

# University of Missouri Extension



An economic engine for Missouri



*"Extension is a huge economic driver – starting new businesses, driving existing businesses, aiding communities and improving the quality of life in Missouri."*

*— Michael Quart*

**W**hen most people think of extension, they might not think of economic development. But University of Missouri Extension plays a big part in the growth of Missouri, in terms of both economic development and quality of life.

"MU Extension does economic development in a significant way every day, every year," says Dr. Michael Quart, vice provost for MU Extension. "MU Extension is a huge economic driver – starting new businesses, driving existing businesses, aiding communities, and improving the quality of life in Missouri. Just as the University is an economic engine for the state, so, too, is MU Extension."

This booklet will help you get to know MU Extension and show the many ways MU Extension works for you.

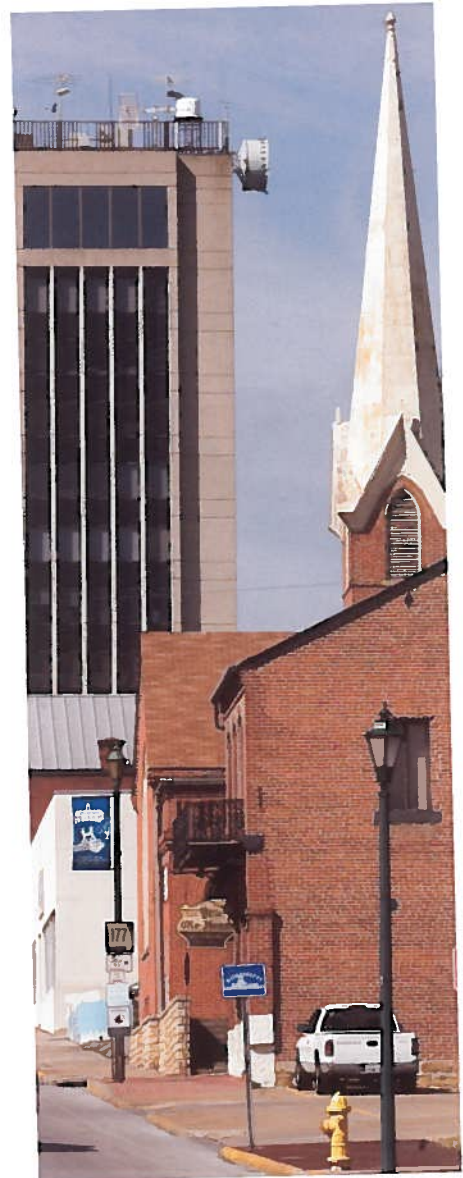


Photo: Rob Hill, University of Missouri

## What is MU Extension?

**As a land-grant institution, the University of Missouri is firmly based on the combined philosophy of teaching, research and extension.** Mizzou emphasizes the importance of extension in its mission statement by stressing the need for effective outreach sensitive to the needs of the people of the state. MU Extension further defines its special role as that of extending the research data and knowledge base to the people of the state to improve the quality of their lives. **Simply put, MU Extension is Missourians helping Missourians.**

MU Extension programs **reach more than one million Missourians a year.** The University's research base results in reliable information and recommendations, which enhance the state's economy and quality of life for individuals. Extension's partnerships with government agencies, nonprofits and businesses allow it to leverage resources while avoiding duplication of services. Extension is unique in its ability

to coordinate interdisciplinary university resources with governmental and private organizations at the state and national level.

**More than 20,000 MU Extension volunteers** contribute more than 2.6 million hours of time each year toward programs that Missourians have identified as high priorities. Their efforts are valued at more than \$47 million. **(Figure 1)** (Based on national standard of \$18 value per volunteer hour)

## Major program areas

MU Extension is a statewide force for economic development and quality of life. It accomplishes this through its major program areas, which are:

- \* Agriculture and Natural Resources
- \* Business Development
- \* Community Development

