



K-STATE
Research and Extension

2012 Report to the Legislature

Making a Difference for All Kansans





Making a Difference for All Kansans

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Our Commitment

K-State Research and Extension is committed to Kansas citizens. We are here to expand the human capacity and enhance the quality of life by conducting practical research and delivering educational programs and technical information that address issues important to Kansas citizens.

www.ksre.ksu.edu



The Role of K-State Research and Extension

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a partner in the nationwide land-grant system of universities created in the 1860s to educate people from all walks of life and to generate and distribute useful public knowledge. K-State scientists and extension faculty can draw on the expertise and accumulated studies and discoveries of the land-grant system, other universities, state and federal agencies, and industry.

Gary Pierzynski, interim dean of the College of Agriculture and interim director of K-State Research and Extension, visits with Connie Kays between meetings with congressional aides on the Manhattan campus in September.

A Message from the Director

We chose “Making a Difference for All Kansans” as the title of this report. I believe you will agree with me that K-State Research and Extension is making a substantial difference for Kansans.

As I look through the stories in this report, I’m proud of our efforts to deliver research-based information in a variety of formats. We continually meet with advisory councils, program development committees, state agencies, and other stakeholders to ensure that our programs are on target and relevant to our clientele.

This report highlights programs aimed at improving nutrition and health; providing 4-H Youth Development programs that focus on math, science, and technology; moving forward with the Flint Hills smoke management plan; dealing with herbicide-resistant weeds; and offering training for feedlot personnel, greenhouse growers, and women who want to take a more active role in managing their farm operations.

Our efforts to develop more efficient irrigation methods that will help conserve the Ogallala Aquifer fit closely with Gov. Brownback’s water initiative. Combating hunger in Kansas and around the world is another important topic that we are addressing.

Having a statewide network with an office in every county and one at Fort Riley allows us to effectively work with local, state, and national partners. Development and coaching academies are proving to be

effective tools to find new leaders and help communities address their individual needs. Also, the new facilities at K-State Olathe provide new opportunities for training in the Kansas City area.

K-State Research and Extension faculty and staff are highly regarded nationally and internationally and hold leadership positions in various professional organizations. K-State has hosted a number of workshops and conferences that bring their peers to Kansas to exchange ideas, which is beneficial for the Kansas economy.

College of Agriculture alumni Connie Kays from Weir (pictured above) and Steve Irsik from Ingalls serve as our delegates to the Council for Agricultural Research, Extension, and Teaching (CARET). They advocate for greater national support and understanding of the land-grant university system’s food and agricultural research, extension, and teaching programs. Each spring, they go to Washington for four days of informational meetings and face-to-face visits with members of Congress on agricultural issues. As benefactors of our programs, they provide an independent testament of the value of what we provide for the citizens of Kansas. We greatly appreciate their efforts and support.

Gary Pierzynski
Interim Dean, College of Agriculture, and
Interim Director, K-State Research and Extension



Program assistant Bertha Mendoza (center) explains a product label to her students Guillermina Flores (left) and Veronica Castro.

Dan Dommett

For more than 40 years, K-State Research and Extension has been reaching young families and youth with limited resources — those most at risk to suffer from hunger and food insecurity — through the Expanded Food and Nutrition Education Program.

Statewide Programs Help Combat Hunger

In the breadbasket of America, it's difficult to imagine that people are hungry. But recently, the U.S. Department of Agriculture released its annual report on hunger in America, noting that in 2010 14.5 percent of Kansans — nearly 400,000 people, equal to 1 in 7 — had difficulty providing adequate food, which the USDA terms food insecurity.

And, 1 in 20 Kansans — or 5 percent — are in a state of very low food security, which means unable to regularly provide food.

Kevin Concannon, the undersecretary for USDA Food, Nutrition, and Consumer Services, said food assistance programs across the country are part of the solution.

“USDA's report underscores the critical role that federal nutrition assistance programs play in helping struggling American families put food on the table until they can get back on their feet,” Concannon said.

Two K-State Research and Extension programs are helping families cope with this issue. The Family Nutrition Program, known nationally as the SNAP-Ed program reaches about 60,000 people in more than 70 Kansas counties. The Expanded Food and Nutrition Education Program (EFNEP) was established in 1969 to help young families better feed themselves and their children. It's available in nine Kansas counties and in 2010 included nearly 1,400 families and 5,700 youth who participated in local programs.

Both programs aim to help low-income families focus on food safety, cooking skills, food resource management, and nutrition education.

Since 2010, K-State Research and Extension program assistant Bertha Mendoza, a native of Chihuahua, Mexico, has been teaching EFNEP classes to many Garden City residents whose native language is Spanish. By the end of 2011, 80 will have graduated from the 12-course program.

One of those is Veronica Castro, who has become an advocate for EFNEP to the local Hispanic community.

“People come to her house and taste the food that she's making. They like it, and she says here's the program if you want to participate,” Mendoza said. “I'm really impressed at how the Hispanic community has been affected in a positive way and how they like to recommend us.”

It's an easy sell for Castro and her family: “Eating healthy meals is expensive, but throughout these classes, we have learned that we can eat healthy despite having a low budget. Bertha understands what we like to eat. She can help us eat more healthy, while continuing to eat what we want to eat.”

One of Mendoza's key messages is that eating healthfully is just as important as stretching a family's limited dollars.

“For example, a case of pop costs more than a gallon of milk,” she said. “We compare the nutrition: a soft drink versus a glass of milk. The calories are about the same, but the nutrition value is higher in milk than a soft drink. It's up to them to make the decision: I can spend \$5 for a case of pop, or I can spend \$5 for milk.

“Usually by the second class they'll come back and say, ‘It really helped me out. We don't have any more pop at home, or we just have it occasionally. The \$5 that I was using for pop now I'm putting into milk. And I'm feeling good for my family.’”

To view an audio slide story, go to www.ksre.ksu.edu/hunger.

Bertha Mendoza, 620-275-9164, bmendoza@ksu.edu

SWIPE Out Hunger

On Oct. 30, 2011, about 500 K-State students, faculty, staff, and area residents packaged more than 71,000 meals for shipment and distribution to the drought- and famine-stricken areas in the Horn of Africa. The SWIPE Out Hunger event was sponsored by Numana, Inc. and coordinated by the K-State chapter of Alpha Zeta and the College of Agriculture. K-State raised more than \$15,000 for the event. To view an audio slide story go to: www.ksre.ksu.edu/swipe.

Sandy Klein

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Saving Rural Grocers

The director of K-State's Center for Engagement and Community Development was invited to testify before the U.S. Senate Hunger Caucus in Washington, D.C., on Dec. 1, 2011, about the loss of rural grocery stores and the effect on communities.

Since 2006, 82 of 213 Kansas communities with populations of 2,500 or less have lost their local grocery store.

The center will conduct a third grocery store summit June 5–6, 2012.

Details will be posted to: www.ruralgrocery.org.

David Procter

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NurseryWorks participants toured local garden centers Blueville Nursery and Horticultural Services (pictured here).



Gloria Holcombe

In 2007 (the most recent figures available), sales of nursery, greenhouse, floriculture, and sod ranked sixth in Kansas agricultural sales at \$77,031,000.

K-State Expertise Draws Visitors to Kansas

Changes in technology and regulations make professional development an important part of any occupation.

To share information and learn new techniques and skills, Kansans and visitors from across the United States and around the world attend conferences hosted by K-State Research and Extension. Those visitors contribute to the Kansas economy through meals, rental cars, gas, hotel rooms, and shopping.

To meet the needs of commercial nursery growers and retail garden center operators, K-State offered NurseryWorks in June 2011. K-State co-chairs Cheryl Boyer, an ornamental nursery crops specialist, and Jason Griffin, director of the John C. Pair Horticultural Center near Derby, asked an advisory committee of nursery operators and Jeff Vogel, program manager for the Plant Protection and Weed Control Program for the Kansas Department of Agriculture, for input. Boyer and Griffin then developed a program to address their audiences' needs. The conference drew 94 participants from 13 states.

The conference offered a variety of innovative technology. Those attending the conference used classroom response systems — or clickers — to interact with presenters, and others joined the conference online. Boyer, an avid Twitter and Facebook user, included a session by Meg Cloud, who manages the online presence for Stark Bro's Garden Center in Louisiana, Mo.

Here are few comments from the evaluations:

“The most informative conference I have been to in several years.”

“The program was extremely useful and necessary for anyone who is inclined to stay abreast of the most recent and efficient methods of production.”

“Great opportunity to network in the industry.”

“Even if you only attend online, you will get the best information from the latest researcher to enhance your performance. Everyone needs to get their ‘battery’ recharged. This is one of the best values in the industry.”

Griffin added, “Participants also were able to earn up to 8.5 hours of International Society of Arboriculture continuing education units, as well as four hours of Kansas Pesticide Applicator training credits.”

NurseryWorks received an innovative program award for noncredit programs from the central region of the University Professional & Continuing Education Association. Go to the conference site www.ksu.edu/nurseryworks to view an audio slide story and conference information.

