured free blood pressure checks and provided attendees with the opportunity to learn about local resources and community groups they could join to improve their health and well-being. Participants also had access to exhibits from 13 different organizations and businesses, including those focusing on healthcare, volunteer opportunities, and senior services.

The event was attended by 64 participants from eight Missouri counties, including St. Louis City, Pike, Ralls, Marion, Lewis, Shelby, Schuyler, and Audrain. The diverse group of attendees ranged in age, ethnicity, and background, and their participation was a testament to the wide-reaching impact of the conference. The event was also supported by multiple local and state organizations, including Hannibal Regional Hospital, the Missouri Department of Health and Senior Services, Marion County Health Department, the Hannibal YMCA, Hannibal Department of Parks and Recreation, Northeast Missouri Area Agency on Aging, and Beltone Audiology.

Funds raised for the event came from various sponsors, including a \$1,000 grant from the Riedel Foundation, \$350 from Marion County Extension, \$225 in-kind from Griffen's Floral Studio, and \$773.61 from Hannibal Regional Hospital, totaling \$2,348.61. Extra food from the event was donated to the local domestic violence shelter, reflecting the community-focused spirit of the event.

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Shelby County

Health and Human Sciences

Local Impact

The Gift of Aging Conference

by: Carrie Elsen

Feedback from attendees was overwhelmingly positive, with many participants expressing their satisfaction with the presentations and the overall conference. A few participants shared that they learned valuable tips, such as how to avoid scams, communicate their care needs with family members, and access local resources for healthy living. One participant mentioned learning about Missouri University's Seasonal and Simple app, which helps with using seasonal produce in healthy meals. Overall, 34 participants rated the event as "extremely satisfying," reflecting the success of the conference in meeting the needs of the community.

The planning committee, led by Carrie Elsen, included Tina Edholm, Jennifer Eldridge-Houser, Liz Harrison, Jim Meyer, Karen Poe, and Jeremiah Terrell. A MU Extension Crunch Off was also held at the event. Northeast regional Faculty present incorporated CHEO and HHS (NHES, HDFS, FNEP) and EES. The University of Missouri Extension and Hannibal Parks and Recreation have already begun planning for next year's 2025 Gift of Aging Conference, which will be co-chaired by these two organizations.

The success of this year's event has prompted the Marion County Extension to host the conference again in the future, demonstrating the event's positive impact on the community and the ongoing commitment to supporting older adults in the region.



Shelby County

Health and Human Sciences

Local Impact

Supplemental Nutrition Assistance Program Education (SNAP-Ed)

by: Amanda Lehenbauer

The Supplemental Nutrition Assistance Program Education (SNAP-Education or SNAP-Ed) brought \$11,145,237 in federal funds to Missouri. The funds support engagement with 74,864 Supplemental Nutrition Assistance Program (SNAP) recipients and eligible citizens of Missouri who learned about being active and healthy eating on a budget. This year we had 1,164,143 indirect educational contacts through newsletters, health fairs, food pantries, and the Show Me Nutrition helpline.

637 direct and indirect contacts were made in Shelby County.

Participants in SNAP-Ed learn the importance of making healthier meals and snack choices, eating breakfast more often, are more willing to try new foods, increase their physical activity, and make healthier food choices. Those who practice healthy eating and are physically active are more likely to contribute to a healthy labor force and enjoy a high quality of life throughout the lifespan.

This vital programming effort also reduces healthcare costs over the participant's lifetime, saving taxpayer money in reduced public healthcare benefits and insurance premiums.

Schools	Agencies
South Shelby Elementary	Shelby County Food Pantry
North Shelby Elementary	Bethel Food Pantry
	Shelbina Library
	Shelby County Health Dept.

Success Story

South Shelby Elementary summer school - Kids in the Kitchen

- While teaching Kids in the Kitchen during summer school at South Shelby, I gave the students recipe cards after each lesson of the recipe that we had made. One boy said he was saving all his recipes to make his own recipe book. Months later at a youth football game the same student came up to me and was so excited about the news he had to share. He told me that he put all the recipes from Kids in the Kitchen into a recipe book and was collecting more recipes that he liked and adding them into his recipe book. The boy said he had almost 20 recipes and that 5 of them were foods that he thought he would hate but after he tried them he really like them.

" I have my own recipe book now!"



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