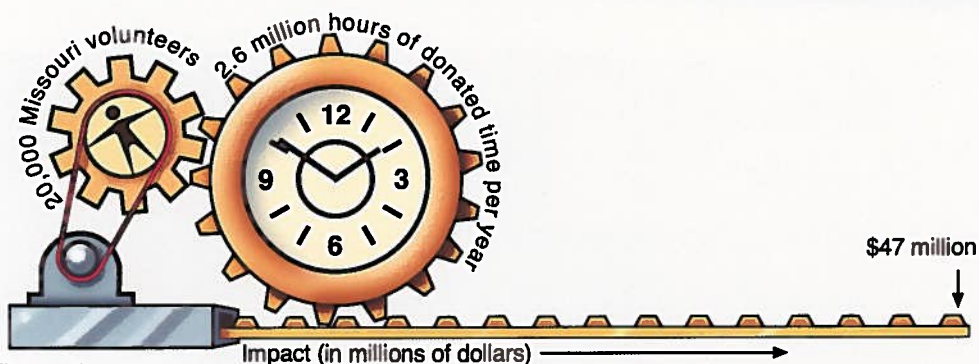


Figure 1.  
Economic impact

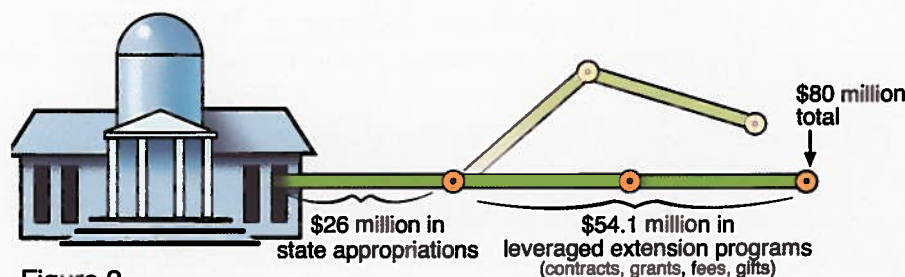


Figure 2.  
Revenue growth

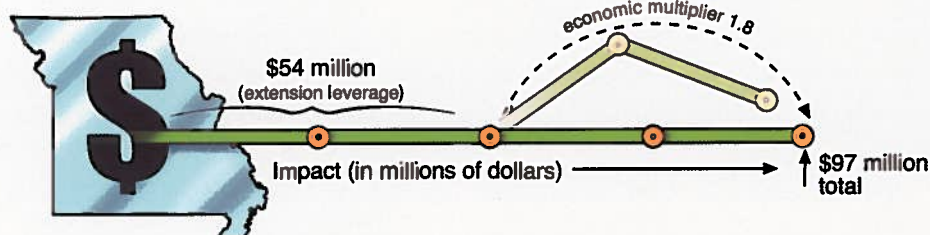


Figure 3.  
Statewide benefits

#### On the cover:

Wind turbines near King City generate renewable energy. Solar-heated high-tunnel greenhouses extend crop growing season and increase productivity. 4-H Camp Food and Fitness teaches health, nutrition, food safety and fitness to Missouri youths. MU Extension provides relevant, responsible and reliable information and help for Missourians through these and many other programs.

## How MU Extension works for you

- \* Continuing Education
- \* Human Environmental Sciences
- \* 4-H Youth Development

MU Extension plays many roles in the economic development of the state. Extension itself is a large, successful, economic enterprise, with more than 1,250 full- and part-time employees. It is also a source of innovation, creativity and entrepreneurship. *MU Extension helps propel other economic enterprises, and therefore helps propel economic development.*

Here's a concrete example of how MU Extension is an economic driver. In FY 2006, MU Extension leveraged \$26 million in state appropriations by an additional \$54 million via continuing education fees, grants and contracts, federal funding, county council fees, and sales and services. (Figure 2)

This \$54 million leveraged by MU Extension programs translates into \$97 million of economic impact in Missouri and support for 2,122 jobs. (Figure 3) (Numbers based on IMPLAN economic analysis: Every new external \$1 into the University generates \$1.80 in economic impact. Every \$1 million into the University creates 39.3 jobs.)

MU Extension furthers commercialization via the development of new businesses and by offering *support for attracting businesses to Missouri*. It provides *support for new and existing businesses* through its Small Business Development Centers. Extension helps with human resource development through continuing education programs. Extension also provides research and policy support for economic development activity. All of these programs contribute to quality of life in myriad ways.

*Let's take a closer look at these programs and a few of their success stories.*



With help from MU Extension, Renewable Alternatives recently received a grant from the Department of Defense for \$750,000.

**M**any Americans are doing their best to avoid fat by the gram. Scientist Rusty Sutterlin embraces fat by the ton. As a result, he and his Columbia-based company, Renewable Alternatives, are poised for unlimited growth opportunities.

The fat comes from renewable sources in the form of vegetable oils, such as soybean oil. Sutterlin's company transforms these naturally produced oils into substances called phase change materials (PCMs). PCMs absorb energy, providing a cooling effect when melting from a solid to a liquid. Conversely, when PCMs reverse phases from liquid to solid, they release heat as they solidify.

PCMs potentially have a multitude of practical applications, according to Sutterlin. Fabric can be infused with micro-encapsulated PCMs, near-microscopic beads woven into the fabric's threads. Hazmat suits and fantasy character costumes, such as those of university mascots, could be insulated with large beads the size of peas or beans. Blocks or chips of PCMs could substitute for ice, and coffee cups containing PCMs could keep the java warm as the cup cools.

"The applications of PCMs are unlimited," says Sutterlin. "They perform more efficiently, cost less, protect the environment and conserve natural resources."

To pursue many of these applications, Renewable Alternatives engaged the business counseling services of Jim Gann with the Missouri Business Development Program. The Missouri Federal and State Technology Partnership, in Columbia, affiliated with MU Extension's Small Business Development Centers, also helped Sutterlin navigate the labyrinth of the federal government's grant application process.

As a result, Renewable Alternatives recently received a grant (Army STTR, Phase II) from the Department of Defense for \$750,000 to create a cooling vest for soldiers working in heat-stressed environments.

### • business assistance

MU Extension's **Business Development Program (BDP)** helps businesses start, develop and thrive. It also helps Missouri businesses find government contracts and federal grant opportunities. In FY 2006, the BDP provided 3,540 clients with 21,630 hours of individualized assistance. A total of 1,013 training programs reached 20,963 Missourians. *The Small Business Development Centers helped clients increase sales by \$172 million, which translated into 2,258 jobs.*

*By providing government bid-matching leads by e-mail, MU Extension helped Missouri companies obtain 1,416 contracts that generated more than \$185.8 million.*

### • contract bidding

For example, **Kim and Joe Gorman of Paternity Testing Corp.** were the successful bidders on contracts with agencies in four states. As a result, the Columbia-based company posted \$3 million in gross sales in 2004 and grew from four employees to 33.

*Jonathan Spencer is one of seven people with disabilities employed by Savvy Seconds, an upscale resale store. Profits help fund other nonprofit organization services.*

**J**onathan Spencer reports to work at Savvy Seconds three days a week, but he mostly looks forward to his Saturday shift when the Boonville shop bustles with browsers.

"I would characterize (Saturdays) as extremely busy. There are a lot of different people who come then," says Spencer, who has worked at the resale shop nearly a year. He enjoys meeting the people who eye the used furniture and comb the racks of almost-new apparel.

"I like the fact that I have to stay on my toes. I have to keep going because the customers will ask how much something is," he says. "I have to keep track of a lot of stuff."

Spencer is one of seven people with disabilities employed by Savvy Seconds, an upscale resale store administered by Unlimited Opportunities, Inc. (UOI) a nonprofit organization that helps provide services such as job opportunities for men and women with disabilities. Volunteers clock 60 hours a month at the operation, which is managed by Donna Groves.

The shop opened in December 2004 with the help of MU textile and apparel management Assistant Professor Jana Hawley. She created an independent study course to set up a textile-recycling program. It provided a service to the community, and students gained management experience while completing the project.