K-State faculty are active in various professional organizations that conduct annual conferences. For example, K-State hosted the Association of Meat Science's Reciprocal Meat Conference for the third time. A record 758 attended the 2011 four-day conference. Attendees spent more than \$42,000 for meals in the K-State Student Union alone. The Manhattan Convention and Visitors Bureau estimates that the average conference visitor spends \$157 per day.

In August, the National Association of County Agricultural Agents met in Overland Park. Nearly 2,600 rooms were booked for participants, exhibitors, and staff at the four-day conference.

Scientists from 13 countries and 12 states attended the Fusarium Workshop, which is held in Manhattan every other summer. The alternate year is held outside the United States. Fusarium are fungi that can produce mycotoxins in cereal crops that can affect human and animal health if they enter the food chain. For more information, go to www.ksre.ksu.edu/fusarium.

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Blog Draws Interest

Interesting photos and short posts are drawing pecan growers to northernpecans.blogspot.com. K-State's pecan specialist started the blog in Sept. 2010, and usually posts twice a week. The blog features a wide range of topics and follows the pecan growing season. Statistics show the readership is steadily increasing and readers are staying longer on the site.

William Reid

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Grains Training

The International Grains Program (IGP) offers short courses to foreign business leaders and government officials on grain storage and handling, milling, marketing, and processing. In 2011, IGP hosted 44 courses for 628 participants from 43 countries.

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Popular Publication Downloads

These publications were the most frequently downloaded from the K-State Research and Extension Bookstore www.ksre.ksu.edu/library (Dec. 2010 – Nov. 2011):

How to Trap a Coyote, 12,549

How to Call Coyotes, 11,163

Vegetable Garden Planting Guide, 11,084

Coccidiosis, 10,891 (This livestock disease publication is linked to web pages in Poland, Russia, and Korea.)

Kansas Garden Guide, 9,996

Kansas Land Prices and Cash Rental Rates, 9,223

Livestock Judging Guide for 4-H Club Members, 8,382

Pigweed Identification, 8,189

Pruning Fruit Trees, 7,282

Planning Cattle Feedlots, 6,324

Amy Hartman

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Chase County agent Mike Holder, left, looks at grazing land with sheriff Rich Dorneker, whose office helped manage the county's smoke management plan.



Pat Melgares

Last year, approximately 1 million head of stocker cattle added about \$30 million to the Kansas economy.

Evaluating First Year of Smoke Management Plan

Kansas has taken an important first step toward resolving a nearly decade-long discussion between urban and rural residents over smoke from prairie fires.

The Kansas Flint Hills Smoke Management Plan was released by the Kansas Department of Health and Environment (KDHE) in December 2010 to help guide prescribed burning on the state's prairie land.

In 2003, KDHE reported that smoke from annual fires — to control woody plants in grassland and maintain the ecosystem for wildlife — was contributing to poor air quality in Kansas City and other areas to the east.

The plan “may have seemed to come together quickly,” said Tom Gross, chief for the Bureau of Air and Radiation at KDHE, “but there was a lot of lead-up time prior to its release last year.”

In fact, 13 state and local organizations were involved in writing and implementing the plan, according to the team's website www.ksfire.org.

The plan debuted in spring 2011, encouraging land managers to monitor weather forecasts — particularly wind speed and direction — when planning an annual burn. Officials also implemented restrictions on open burning during April in Johnson, Wyandotte, and Sedgwick counties as well as the Flint Hills region.

“I think we made a difference; we certainly raised awareness about prescribed burning,” said Jeff Davidson, Greenwood County agriculture and natural resources agent. “I was pleased with the number of phone calls I got from people looking at the website and wanting to do things right.”

About two-thirds of the country's remaining tallgrass prairie is in the Flint Hills. Because of that, K-State researchers continue to look at the best ways to burn native grasslands to help producers achieve their management objectives. In addition to best practices for controlling the flow of smoke to populated areas, they are helping to preserve historically significant grasslands.

They also know that projects like the smoke management plan take years of research to fully realize their effects. For example, the Konza Prairie Long Term Ecological Research project, funded by the National Science Foundation and a key K-State initiative to preserve grasslands worldwide, is in its 31st year.

The annual burns knock out invasive woody plants and other growth that interfere with maintaining healthy grasslands for grazing cattle.

“Burning the prairie is critical in my business; it just basically has to be done,” said rancher Jack Lindamood, who manages nearly 350 head of cattle in Greenwood County.

In nearby Chase County, about 300,000 acres are burned each year. Agent Mike Holder says that area has the “cleanest grasslands in the Flint Hills.

“It's that way because of grazing and burning and the fact that producers follow those two practices correctly,” he said. “We've got a big part of the ecosystem. If we don't burn it, we lose the ecosystem.”

The Flint Hills Smoke Management Plan was not without hitches in 2011. Air quality monitors in urban areas exceeded national air quality standards on four days during April, the peak burning season.

“An awful lot of that is related to how many good weather days we had for burning last year,” said KDHE's Gross. “When you have a smaller number of those days — as was the case in Kansas last spring — you are probably going to have more exceedances.”

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Biomass from CRP

In 1985, USDA created the Conservation Reserve Program to take land out of crop production and put it into perennial grassland to conserve soil and reduce surface water runoff. Kansas had about 3 million acres in CRP land in 2008; however, by the end of 2011 about 50 percent of those contracts expired. With sponsorship from the U.S. Department of Energy and the Sun Grant Initiative, K-State researchers are studying whether CRP land can effectively supply feedstocks for the biomass market.

Keith Harmony

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Pollution Prevention

K-State's Pollution Prevention Institute has updated and improved its online water-quality tools that help a business assess the environmental risks its site and operations may pose to surface water and groundwater quality. This can minimize risk to on-site or community drinking water sources. The tools are available at www.sbeap.org/resources/water-quality for such businesses as: agricultural service centers, parking lots, RV parks and campgrounds, veterinary clinics, and fairgrounds.

Barb Johnson

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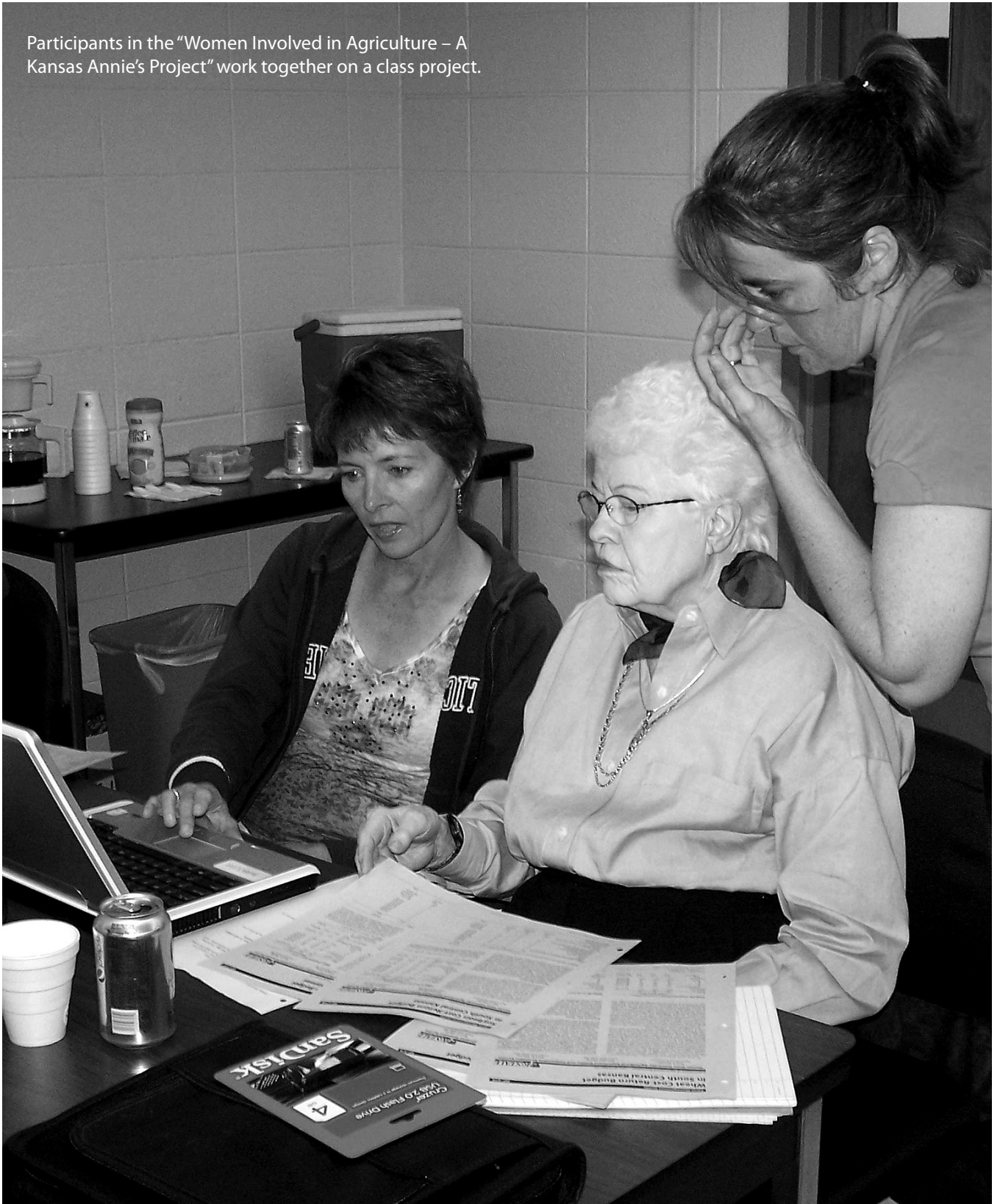
Tours Prove Valuable

K-State Research and Extension held wheat plot tours at seven locations. Forty-seven of the 176 attendees completed surveys. Based on the wheat disease identification scoring, 85 percent of those attending increased their knowledge of the major wheat diseases and management strategies. Survey respondents estimated that the program substantially increased their farm profitability and net income.