A year later, the store doubled in size and took over additional existing space



### • **reduce future health care costs**

Through the **Expanded Food and Nutrition Education Program (EFNEP)**, MU Extension teaches families healthful eating habits, food safety and wise food shopping. This nutrition education helps reduce future health-care costs. *Some \$1.5 million in federal funds are invested in the EFNEP program annually, resulting in an estimated \$13.1 million annual reduction in future medical costs.*

The **MissouriFamilies.org** Web site provides unbiased, research-based solutions for better living, beginning with the basics — food, clothing, shelter, finances, family and community.

### • **impact on consumer and family life**

Human Environmental Sciences (HES) Extension has an impact on many aspects of consumer and family life in addition to food and nutrition. HES sponsors the **Missouri Taxpayer Education Initiative**, which *benefits low-income, working families that are eligible for earned income tax credit.*





Donna Groves, manager, and Jonathan Spencer prepare merchandise for the sale racks at Savvy Seconds in Boonville.

at the UOI sheltered workshop. Now everything from towels to rags and curtains is either sold at the store or recycled on the grounds, diverting thousands of pounds of discarded clothes and other textiles such as shoes, purses and belts from landfills. Executive Director Vicki McCarrell says donations are increasing so much that the entire UOI warehouse could be used soon to hold all the donations.

The Savvy Seconds shop pulls in a growing profit to fund UOI programs. The average monthly earnings in 2005 were \$4,034. For 2006, the monthly average climbed to \$6,841. This year should surpass the last. Already, for January to May, the monthly average is \$8,638, more than twice that of the first month of operation.

The program is supported by more than 50 partner agencies statewide. In 2005, the program saved 2,230 households \$334,600 in tax preparation fees and processed \$2 million in refunds. These families also saved hundreds of thousands of dollars by avoiding the high interest rates of refund anticipation loans.

*In Clark County alone, workshops and income tax filing assistance coordinated by MU Extension and its local partners helped residents claim more than \$125,000 in federal refunds.*

### • **help for first-time home buyers**

HES programs also assist first-time home buyers by providing financial education. After 84 low-income families in Saline, Cooper, Jasper and Camden counties completed the course, they qualified for low-interest loans. *Each family will save about \$45,000 – a collective savings of almost \$3.8 million over the lives of the loans.*





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Over the years, MU's Fire and Rescue Training Institute has trained thousands of volunteer and professional firefighters.

### **T**hree-quarters of a century ago, Missouri

fire service personnel, fire chiefs and fire training officers banded together to spark a tradition for some of the state's bravest. The result is what is now known as MU FRTI (MU Fire and Rescue Training Institute) Summer Fire School. But back then, in 1933, it was called Summer Fire College and later Fire Conference, settling on its existing name in 1987.

Over the course of the years, and through the name changes, Mizzou has provided training for thousands of volunteer and professional firefighters at fire school. Participants learn new techniques for battling blazes and protecting those they serve.

The 75th anniversary fire school in June in Jefferson City drew 1,000 participants. Classroom sessions were held at Thomas Jefferson School and at hands-on sessions at various sites. The Confined Space Rescue class at the former state prison taught rescuers how to maneuver in uninhabitable spaces such as caves or wells. Water rescue drills were held at Noren Access on the Missouri River. Attendees even used an old house on McCarty Street for a popular exercise called Support Operations: Tool Time. The week gives participants an opportunity to partner with strangers, which is a good way to simulate real-life emergencies.

Volunteer firefighters make up 60 percent of fire school attendees, and 40 percent are career fire and rescue workers, says Carmen Stanton, fire school spokesperson. About 12 percent of attendees are women — a number that is growing, she says.

The fire school is just one training program offered through MU FRTI. The Institute's continuing education classes attract more than 21,000 enrollments, which include basic firefighting training, fire officer training and specialized rescue.



**The people of Missouri** expect the University to provide them with *opportunities for lifelong education*, to help them survive, grow and prosper as individuals, family members, community members and citizens. The University has a long and successful history of meeting those expectations through extension.

### • **lifelong learning**

*MU Extension's continuing and distance-education programs help people build careers that are vital to the state's economy.* Online classes are offered as self-paced or semester-based. Degrees can be earned online from around the world or in the evening on the MU campus. Also, many mid-Missourians take life-enriching classes specifically designed for people over 50.





Above, firefighters learn how to cut safely through a roof to rescue victims trapped inside. They then lower a firefighter, left, into the building where he will work his way through simulated obstacles on the way to rescue a victim trapped in a confined space.

Seven years ago, MU FRTI expanded beyond firefighting education to provide emergency management training to military personnel, private companies and government officials. An exercise and evaluation program, which adapts techniques for local and state governments, volunteer organizations and businesses to assist them in designing emergency plans and procedures, started in 2004. This year, MU FRTI began offering a structural collapse program.

- **serving a variety of professions**

More than 100,000 enrollments a year include teachers, veterinarians, doctors, nurses, public safety personnel and business owners. For example, in 2006 more than 70 percent of Missouri's nurses attended continuing education offerings sponsored by Nursing Outreach and Distance Education.

- **high school online**

More than 8,000 high school students take courses they often can't get at their local schools, such as foreign languages, advanced math and science, and gifted subjects. Some earn their diplomas completely online.

- **long history of service to firefighters**

MU Extension also is the official training source for Missouri's 25,000 career and volunteer firefighters. In 2006, courses were held in 94 Missouri counties and attended by firefighters from 114 Missouri counties.



An article in the November 2003 *Journal of Adolescent Research* noted that youths participating in 4-H are 70 percent more likely to attend college.



**W**hen it comes to 4-H, you name it and Jacob Miller does it.

He raises beef and swine for show. He participates in clothing and wood-working activities. He serves on the State 4-H Council and works to encourage other youths to take advantage of 4-H's educational opportunities. Not bad for someone who got a late start in the program just three years ago at age 14.

"I don't live on a farm, but began raising livestock for the competitions," said the teenager from Cadet, Mo.

Extension's 4-H programs have united thousands of young people across the United States for more than 100 years. State and regional 4-H specialists and MU Extension staff assist communities in directing the young people ages 5 to 18 who participate in the skill-training program.

Miller's favorite part of raising beef is breaking the young cattle to lead and teaching them to follow commands. "You have to set them up just right so the judge can see the muscling and everything," he says. The winning doesn't matter as much as the fun, he says.

Miller is learning many lessons in leadership as he travels around as a 4-H regional representative to spread the word on how young people can join. He hopes to have a 4-H booth at his local county fair.

Miller's 4-H livestock experience is also helping to shape his own educational future. An article in the November 2003 *Journal of Adolescent Research* noted that youths participating in 4-H are 70 percent more likely to attend college. Miller intends to apply to MU next year and wants to become a large animal veterinarian — a goal he hadn't considered before 4-H.

**In Missouri, one of nine young people** ages 5 to 18 participates in 4-H. These students are more likely to go to college and enjoy increased financial success. **If 10 percent earn bachelor's degrees, their increased annual earnings could total \$201 million.**

### • **learning skills for life**

More than 300 youths ages 10 to 13 attend 4-H summer resident camps and **report gaining skills in "learning to learn," getting along, teamwork and self-responsibility.** The U.S. Department of Labor identifies these as abilities necessary for success in high-skill, high-wage jobs.

### • **4-H leverages public dollars**

For every \$1 invested from public resources for Missouri 4-H, the programs leveraged \$8.48 to serve youths and families statewide.





Jacob Miller travels as a 4-H regional representative to encourage other young people to participate in 4-H's many educational opportunities. He also serves on the state 4-H council. Miller says he's learned leadership skills from his work in 4-H — skills that will serve him lifelong.

### • **helping children of incarcerated fathers**

In one innovative project, Missouri 4-H involved 141 children and teens, 106 caregivers and 59 incarcerated fathers in a special program at the Potosi Correctional Center. Statistics show that children of offenders are six times more likely to engage in criminal activities than their peers. 4-H invested \$8,000 in this life-skill-enhancing program, reducing the chances of these children becoming offenders themselves. *If just 10 percent of these youths stay in school and avoid a life of crime, society could save \$17 million.*

A 4-H leadership program has played a role in reducing juvenile recidivism in Boone County for 14 years. Forty-four young offenders are selected for the program each year. *The program has reduced recidivism by 48 percent at a cost savings to the juvenile system of \$218,880 per offender.*



*MU Extension's exCEED program helps communities analyze the local economy and refocus efforts on economic growth.*



### **A** community in Northwest Missouri has good reason to thank University of Missouri Extension.

In spring 2006, Oregon-area residents decided they'd had enough of driving long distances for medical care. With the help of Jerry Baker, MU Extension community development specialist, community leaders developed plans for a new health-care clinic. Area clubs, businesses and banks donated nearly \$90,000 to renovate an existing structure in town. The medical facility opened its doors earlier this year.

Baker oversees the area's Extension Community Economic and Entrepreneurial Development (exCEED) program, which was created by MU Extension in 2005 to focus on economic development opportunities in rural communities. These targeted areas are often multiple-county regions.

The exCEED program helps community leaders determine what drives their economies, then use that information to bolster local businesses around these strengths and keep talented professionals in the area. The Small Business Development Center holds workshops on writing business plans and other small business needs. MU Extension supports existing and potential entrepreneurial ventures and aids communities in identifying possible future directions.

The Northwest Region exCEED project includes five counties: Atchison, Holt, Nodaway, Gentry and Worth. The population of this region is approximately 42,900, with 30,000 of these residents living in rural areas or in towns with a population of less than 2,000. One major challenge is to keep young people from migrating to larger cities.

In two years, Baker can point to many success stories, including:

- In Maitland, eight of 11 entrepreneurs that Baker has worked with are planning new businesses or expanding existing ones, including two retail stores, an agribusiness, an Internet telephone sales company and an insurance office.

### **MU Extension plays a role in community development in many different ways.**

*By helping establish farmers' markets around the state, MU Extension has enabled farmers to connect directly with consumers and market their locally grown food products.* New farmers' markets in St. Louis and Kansas City help provide low-income households access to quality, locally produced food. Area grocery stores also invest in the "buy fresh, buy local" concept.

### **• promoting an area's culinary heritage**

The Missouri Regional Cuisines Project is an innovative agritourism program designed to bring together businesses and communities to *promote a specific area's culinary heritage and cuisine*, including wineries, fruit and vegetable producers, restaurants, bed and breakfast inns, and local government and economic development officials. The first region to be mapped was the Mississippi River Hills Region, which includes the Ste. Genevieve wine country. Other regions are under development.





Left, Jerry Baker, community development specialist with MU Extension, worked with community leaders in Oregon, Mo., to develop a new health-care clinic. Above, nurse practitioner Sarah Knorr takes Cindy Cox's blood pressure in one of the new clinic exam rooms.

- An embroidery business for sporting and business uniforms in St. Joseph called Dynamic Designs opened this year.
  - An entrepreneur started a Christmas tree farm with 700 tree seedlings planted, as a hobby outside of his retail business. He also planted 150 walnut, 75 dogwood and 75 oak trees around the farm, and plans on adding 700 to 1,000 Christmas tree seedlings per year for the next 10 years.
- Sharon Gulick, exCEED director, says much interest comes from rural regions that historically rely on agriculture and manufacturing, but realize they need something else to catalyze their economy. "The exCEED program helps communities refocus their efforts," says Gulick.

### • preparing for emergencies

MU Extension helps communities prepare for emergencies. More than 1,600 state and local employees took required national courses offered by MU Extension's continuing education programs. *Each dollar invested in preparedness saves more than \$3, plus untold lives.*

### • grant-writing help for communities

*Expert assistance with grant writing is another MU Extension service for communities.* For example, Southeast Missouri counties received \$800,000 in funding, including a grant for a water and sewer capacity study in Hillsboro, state trails and bridge repair grants in Herculaneum, and scholarships to attend the Brownfield conference. Northwest Missouri counties received \$1.9 million in funding, including grants involving seniors and disabled persons, water quality, energy and environment, and emergency warning systems.