Todd Whitney

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Participants in the “Women Involved in Agriculture – A Kansas Annie’s Project” work together on a class project.



Courtesy of Mark Ploger

Census data show that the number of women who are principal farm operators is growing steadily. In 2007, 30 percent of the total number of farm operators in the United States were women.

Annie's Project Provides Knowledge and Support

Kansas women are taking increasingly more active roles in farm management. To help them learn more about keeping financial records, understanding lease laws, marketing, and estate planning, K-State Research and Extension offers a series of workshops.

Denise Gerber attended the initial Women Involved in Agriculture – A Kansas Annie's Project workshop in Hutchinson in fall 2010.

"I grew up on a wheat farm in Harvey County, where we also raised cattle," said Gerber. "After college, I left the farm for an accounting career. Now, years later, I'm a business manager for an absentee landowner, as well as for my mother, who is also an absentee landowner. The workshop has given me knowledge and insight on dealing with all aspects of managing a farm."

Annie's Project is based on an Illinois farm wife who spent her lifetime learning to be an involved business partner. Her daughter, a university extension specialist, developed the program to share with women across the country.

Three agents — Jonie James, Harvey County; Mark Ploger, Pratt County; and Glenn Newdigger, Stafford County — secured grant funding from the North Central Risk Management Education Center to establish the program in Kansas. They teamed up with K-State agricultural economists Kevin Dhuyvetter, Troy Dumler, and Rich Llewelyn and local organizations such as Farm Bureau, American AgCredit, and Frontier Farm Credit to provide speakers for the regional workshops.

The topics differ slightly across the state, with 20 to 30 participants meeting six times for three- to six-hour sessions.

"Annie's project is an educational program and support network to enhance the business skills of women involved in agriculture," said James, who coordinates the project. "Participants say they find answers, strength, and friendship. They also grow in confidence, business skills, and community prestige."

Katie Sawyer of McPherson enrolled when she was engaged to her husband Scott, who is a fourth generation farmer and works alongside his father.

"I enrolled in Annie's Project to gain a better understanding of how a family farm operates, the terminology used by people in the agricultural industry, and how outside factors — such as the commodities market, government regulations, and consumer demand — affected our operation," Sawyer said.

"Annie's Project allowed me to understand why we did what we did and what I could do to either help or improve our operation," she said. "After each class, I talked with my husband about what I learned. Those conversations allowed my husband to relate the lesson more directly to our operation. A classroom setting allowed us to ask questions, work one-on-one with instructors, and also network with the other ladies."

Workshop evaluations are positive, with 90 percent of respondents now using financial statements as a benchmarking tool, 63 percent starting family discussions on transition planning, 56 percent using software to categorize expenses and income, and 45 percent implementing family business meetings.

"It is never too late for women to educate themselves on the agriculture industry," added Sawyer. "The Annie's Project is a valuable tool for women of all ages and has a diverse enough curriculum that everyone will likely gain something from the courses."

Jonie James, 316-284-6930, jjames@ksu.edu

Benefits of Strong Women Program

In 2000, Pratt County started the Strong Women program to bring together women of all ages to do strength-training exercises and learn about nutrition. Comanche County now has two groups who meet twice a week and notice improved balance and flexibility. Kiowa County offers the training before meals in the senior meal sites. Participants credited the support network with improved attitudes and agility.

Christine McPheter

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Workshops Offered

K-State Research and Extension will host day-long workshops in Cuba, McPherson, Savonburg, El Dorado, Burlington, and Manhattan to show agricultural producers how to create and use spreadsheets to manage their farming and ranching businesses. The training includes an introduction to Excel, creating spreadsheets that estimate machinery costs, crop budgets, principal and interest payments, and adjusted weaning weights.

K-State will be hosting workshops in 10 locations around the state (to address the intricacies of leasing agricultural land. The workshops aid both landlords and tenants as they work to arrive at an equitable arrangement for Kansas farmland.

Kansas Income Tax Institutes in Topeka, Hays, Garden City, Colby, Olathe, Salina, Wichita, and Pittsburg focused on tax issues in agriculture. It is a cooperative effort among K-State Research and Extension, the Internal Revenue Service, and the Kansas Department of Revenue.

Rich Llewelyn

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Norma Falwell, a retired school librarian, completed Master Food Volunteer Training in 2004. Here she teaches basic cooking skills to a Johnson County Girl Scout.



Dan Domert

The Master Food Volunteer Program was created by K-State Research and Extension in 2002 and has been adopted by 17 other states. Volunteers receive 40 hours of training and in return provide 40 hours of volunteer service back to their community. For more information, go to www.ksre.ksu.edu/mfv.

Programs Promote Food, Nutrition, Health for All

Health professionals tout the benefits of breakfast. Bypassing the morning meal can mean less energy and endurance, a reduced ability to focus, and a tendency to eat more calories with less nutritive value during the day.

Breakfast is important at any age, and that's why Tranda Watts, K-State multicounty nutrition specialist, asked the question: "What happens to children who qualify for free or reduced cost breakfasts when school ends?"

Watts learned that 49 to 76 percent of elementary school students in Norton County qualify for free or reduced cost school breakfasts and lunches.

To fill the gap, Watts developed a two-week cooking class — Breakfast 101 — to teach third- through fifth-graders how to choose health-promoting foods and make a meal. She sought support from the local school, which offered facilities and grant funding to make it happen.

Fifty-five percent of participating youth reported improved ability to name the five food groups and foods that should only be eaten occasionally, she said.

Fifty percent reported making at least one of the recipes at home from the USDA's Kids A Cookin' video series developed by K-State Research and Extension, said Watts, who noted that attendees are already asking when the next class will be held.

In southeastern Kansas, Ann Ludlum, Southwind District agent, offers three-day summer cooking classes for second- through fifth-graders.

Ludlum's summer classes supplement K-State Research and Extension's nutrition education in the classroom and cover the basics, from handwashing to safe use of kitchen tools (chopping vegetables is an example), and acquaint students with a greater variety of foods.

In Johnson County, agent and registered dietitian Nichole Burnett is working with Master Food Volunteers to teach area youth, including Girl Scouts, kitchen basics in preparing healthy meals and snacks.

The Master Food Volunteer Program, now in its tenth year, provides 40 hours of training in food safety, food science, food preparation, and food preservation to volunteers who then share their knowledge with other individuals and groups.

"Creating hands-on opportunities to help children learn about food, nutrition, health, and basic cooking helps to build a healthier life — and lifestyle," Burnett said.

While youth nutrition education programs hold the promise of lifelong benefits, K-State Research and Extension nutrition education programs begin before birth and continue throughout the lifespan, said Sandy Procter, K-State Research and Extension nutrition specialist.

"You truly are what you eat," said Procter, who focuses on research-based, consumer-friendly nutrition education.

Examples include introducing children to a variety of health-promoting foods; meal planning, preparation and healthy portion control for families of all sizes with diverse heritage; planning snacks to contribute to health, and food safety and security within the home, while also encouraging food choices that contribute to health and prevent or ease symptoms of disease.

Procter, a registered dietitian, serves as the K-State Research and Extension coordinator for USDA's Expanded Food and Nutrition Education (EFNEP) and Family Nutrition (FNP) programs. She also was invited to review at the national level how EFNEP programming meets the 2010 Dietary Guidelines.

Sandy Procter, 785-532-1675, procter@ksu.edu

K-State Leads Effort

In 2011, K-State earned the leadership role in a seven-state research effort to improve children's food choices and health and reduce obesity. The USDA National Institute of Food and Agriculture (NIFA) grant is valued at \$4,500,652. Land-grant universities in Indiana, Michigan, North Dakota, Ohio, South Dakota, and Wisconsin will be working with K-State Research and Extension on the five-year research project.

Paula Peters

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Education Times Two

About 50 percent of 213 women from four southeastern Kansas counties, who attended a USDA Expanded Food and Nutrition Healthy Baby Program, reported improving their consumption of fruits and vegetables. They also reported fewer low birth-weight babies (6 percent, compared to a national average of 8.2 percent, and a state average of 7.2 percent).

In Crawford County, 74 percent of the new moms initiated breastfeeding. Studies show that improved eating habits and breastfeeding benefit both mother and baby.