*The data for KIDS COUNT call attention to at-risk students or troubled homes, and could fuel public policy changes for children's welfare.*

### **S**ometimes, the numbers tell the story.

Take KIDS COUNT, for instance. It's a statewide report card, funded by the Annie E. Casey Foundation, that allows the data to speak for the well-being of Missouri children. Every state compiles such indicators, which include county comparisons for categories such as education and parental employment.

Enter staff of MU Extension's Office of Social and Economic Data Analysis (OSED), which analyzes and reports these numbers. The office is the primary source for demographic and economic data analysis used to inform the public. The data for KIDS COUNT call attention to at-risk students or troubled homes, and could fuel public policy changes for children's welfare.

OSED's trends and data tracking recently moved St. Francois County residents to crack down on child abuse and neglect numbers, says Catherine Martarella, program director of the watchdog group Citizens for Missouri's Children. Likewise, superintendents in Bollinger County use KIDS COUNT as a way to monitor how their schools compare with others.

OSED also tabulates important numbers for Missouri's older residents. The office developed the Missouri Senior Report profile in 2006, in conjunction with the Missouri Department of Health and Human Services. The profile offers a county-by-county breakdown of characteristics of the senior population, ranging from health status to income range, to make communities aware of how the quality of life of their seniors compares to other seniors in Missouri.

Earlier this year, OSED released the family wage calculator, which determines a suggested family wage for a specific county.

**MU Extension offers a variety** of research and policy support for economic development activities.

The Food and Agricultural Policy Research Institute (FAPRI) is a collaborative program between Mizzou and Iowa State University. At FAPRI, *comprehensive data and computer modeling systems analyze complex economic interrelationships of food and agriculture industry*. FAPRI data show that Missouri agriculture adds \$11 billion in value to the state's economy.

### • **demographic/economic data source**

The Office of Social and Economic Data Analysis (OSED) is *Missouri's main source of demographic and economic data analysis used to develop and evaluate economic policy*. Some of its projects include the Missouri Career Exploration Tool, developed with the Missouri Division of Workforce Development in response to the federal military base realignment and closure process, and the indicator analysis tool for business site location and market demographics, developed with the Business Development Program. In 2003, OSED and the Missouri Department of Transportation received the Trailblazer Award for demographic information used in transportation planning.





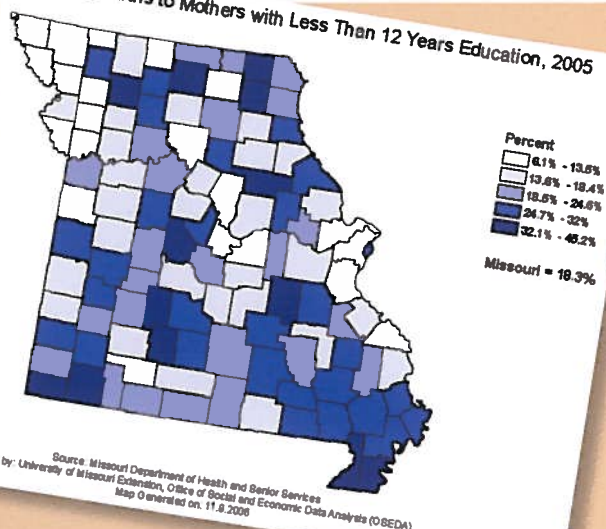
## 2006 Data Book



Citizens  
for  
Missouri's  
Children  
Making Kids Count

OSEDA is the primary source for demographic and economic data analysis for the public. Many federal, state and MU Extension programs rely on these data in targeting the appropriate Missourians for their programs.

Percent of Births to Mothers with Less Than 12 Years Education, 2005



Kids Count Composite County Rankings

County	Rank 1996	Rank 1997	Rank 1998	Rank 1999	Rank 2000	Rank 2001	Rank 2002	Rank 2003	Rank 2004	Rank 2005	Rank 2006
Adair	30	37	47	47	42	39	37	29	66	34	26
Andrew	16	17	6	2	4	6	4	6	12	4	4
Atchison	7	3	7	7	17	46	11	63	5	19	3
Audrain	46	33	46	37	51	57	58	66	75	81	77
Barry	62	52	62	85	95	103	92	98	99	98	93
Barton	68	46	81	92	74	59	51	59	33	35	47
Bates	53	49	53	52	70	44	66	51	52	57	61
Benton	33	55	49	51	57	69	48	53	77	36	59
Bollinger	60	35	52	87	108	91	98	69	82	72	82
Boone	36	28	31	33	29	17	18	24	22	17	12
Buchanan	66	66	66	58	56	47	47	62	37	67	44
Butler	104	101	95	96	100	100	108	106	104	99	105
Caldwell	13	42	43	61	22	26	26	39	50	62	28
Callaway	28	26	35	29	49	33	23	57	42	55	41
Camden	56	61	48	38	45	58	46	50	39	27	46
Cape Girardeau	19	25	16	15	16	41	35	23	29	25	30
Carroll	65	56	61	60	7	12	22	27	26	48	57
Carter	101	80	74	63	99	102	101	99	83	95	69
Cass	23	14	12	11	5	5	10	10	10	8	9
Cedar	87	79	41	28	72	49	45	84	63	90	72
Chariton	2	5	5	24	6	29	8	4	6	15	16
Christian	22	36	18	10	24	19	25	14	7	14	25
Clark	42	38	100	45	98	68	28	47	45	65	66
Clay	12	22	20	8	13	9	7	5	8	5	5
Clinton	34	30	26	34	18	22	13	9	9	12	10
Cole	26	29	42	16	28	50	42	45	35	30	35
Cooper	61	43	30	23	27	15	19	17	34	29	13
Crawford	80	92	87	103	96	98	104	96	95	106	104
Dade	39	75	22	44	35	65	68	64	53	86	33
Dallas	108	68	77	62	75	74	88	97	65	68	109

### • evaluating and managing risks

MU Extension offers seminars that help agriculture producers evaluate and manage risks. A recent series of seminars in 30 locations brought policy research to 1,303 producers, landowners and agencies. The goal of the seminars was to enable participants to better deal with risks associated with business profitability, cash flow, debt repayment, market prices and changing policies. *Participants reported that information gained at the seminars led to increased net prices for grain, improved input to producer organizations and better plans for cash-flow risks.*

### • information for decision-making

Extension faculty members also provide research data policy analysis and support to communities to aid them in decision making. *In Hollister, the results included \$9.5 million for highway reconstruction, which generated an estimated 348 new jobs, \$11 million in income and \$500,000 in tax revenues.* In Lebanon, which was struggling from the loss of 750 jobs with the closing of a major plant, an MU Extension study estimated \$2.5 million in lost city tax revenues. Armed with this information, city leaders were able to negotiate the facility's purchase for half its appraised value. The local business now housed there provided 360 jobs to the area's economy.