Martha Murphy

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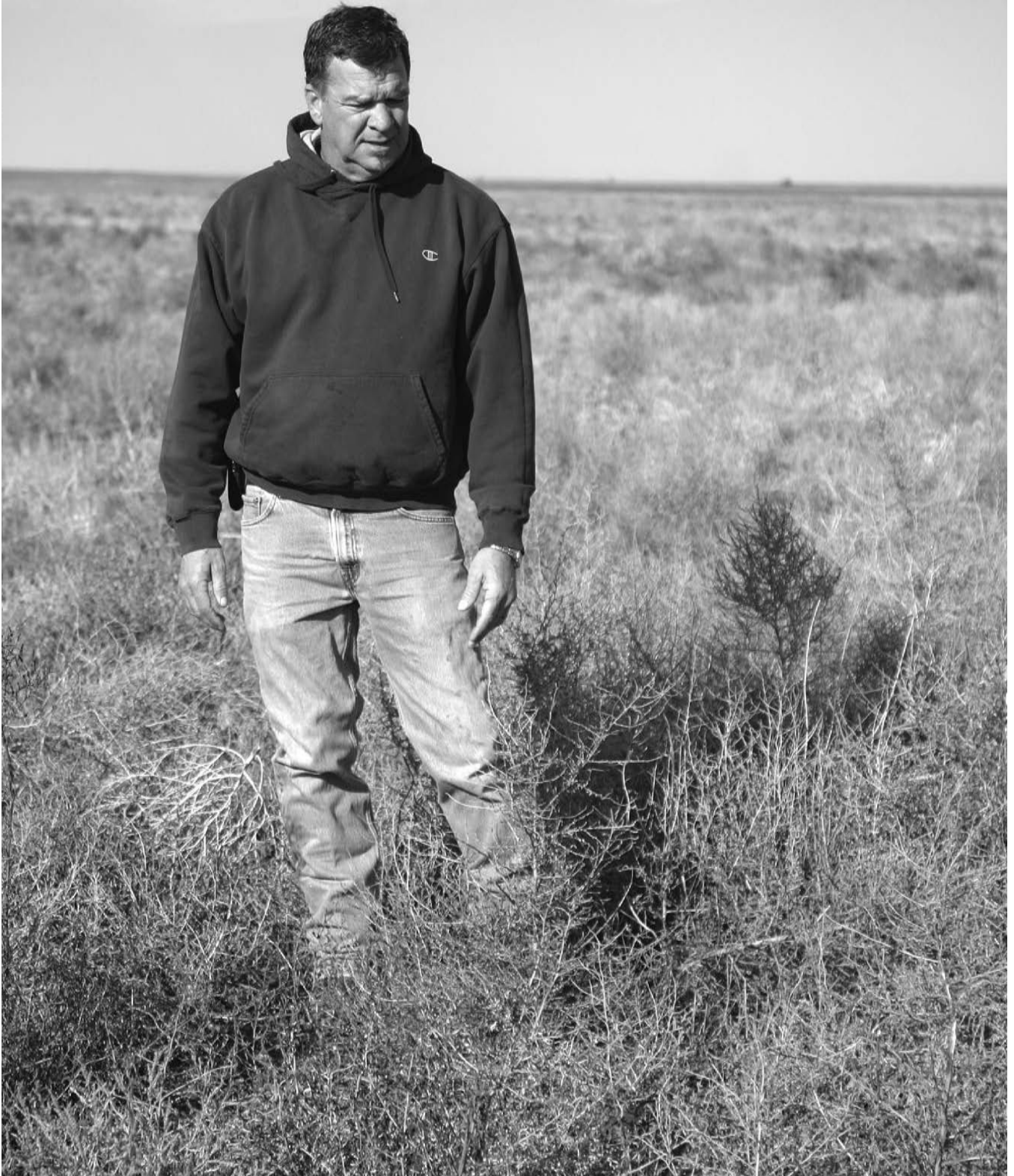
Preventing Obesity

Four agents completed training on I Am Moving, I Am Learning (IMIL), which is a proactive approach to address childhood obesity at home and child-care centers. It is part of the Childcare and Youth Training and Technical Assistance Project supported by the U.S. Department of Defense in partnership with the University of Nebraska-Lincoln and Pennsylvania State University. The agents are now training their colleagues.

Denise Sullivan

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Jeff Fulmer, Shields, inspects a weed test plot.



David Dunn

Failure to control weeds in cropland can reduce crop yields by 20 to 40 percent or more.

Researchers Battle Herbicide-Resistant Weeds

In an ever-present fight against weeds, Kansas farmers are pondering a future without two of their favorite tools.

The nastiest foe in western Kansas is kochia, an annual weed that has become resistant to glyphosate, the active ingredient in Roundup and many generic products. In eastern Kansas, marestail, waterhemp, giant ragweed, and common ragweed have been found to be glyphosate-resistant and frequently grow in soybean fields.

Studies at Colorado State University suggest that kochia is showing resistance to dicamba, the active ingredient in such products as Banvel, Clarity, and Vanquish.

Homeowners dislike weeds because they make landscapes unsightly, but for farmers, it's much more. Weeds steal nutrients and moisture from the soil, cutting yields and reducing profits.

"Once a species of weeds develops resistance to an herbicide, you can't control them with that herbicide," said Phil Stahlman, weed scientist at the Agricultural Research Center-Hays. "You'll have to rely on other herbicides that may not be as effective and likely will be more expensive."

Vance Ehmke notes that some of the newer herbicides may cost as much as \$30 per acre. He farms with his son, Tanner, near Dighton.

"When you start hitting a field several times a year, you just absolutely kill your profitability," Vance Ehmke said. "But the consequences of not killing these weeds are even worse than that. You could easily be looking at 20 to 30 bushels less on corn and milo. Higher inputs, lower productivity — both are bad."

By fall 2011, K-State researchers had identified numerous Kansas locations with glyphosate-resistant kochia.

"The problem is widespread throughout western Kansas," Stahlman said. "Knowing the extent of the problem will help us develop production strategies to help farmers."

"I'm really interested in what they're doing," said Jeff Fulmer who farms near Shields, Kan., and provided an acre of his land for the K-State research. "I think with the research that Stahlman did last year and with what we learned, I have a clearer plan for next year. I'm heading in a totally different direction from what I had been doing."

K-State weed scientist Curtis Thompson says certain mixes applied in very early spring (March) followed by pre- or post-emergence will control kochia, but the crop must be planted in a weed-free seedbed.

Thompson said farmers should control kochia while it's small. Once it reaches 6 inches tall, it's more difficult to control. In the case of marestail, some farmers should consider applying herbicides in fall.

"When fall weeds take off, they use a lot of moisture and become more difficult to control," he said. "Tillage may be effective; however, it thrusts some farmers back into a practice contrary to no-till, which has been very beneficial to crop production in western Kansas."

"We easily lost two decades of progress this year," Tanner Ehmke said. "For the first time in two decades, we had to till stubble. It's pretty serious."

"Herbicide-resistant weeds represent a major setback to modern farming and a major hike in costs," said Vance Ehmke. "Thankfully, we have K-State and other land-grant universities to help find answers to this problem."

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Western Kansas Research Projects

To learn more about projects at the Western Kansas Agricultural Research Centers, watch this video:
www.ksre.ksu.edu/wkarc

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Apps to Help Growers

Field crop entomologists are developing and testing a series of Web-based smartphone applications (www.iwheat.org, www.soypod.info, www.thebugspot.org) to help growers make quick management decisions in the field as well as submit surveillance data to research scientists.