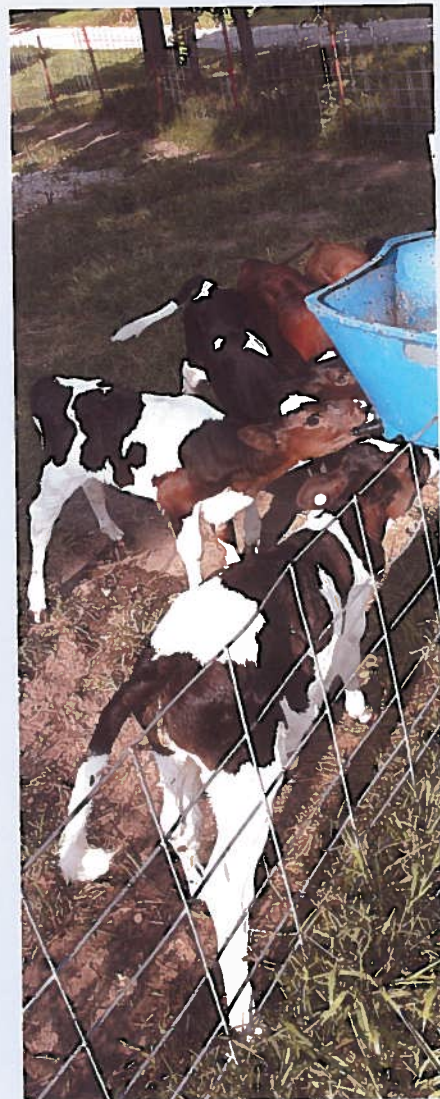
*"We came home with the idea that you should grow all the grass that you can and use all the grass that you grow."*

**K**BC Farms, a pasture-based dairy, began as a family partnership nearly 14 years ago when Gene and Virginia Fletcher, along with their children Charles, Kevin and Tina and their spouses, dreamed the idea. Milking cows had been a family chore since the 1960s, so creating a pasture-based dairy farm seemed a natural transition. But first they needed some advice.

Charles Fletcher enrolled in grazing school with University of Missouri Extension and the National Resources Conservation Service. He worked with pasture dairy experts and learned about the physiology of plants and grazing management. In the fall of 2005, he traveled to New Zealand with MU Extension representatives to see how dairy farmers there make the most of their land.

"We came home with the idea that you should grow all the grass that you can and use all the grass that you grow," says Fletcher. "We used to underutilize the grass."

The biggest advantage of a pasture-based dairy farm is less maintenance, Fletcher says. Cows feed in the pasture rather than requiring constant attention. And the system works. Since the business transitioned to a pasture-based dairy farm in 1998, it has expanded to two locations (Purdy and Lockwood) and gone from 75 to 575 dairy cows, plus nearly 400 heifers.



**MU Extension agriculture business counselors have served as catalysts for 25 ventures**, which resulted in more than \$300 million in capitalization and the creation of more than 400 new jobs.

Beefing up Missouri heifers is just one example. MU Extension specialists, veterinarians and producers joined forces to develop better breeding, health management and marketing practices. *In the past nine years, 600 farms and 70,937 heifers were enrolled in the program, with 69 sales generating \$17.2 million.*

### • watershed management

Watershed management plans, designed to educate livestock and poultry producers and change attitudes, resulted in a win-win situation for both water quality and the agricultural economy. Some plans encourage converting manure to fertilizer.

*As a result of education programs in 10 Southwest Missouri counties, there was a 40 percent reduction in the sale of commercial phosphorous and a corresponding \$3.26 million savings in fertilizer costs for agricultural producers.* Water quality and tourism also benefited.

Four New Zealand dairy operations have located in southwest Missouri as a direct result of MU Extension's pasture-based dairy program and research at the Southwest Research Center. *Results include \$50 million in total new investments, \$12 million in annual milk sales and 330 jobs added.* By 2008, expected expansion will generate \$13 million in investment and \$28 million in annual milk sales, and sustain 777 additional jobs.





Left, KBC Farms' newborn calves are bucket fed until they are old enough to graze. Charles Fletcher, above, converted his family dairy farm to a pasture-based dairy operation with the help of MU Extension specialists.

*Fletcher credits one helpful resource — the monthly pasture walks that MU Extension organizes. Dairy farmers use these meetings to learn from each other and discuss problems and provide helpful advice to one another. He also travels to conferences around the country to share the information he has learned. "Other people are looking at what we are doing and what the university has set up," he says.*

*KBC Farms might soon include three generations. Charles Fletcher's son is now 14 and, after college, could be the next Fletcher to carry on the family tradition.*

### • **helping small food-processing firms**

MU Extension faculty members help preserve a healthy food industry by responding to technical, regulatory and educational needs of the state's small food-processing companies. In FY 2006, more than 330 people participated in food safety workshops. MU Extension helped produce 57 nutrition labels for 22 companies. Technical advice contributed to more than \$7 million in sales.

### • **growing a better quality of life**

The Master Gardeners program produces local environmental benefits and helps improve quality of life. "We find the Master Gardeners to be *one of our most effective partners in the delivery of accurate information about our yard waste recycling and composting activities*," said Barbara Lucks, Springfield city materials recovery/education coordinator, "and in our efforts to protect and preserve our natural environment, especially our water quality, here in Southwest Missouri."