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Climate Change Studies

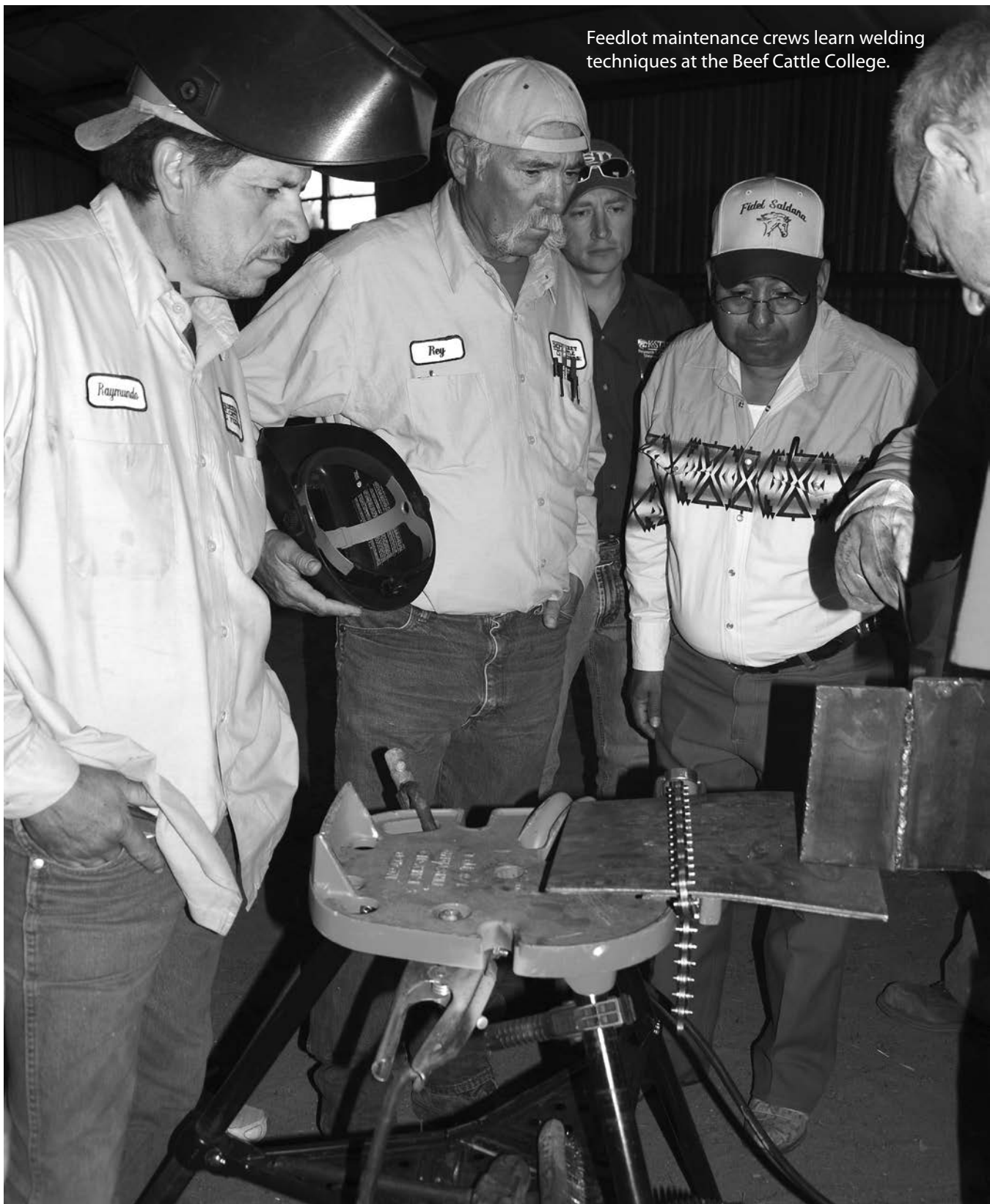
K-State has two National Science Foundation (NSF) grants to study climate and agriculture issues. One — with the University of Kansas and Wichita State University — focuses on how climate and extreme events, such as severe drought and heat, impact crop production and the development of adaptation and mitigation strategies to reduce the risk of extreme events on crop production. The second project will develop an educational program to deliver climate-related information to rural Kansans.

Because of the expertise at K-State, several faculty members are part of the Global Research Alliance on Agricultural Greenhouse Gases. K-State Libraries and faculty are helping develop a database for the global community and conducting research on greenhouse gases associated with crop production.

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Feedlot maintenance crews learn welding techniques at the Beef Cattle College.



Gloria Holcombe

According to the Kansas Agricultural Statistics Service, cattle generated \$6.53 billion in cash receipts in 2010, representing 47 percent of Kansas' agricultural receipts.

Training Meets Commercial Cattle Feeder Needs

An evening event that offers a steak dinner and training for feedlot crews, managers, and human resource personnel at no cost to the participants sounds like a tall order, but that's exactly what K-State's Cattle Feeders College offers.

Justin Waggoner, beef systems specialist serving southwest Kansas, puts together a comprehensive program that benefits all aspects of the feedlot business.

More than 225 attended the inaugural 2010 events in Cimarron and Sublette. In 2011, more than 175 people — representing 23 feed yards with more than 940,000 head of one-time feeding capacity — attended the cattle colleges in Larned or Sublette. For many participants, it was their first exposure to K-State Research and Extension. The Kansas Agricultural Statistics Service lists Haskell County, where Sublette is located, with the largest inventory of cattle on feed, with 320,000 head.

Feeding cattle is big business in Kansas, with 100 of its nearly 150 feedyards operating in western Kansas. Of the 2,400,000 cattle on feed in Kansas, 69.5 percent or 1,669,200 head were reported on feed in western Kansas.

“Time is very valuable in this industry,” said Waggoner. “We cover as much as we possibly can in about four hours. The program offers information for everyone involved in the day-to-day operation of a commercial feeding facility in one program.”

The event was divided into three simultaneous sessions for managers and human resources personnel, milling and maintenance crews, and cattle crews. The topics covered effectively managing runoff and applying it to farmland, horsemanship, low stress animal-handling techniques, feed mixer technology and maintenance, and a welding session conducted by Garden City Community College. Safety for the cattle and workers is a major factor in all the presentations.

Chris Burris, manager of Ward Feed Yard in Larned, provided the cattle used in the animal-handling session at Larned. He attended the human resources sessions, and about a dozen of his employees participated in the human resources or horsemanship and cattle-handling events.

Chris Reinhardt, K-State feedlot specialist, led a panel discussion on managing and guiding leaders in your organization.

“Every speaker on the panel discussion was good,” said Burris. “The whole program was very relevant. My employees said they took home information they could use and appreciated having the hands-on demonstrations — actually watching new techniques being used.”

Siddartha Torres, a K-State Ph.D. student from Mexico City, was on hand at the Sublette session to offer real-time Spanish translation for the participants in the cattle crew and milling and maintenance sessions.

Industry sponsors cover all expenses, making it possible to offer the event at no charge. Merck Animal Health funded the speakers and program, and representatives from Walco and Lallemand Animal Nutrition provided the dinner.

“K-State does a good job pulling together the program,” said Chance Morrow, Merck Animal Health sales representative for southwest Kansas, who attended both sessions. “It offers information on multiple levels that can be used every day.”

Justin Waggoner, 620-275-9164, jwaggon@ksu.edu

Sand Flies Discovered

A K-State entomologist has discovered sand flies in Kansas and neighboring states. Sand flies around the world transmit the disease leishmaniasis, and may carry canine visceral leishmaniasis (VL) to foxhounds in Kansas. Dogs are the primary reservoir for zoonotic VL infection and the most significant risk factor predisposing humans to infection. Current research is assessing whether these flies are involved in disease transmission in Kansas.

Marcelo Ortigao

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Beef Cattle Institute

K-State's Beef Cattle Institute has collaborated with beef industry partners to create short training modules and supervises a team of undergraduate and graduate students to convert beef and dairy training materials from English to Spanish. More than 200 training modules are available at animalcaretraining.org.

Chris Reinhardt

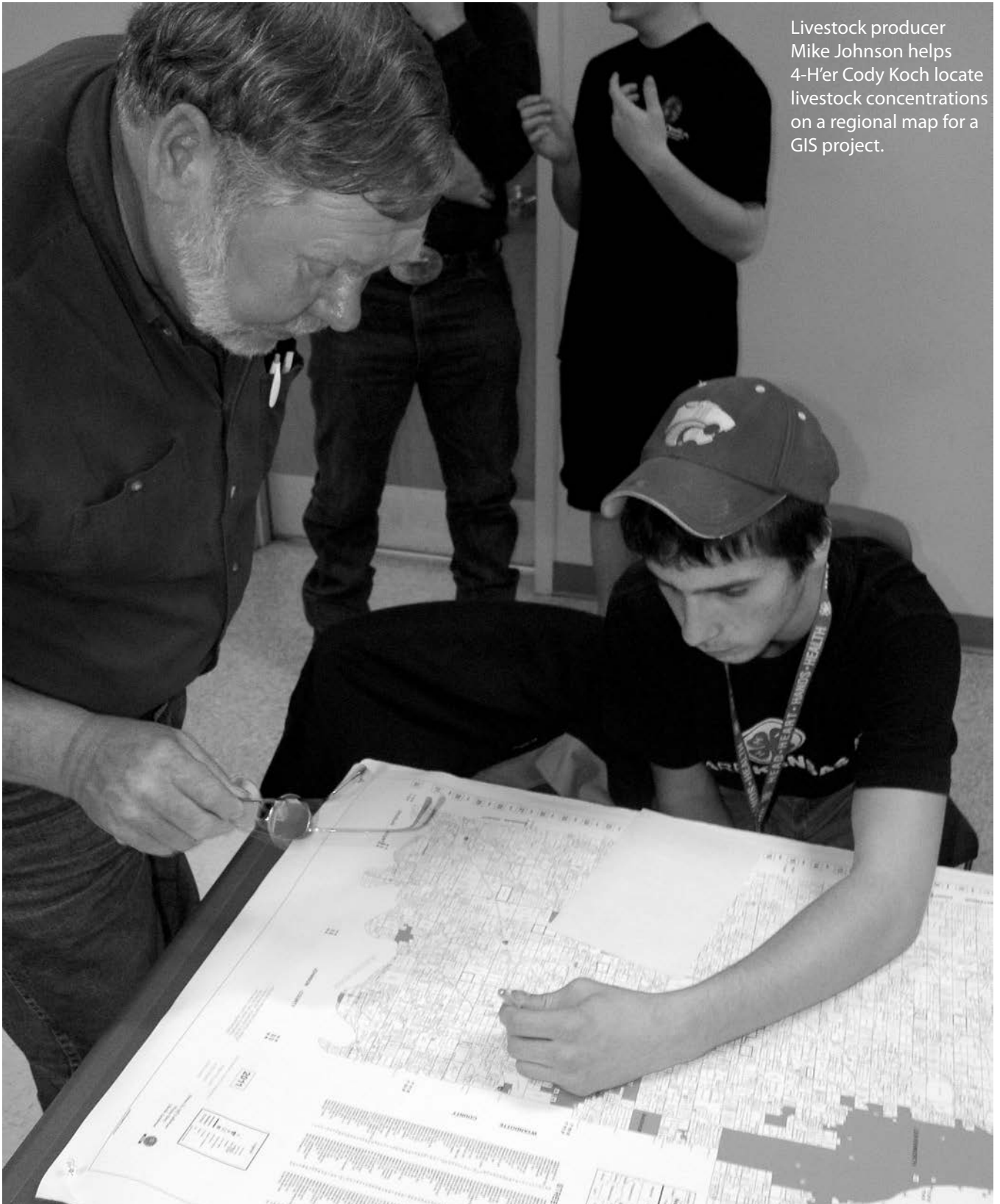
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Youth Swine Training

More than 400 people from 47 counties attended the K-State Junior Swine Producer Day. Participants learned about swine selection, care, breeds, and showmanship. Youth also participated in Pork Quality Assurance Plus training and watched a meat and carcass evaluation demonstration.

Joel DeRouchey

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Livestock producer Mike Johnson helps 4-H'er Cody Koch locate livestock concentrations on a regional map for a GIS project.

Courtesy of Beth Hecht

Students participating in 4-H report higher educational achievement and academic confidence, are nearly two times more likely to attend college, and more likely to pursue future courses or a career in science, engineering, or computer technology.

4-H Equips Youth with Science, Technology Skills

Tomorrow's leaders are learning science, engineering, and technology through a variety of 4-H Youth Development activities.

For example, applying lessons learned in 4-H allowed Kansas youth to assist local emergency and homeland security officials, said Beth Hecht, a member of the state 4-H Youth Development team who has been charged with integrating global positioning and geographic information (GPS and GIS) technologies into Kansas 4-H educational experiences.

Hecht has used geocaching, which is similar to a scavenger hunt, to introduce youth to the technologies. She follows up by working with youth and adults to apply the technologies to serve their communities, while exploring emerging career opportunities.

She invited Leavenworth County officials to attend a 4-H demonstration on geospatial literacy. Chuck Magaha, county director of emergency management, saw the potential for collaboration and invited the 4-H tech team to map herds of 100 or more cattle, sheep, and other cloven-hoofed animals.

The teens' project, titled a "Foreign Animal Disease Biosecurity Map," supplements county resources and is intended to aid emergency management and homeland security. It also earned the 4-H tech team second place in the K-12 division in an international map-making contest.

"This project was different from others that our group had done in the past because we had to interact with people to gather our data," said Katie Eberth, Leavenworth County 4-H member. "Up until now, our projects have mainly consisted of just gathering points. This one took a little bit more. We had to be instructed by the county and survey farmers in the county."

Other projects have included tracking rail lines, pinpointing environmental hazards, and developing a smartphone map app for the Kansas State Fair.

Using the new technologies highlights opportunities for personal and professional growth and civic responsibility in line with 4-H core values.

Giving back to community is a 4-H staple. A recent "Study of Positive Youth Development" by Tufts University found 4-H'ers are 2.5 times more likely to contribute to their communities, said Gary Gerhard, Kansas 4-H science liaison.

Embedding science and technology in 4-H Youth Development integrates math, science, and technology into everyday life, said Gerhard. He offered a basic example in the 4-H food and nutrition project: Math (measuring) and science (choosing complementary ingredients and combining them successfully) are necessary to produce successful — and edible — products.

The 4-H SpaceTech project has introduced students to astrophysics, rocketry, and robotics; the geology project encourages a down-to-earth study of the state's landscape; while photography stimulates exploring the world with digital images.

Educational 4-H programs are offered in a variety of settings, ranging from the club concept with volunteer adult and youth mentors, project, special interest, school enrichment, after-school clubs, and service learning in school and community groups.

Kansas 4-H encourages youth to explore personal growth, learn sustainable living practices, and nurture a positive self-concept, Gerhard noted that 4-H is working to equip youth to succeed in a changing — and competitive world — while also practicing leadership, citizenship, and service within their community.

Gary Gerhard, 785-532-5800, ggerhard@ksu.edu

Faces of Kansas 4-H

In 2010, Kansas 4-H served a diverse group of 66,748:

- * 11,509 resided on farms;
- * 17,830 resided in communities with populations of 10,000 or less;
- * 21,281 resided in cities and towns with populations of 10,001 to 50,000;
- * 9,691 resided in suburbs of cities with populations greater than 50,000; and
- * 6,437 resided in cities with populations greater than 50,000.

Male (49 percent) and female (51 percent) participation is closely matched among youth ages 7 through 18.

www.Kansas4-H.org

Living History Lesson

Linda Kuntz, who works at the Eisenhower Museum in Abilene, is a former 4-H member and parent of three 4-H alumni, with 24 years of experience as a 4-H community volunteer leader. As a volunteer, she recruited Dickinson County 4-H members to recreate the vegetable garden tended by Dwight Eisenhower and his brothers.

The living history project allowed the 4-H youth and their families to learn about the Eisenhower's family life, how they planned and managed the garden, and life in Abilene, Kan., circa 1900. The 4-H'ers planted heirloom seeds near the original plot, harvested the produce, and sold it to Eisenhower Museum visitors dressed in period clothing at the same prices as the Eisenhower boys.

"The project has exceeded all expectations," said Tim Rives, Deputy Director of the Eisenhower Presidential Library and Museum.

Kuntz received an Archivist Award for Outstanding Achievement, which was presented at the U.S. National Archives Dec. 8, 2011.

Middle and high school teachers participate in a food safety workshop at K-State Olathe.



Courtesy of Joan Leavens

K-State Olathe has hosted 364 events and more than 7,000 people since opening in April. The university has invested \$34 million into the building and benefit district and is developing relationships with local businesses and school districts, state, national and international industries.

K-State Olathe Promises New Opportunities

The opening celebration has come and gone, and the real work has begun. With the April 26, 2011, grand opening of its new campus in Olathe, K-State has a new portal to link Kansas City area residents and businesses to the scientific expertise available at the Manhattan and Salina campuses.

The first building on the campus, the International Animal Health and Food Safety Institute, is a \$28 million, 108,000-square-foot facility, with classrooms, laboratories, conference rooms, commercial and theater-style kitchens, and a 125-seat auditorium.

K-State Olathe and its design/build partners received the Accessible Community Award for public, private, or civic entities by the City of Olathe's Persons with Disabilities Advisory Board in May 2011.

The building, which was built on 38 acres granted to K-State by the city of Olathe, was financed by a portion of a one-eighth-cent sales tax approved by Johnson County voters in November 2008. Located at the corner of College Boulevard and Valley Road, the campus is part of the Kansas Bioscience Park.

"We have already hosted numerous classes, industry, and community events, including the 'Teaching Food Safety through Food Science' workshop, for middle school and high school teachers," said Dan Richardson, K-State Olathe chief executive officer.

Teachers who enrolled in the four-day course earned graduate credits as they participated in hands-on activities and attended presentations on topics ranging from microbiology to proper food handling to organic farming, taught by K-State faculty. Participants also toured companies, including food ingredient company Danisco and Sysco Food Services of Kansas City.

"I teach three levels of culinary courses in the Blue Valley School District," said Pam Graveholt, family and consumer sciences teacher at Blue Valley West High School in Overland Park. "This course helped me to keep current in research and bring new lessons into my classrooms."

"My upper level culinary students completed one of the lessons where they studied food pathogens and prepared 'Most Wanted' posters for an assigned pathogen."

Richardson explained, "Our location in the heart of the Animal Health Corridor, coupled with the expertise of Manhattan faculty, makes K-State Olathe a natural fit to promote further interaction between industry leaders and our university researchers to work collaboratively on animal health, food safety, and security issues."

K-State Olathe also will offer certificate and continuing education programs for industry.

The new campus welcomed 7- to 12-year-olds when it teamed with K-State Research and Extension Johnson County to host a five-day 4-H Cooking Camp.

"It was pretty lively here that week," Richardson said. "Our kitchen facilities were designed for this — to foster a teaching environment, so food scientists can demonstrate proper food handling and preparation techniques for audiences, no matter what the age."

More collaborative programs are planned. Graduate level courses for the new campus are in development, and once in place, students working toward animal health and food safety-related master's and doctoral degrees will have the opportunity to work side-by-side with university and industry researchers.