### • **enhancing Missouri grapes and wine**

Research teams at the **Institute for Continental Climate Viticulture and Enology (ICCVE)** look for *ways to enhance Missouri grape and wine production*. The new institute is a partnership among the College of Agriculture, Food and Natural Resources, the Missouri Wine and Grape Board and the Missouri Department of Agriculture. At ICCVE, faculty research/teaching teams work on viticulture (grape production) and enology (wine production) and involve both undergraduate and graduate students. Its MU Extension programs include tailgate meetings on vineyard best management practices and field days.



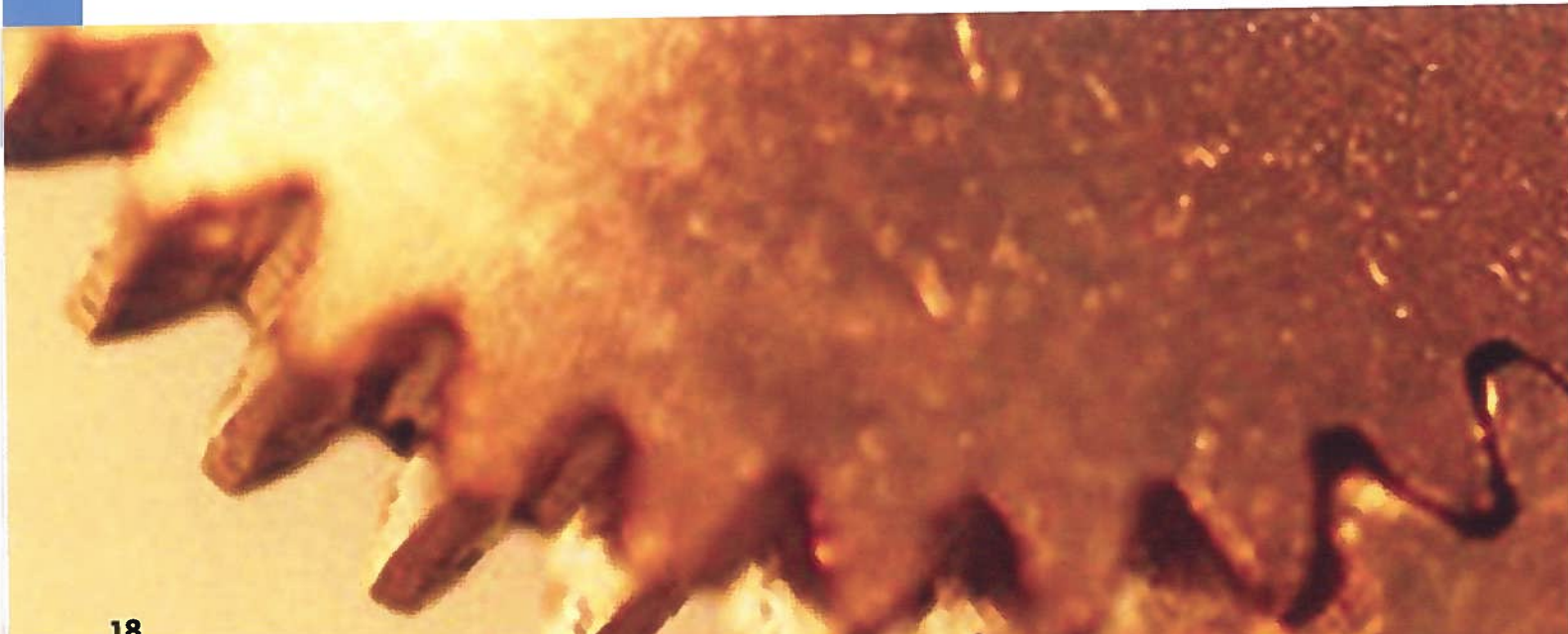


Andy Allen, with the Institute for Continental Climate Viticulture and Enology, determines if grapes on a farm near Wooldridge are ready for harvesting.

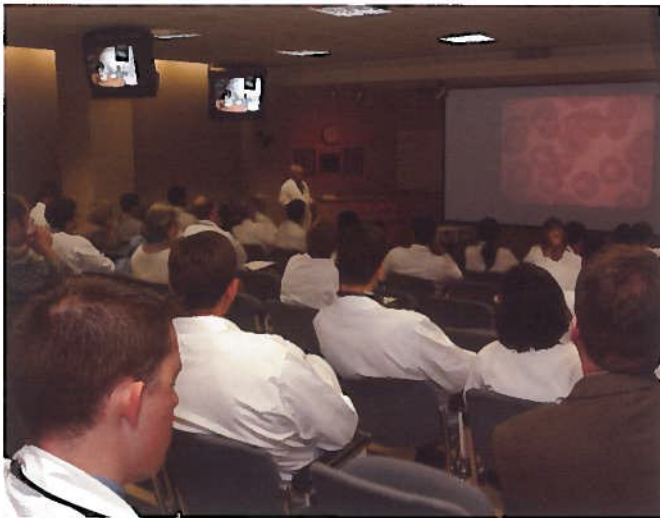
**MU** Extension strives to achieve the Three R's: **Relevant, Responsible and Reliable.** It does this through educational programs in Agriculture and Natural Resources, Community Development, Human Environmental Sciences, Business Development, 4-H Youth Development and Continuing Education that reach Missourians with more than one million educational contacts a year. *MU Extension is all about Missourians helping Missourians.*

As shown by the examples given in this booklet, minimal government investment yields manifold results when delivered through MU Extension. Partnerships with government agencies, nonprofits and businesses magnify the economic impact. *As a result, MU Extension plays a major role in quality of life and economic development in Missouri – and for you.*

If you live in Missouri, MU Extension provides services in your community. To find or contact your local MU Extension center, visit **[extension.missouri.edu](http://extension.missouri.edu)**.