Dan Richardson, 913-307-7304, dcrichar@ksu.edu

Renewed Interest in Food Preservation

In 2011, 511 adults and 19 youth participated in education or hands-on workshops for food preservation. Topics included pressure canning, water bath canning, freezing, and dehydrating. Most importantly, participants learned why following tested recipes will help ensure safely preserved food.

*Karen Blakeslee
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Forest Service Benefits

The Bureau of Business Research reported that the Kansas Forest Service's direct impact on the state's economy in 2010 was almost \$27 million.

In addition to conservation trees, riparian plantings, wildlife habitat, Arbor Day, Tree City USA, and agroforestry programs, its Cooperative Fire Protection Program helps firefighters connect to cost-share programs, reconditioned federal vehicles, and donated equipment. They also develop master fire plans and offer training courses on fighting wildfires. Compared to other states' training, the Kansas Forest Service saved the 922 volunteers who were trained about \$50 per firefighter or a total of \$46,100.

*Larry Biles
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Tribune Centennial

The Southwest Research-Extension Center-Tribune celebrated 100 years of working to determine the best crops and crop management practices for southwest Kansas on August 17.

*Alan Schlegel
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Lona DuVall (standing), participates in a Community Coaching Academy activity. She is director of business retention for the Finney County Economic Development Corporation.



Courtesy of Dan Kahl

Kansas PRIDE communities reported working with 441 partner organizations in 2010, completing more than 1,000 community improvement projects statewide.

Coaching Strategies Energize Communities

A coach's support can make the difference in winning or losing, success or failure. Most coaches also know to encourage players and participants to develop their skills and abilities to grow as individuals and as a team.

In today's world, coaches wear many hats and foster success in a variety of settings from the football field to a debate tournament — and now community and economic development.

With the help of a matching \$80,000 grant from USDA Rural Development, K-State Research and Extension is coordinating the introduction of Community Development Academies (CDA) to bring together community stakeholders — leaders as well as residents who don't consider themselves leaders. The team conducts a community assessment, identifies stakeholders, and creates strategies to involve their broader community in efforts to benefit the area.

The next step is the Community Coaching Academy. A coach, who was not a part of the original team, works with the community team members to help them reflect on strategies, fine-tune their process, and stay on target.

By training community development agents and other professionals through the Community Coaching Academy, the community teams leaving the CDA have a coach to help sustain and support their work. The coach can help the team reflect on effective community engagement strategies and process, said Dan Kahl, coordinator for the educational effort.

Community Development Academies have been offered in Independence, Hays, and Manhattan. A fourth, sponsored by state and collaborative partners, was held in Garden City, said Kahl, who notes a growing interest by communities — and enthusiasm from coaches.

Lona DuVall, director of business retention, Finney County Economic Development Corporation, put it this way: "I love this!"

DuVall, who attended the coaching academy in Hays and then led an effort to bring an academy to Garden City, praises the concept because it reaches out to citizens who may not consider themselves community leaders.

"Community coaching gives people a voice, the confidence to speak up, and the courage to get involved," DuVall said. "Sessions encouraged us to consider new concepts and to think about our communities in new ways."

She explained that discussing community capital — social, economic, or natural such as the rolling prairie or a recreational lake — prompted others to chime in "Hey, we've got that!" or "I never thought about it that way."

"The community coaching sessions are the most lively and encouraging community development sessions I've attended," said DuVall.

She shares her excitement with others and is already at work building teams and encouraging new participants.

K-State partners in the project include the Center for Engagement and Community Development; the Kansas PRIDE Program, which is co-administered by the Kansas Department of Commerce; and the Huck Boyd National Institute for Rural Development; as well as the Federal Home Loan Bank of Topeka.

"Our goal," said Kahl, "is to create a network of community coaching professionals who can help support ongoing community development efforts across the state."

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Recycling E-Waste

K-State Research and Extension partnered with the city of Parsons, KU Lifespan Center, and SEK Recycling in Pittsburg to recycle electronic waste. Since April 2009, they have collected 171,527 pounds of waste from six events in Parsons, two in Altamont, and one in Oswego. Televisions and computer monitors make up the bulk of the collected items. A grant from the Kansas Department of Health and Environment helped fund the first six events. Recent collections have been funded from on-site donations and contributions from individuals and businesses. They plan to host two collection events per year. The waste is shipped to a certified E-Steward Recycling Center in Arkansas, where it is disassembled and scrapped for metals, plastics, and glass to be used again.

Keith Martin

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Stabilizing Riverbanks

The Smoky Hill River Watershed Restoration and Protection (WRAPS) group has partnered with the city of Salina on a riverbank stabilization project. The WRAPS group provided funds and worked with FFA members to plant trees on the banks. The goal of the project is stop or reduce bank erosion, limiting the amount of soil in the river. The project is located next to Salina's soccer complex, which provides an educational opportunity about the need and methods to stabilize waterways.

Ron Graber

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Brett Oelke, Hoxie, inspects an irrigation sprinkler nozzle.



Dan Donmert

At the current level of corn water productivity (yield divided by water use) and corn price, every inch of irrigation water that is utilized by the crop generates more than \$100 million of crop value for the Kansas economy.

Managing Resources to Meet Tomorrow's Needs

The western third of Kansas draws its water from a finite resource — the Ogallala Aquifer. The U.S. Geological Survey estimates that 50 percent of the aquifer has been depleted. How will western Kansas meet its future water needs?

K-State researchers are helping producers manage their water needs to maintain or increase crop water productivity, while coping with declining well yields and conserving groundwater as far into the future as possible.

Freddie Lamm, an irrigation engineer at the Northwest Research-Extension Center in Colby has spent 30 plus years studying irrigation in western Kansas.

“With the current drought conditions, irrigators need to pay special attention to the spacing between irrigation nozzles, the height of the nozzles, and water pressure on center pivot irrigation systems,” Lamm said. “Appropriate design and management of these systems can help producers cope with drought.”

Fifth generation farmer Brett Oelke, Hoxie, regularly checks the water pressure on the center pivot irrigation systems on the land he farms with his dad.

The Oelkes grow both dryland and irrigated corn, wheat, and soybeans. They use information from K-State to help them efficiently monitor their water usage. Brett is vice chairman of the local soil conservation board.

Lamm has the nation's longest research study on subsurface drip irrigation (SDI), which allows water to drip slowly from tubes in the ground directly to the crop roots.

“Although these systems are expensive, there is growing interest in SDI because it can stabilize crop yields at higher levels when water is limited,” Lamm said.

“My grandfather started irrigating in the '60s,” Oelke said. “We plan to convert our few remaining inefficient flood-irrigated fields to SDI. Several of our neighbors have installed the systems with good results.”

Irrigation engineers Norman Klocke at the Southwest Research-Extension Center in Garden City and Danny Rogers, stationed on the Manhattan campus, worked with soil scientist Loyd Stone and several programmers to develop a suite of water management software programs.

Crop Water Allocator evaluates the best crop or mix of crops for a limited water supply. *Crop Yield Predictor* forecasts an irrigation schedule — how to use limited groundwater to achieve an acceptable economic return. *KanSched 2* allows irrigators to schedule their day-to-day irrigation for multiple fields and crops, taking into account the amount of rainfall and the growing stage of the crop when the precipitation occurred.

To offer training and in-field evaluation for these programs, K-State uses the Mobile Irrigation Lab that was supported in part by state water plan funds through the Kansas Water Office.

In mid-November, Rogers, Klocke, and representatives from the Division of Water Resources presented irrigation research and options for the coming year in Larned, Pratt, Garden City, and Hugoton.

Irrigators in Kansas were given the option to use water allocated for 2012 to combat severe drought conditions in 2011, which means their 2012 allocation is reduced. They need to make management decisions for 2012 that are appropriate to the irrigation water available, especially in light of projected long-term forecasts of less than normal precipitation.

Danny Rogers, 785-532-2933, drogers@ksu.edu

Irrigation Websites

Audio slide story

www.ksre.ksu.edu/irrig

Mobile Irrigation Lab

<http://mobileirrigationlab.com/>

General Irrigation Topics

<http://www.ksre.ksu.edu/irrigate/>

Subsurface Drip Irrigation

<http://www.ksre.ksu.edu/sdi/>

Weather Affects Yield

Agronomists studied 55 years of wheat yield data from Colby, Garden City, Hays, and Tribune for a correlation between precipitation and temperature during critical growing periods on both dryland and irrigated wheat. The study found warm weather in fall (October–November), early spring (April), and June tend to reduce yields. Warm late-spring temperatures tend to increase yields. It also showed that an average freeze event reduced yield at least 8 bushels per acre.

John Holman

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Cellulosic Biofuels

More than 300 educators and industry personnel from 14 states attended the 2010 Cellulosic Biofuels Web Seminar Series. The goal was to teach participants about the opportunities and roadblocks for cellulosic biofuels — fuel derived from grasses or grain crop residue, not from grains. A follow-up survey showed that: 54 percent used the information in presentations; 62 percent used the information in one-on-one communications with clientele; and 93 percent gained information that will help answer clientele questions.

Ed Brokesh

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Rhonda Gordon, Lyon County agent, is the secretary for Community Organizations Active in Disasters. The group carefully plans for events, hoping they will never happen. When a tornado hit the small town of Reading on May 22, 2011, the K-State Research and Extension office in Emporia became the central location to manage donations and volunteers.