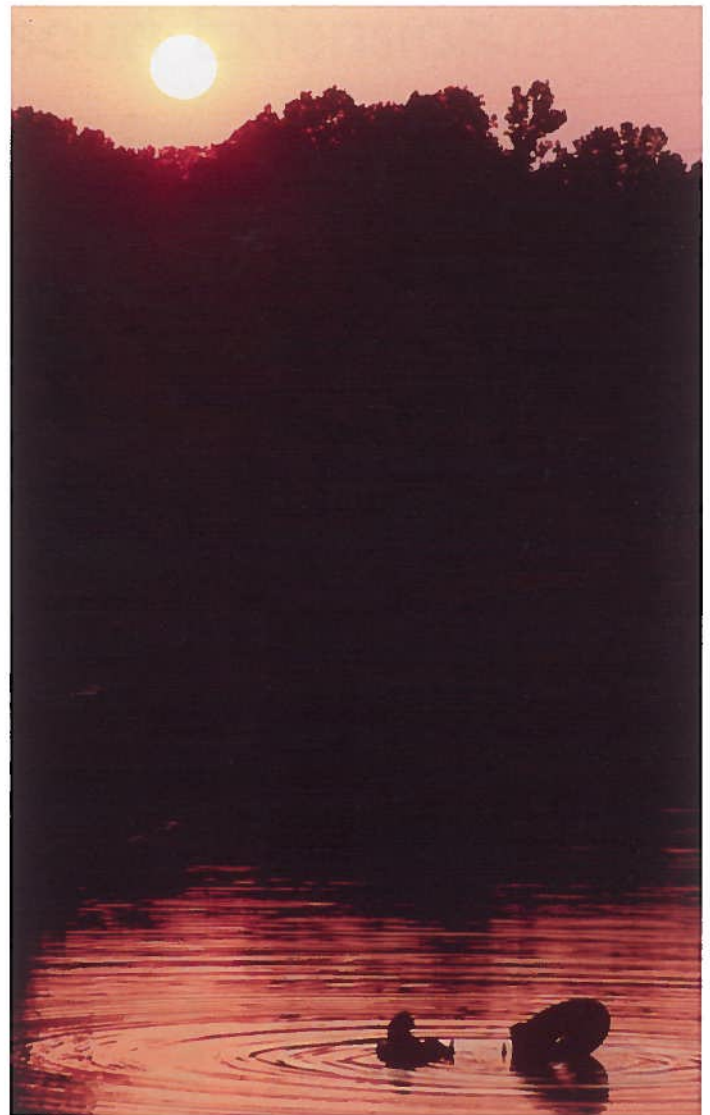




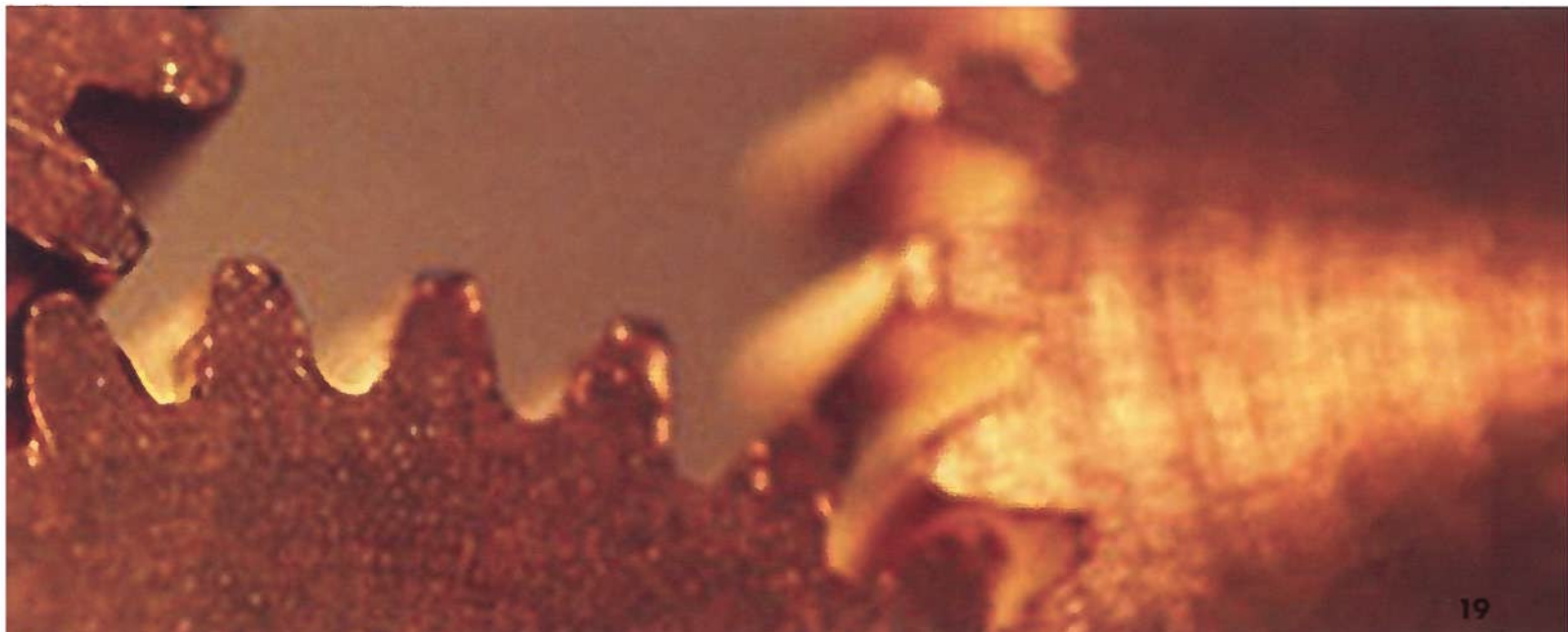
MU Extension's continuing education and distance-learning programs help Missourians keep current and stay productive in their careers.



4-H youth development programs prepare young people for life through a *learning by doing* approach. Here 4-H'ers learn architectural and interior design in a workshop held on the MU campus.



Sunset swim on a Missouri lake. MU Extension works with communities and regional producers to promote tourism and agritourism throughout the state.







*University of Missouri Extension  
is an economic engine  
for Missouri.*

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