The image above was taken from the video "Disaster Preparedness in Lyon County, Kansas."

Watch the complete video at: www.ksre.ksu.edu/reading

Working with Communities Toward Common Goals

When there is an emergency in a county, who steps up to coordinate efforts? When a local group wants to bring people together for a community project, who has the expertise to organize the volunteers? When local, state, and federal agencies need to distribute timely information, who has the statewide network and research-based information to share?

With an office in every county, K-State is a trusted, reliable resource to meet the needs of communities.

“Many of our educational efforts come from contacts with individuals, organizations, or agencies because we work with all people in the community to fulfill their needs,” said Phil Sloderbeck, director for the K-State Research and Extension southwest area office. “Our program development committees (PDCs) are community people who bring forth ideas and needs to our agents and specialists.”

Chuckie Hessong was a member of the Crawford County extension board for several years before the Wildcat District (Crawford, Labette, and Montgomery counties) was formed. She now serves on the district board.

“I think working with the agents and staff is essential to ensure that the programs they provide reflect the needs of our population,” Hessong said. “In addition to district-wide meetings, we meet on a regular basis with PDCs for each area.

“I chair the family and consumer sciences PDC and have been amazed at the wonderful input provided by our members. Recently, we discussed the need for an information sheet on preparing items that come in a typical food basket from organizations such as the Salvation Army. Our agents created a handout with safety information and recipes that will be passed out to hundreds of basket recipients in our district.”

Here are a few examples of other projects across the state — many funded by grants written by K-State agents and specialists:

- Agents collect weekly crop data for the Kansas Agricultural Statistics Service.
- Wichita, Seward, and Finney counties work with Russell Child Development Services to present nutrition programs for child-care providers.
- Several private agriculture companies asked northwest area agronomists to offer training on crop management practices.
- Shawnee County’s Heartland Healthy Neighborhoods Coalition teamed with the National Children, Youth and Families at Risk Program, and Common Ground — a local community gardening organization — to teach eighth-grade students how to improve their eating and physical activity habits through a program called Choice, Control, and Change.
- Morton, Stevens, and Seward counties responded to a request from the governor’s office to organize a summer tour of drought-stricken areas.
- Grant County’s Health Coalition pulled the community together to create a five-year health and wellness plan. During the process, citizens were able to revise and approve the local projects.
- Kiowa County agents Carmen Stauth and Pamela Muntz have been involved with recovery and rebuilding efforts in Greensburg since the May 2007 tornado.

Daryl Buchholz, 785-532-5820, dbuchhol@ksu.edu

Hunter Assistance

Local agents and the Hodgeman County Economic Development Office host Hunt Hodgeman and Camp Wild Woman, an outdoor shooting day camp for women, with the Department of Wildlife, Parks, and Tourism. About 1,000 people came to Hodgeman for the opening day of the 2011 pheasant season. The economic development director estimates hunters spend at least \$100 a day. Last year, they reported hunters from as far away as Washington and North Carolina.

*DeWayne Craghead
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Building Leaders

More than 250 Kansans have graduated from the Kansas Environmental Leadership Program (KELP) since it was established in 1999. The program trains and empowers Kansas citizens to practice effective leadership for the protection of water quality. According to surveys with past participants, alumni have been highly pleased with their involvement in the program and are vocal about their great experiences. To date, they have completed 40 water-related projects in Kansas communities.

*Brandi Nelson
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Green Alternatives

A K-State Research and Extension booth at the Johnson County Home and Garden Show featured displays on composting, rain barrels, tree mulching, and pesticide and fertilizer safety. The display provided an opportunity to increase county residents’ understanding of new solid waste changes that will take effect in 2012. Most residents were not aware of the changes and will now be better able to make informed decisions.

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Check out these websites for more information

A growing number of Kansans are turning to the Internet for answers. To provide information to Kansans when and how they need it, K-State Research and Extension maintains links to numerous helpful websites. Our main site is www.ksre.ksu.edu. Other useful sites are listed below:

Ag Manager

www.agmanager.info

Links to the latest agricultural economics information, including agricultural economics news, grain outlooks, livestock marketing graphs, and farm management guides.

Animal Sciences and Industry

www.asi.ksu.edu

Links to upcoming events and newsletters related to animal agriculture.

Bioprocessing and Industrial Value-Added Program (BIVAP)

www.grains.ksu.edu/bivap

Links to projects specializing in the development of biomaterials processing technology and using agricultural-based materials.

Entomology Extension

www.entomology.ksu.edu/Extension

Links to hot topics, newsletters, crop and household pests, 4-H and youth insect collecting techniques, and insect identification.

eXtension

www.extension.org

An Internet-based collaboration effort where U.S. land-grant universities provide and exchange information and research to help solve public challenges.

Financial Management

www.ksre.ksu.edu/financialmanagement

Helps people build financial security by improving their financial skills and changing negative behaviors.

Horticulture Information Center

www.hfrr.ksu.edu/HortInfo

Includes links to the weekly Horticulture Newsletter, common plant and pest problems, and horticulture-related publications.

Kansas Center for Agricultural Resources and the Environment

www.kcare.ksu.edu

Links to publications, conferences, and contacts about Kansas environmental issues.

Kansas Healthy Yards

www.kansasgreenyards.org

Information and videos on environmentally conscious lawn- and garden-care techniques.

Kansas Saves

www.kansassaves.org

Assistance for those who wish to pay down debt, build an emergency fund, or save for a home, education, or retirement.

Konza Prairie Biological Station

www.konza.ksu.edu

Information about the tallgrass prairie preserve owned by The Nature Conservancy and Kansas State University.

K-State Research and Extension Bookstore

www.ksre.ksu.edu/library

Provides access to K-State Research and Extension publications that can be downloaded or ordered.

Plant Diagnostic Information System

www.pdis.org

Access to labs that provide services for plant disease diagnosis, plant identification, and insect identification.

Rapid Response Center

www.rrc.ksu.edu

Timely information on food science safety and nutrition and links to other health-related sites.

Southeast Agricultural Research Center

www.ksre.ksu.edu/searc

Links to research conducted in southeast Kansas.

Walk Kansas

www.walkkansas.org

Learn about the successful eight-week walking program, along with tips to stay fit and healthy throughout the year.

Western Kansas Agricultural Research Centers

www.wkarc.org

Links to research conducted at centers in western Kansas.

Weather Data Library

www.ksre.ksu.edu/wdl

Weather-related information, such as precipitation, frost-free dates, drought, and forecasts.

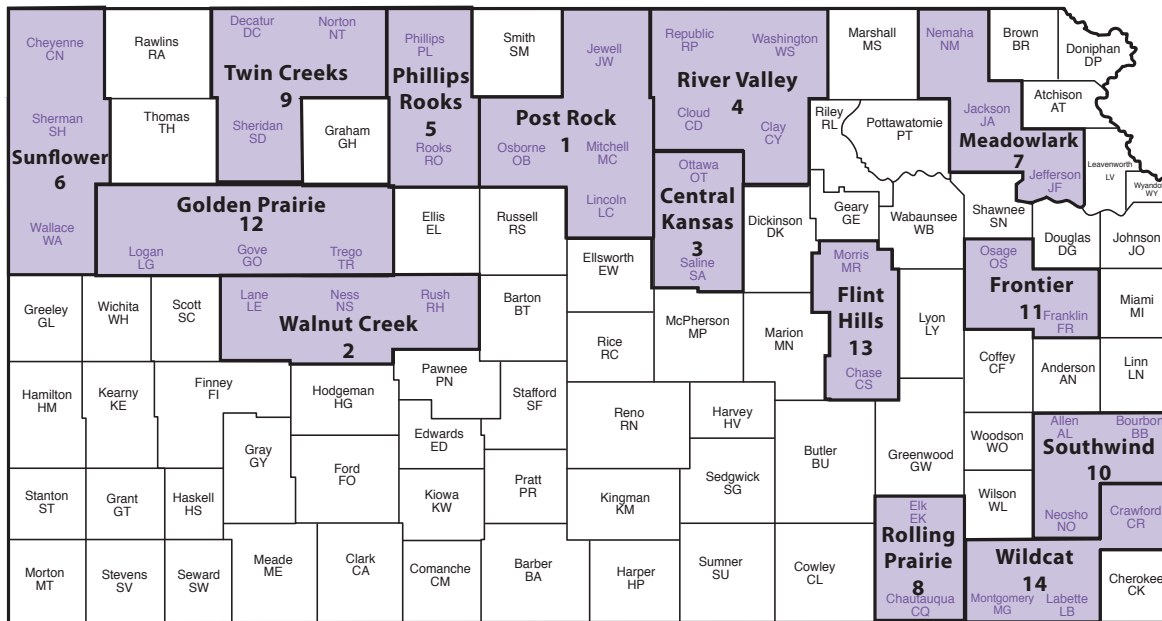
Wheat Page

www.ksre.ksu.edu/wheatpage

Links to the markets and conditions of the different wheat types. Also provides links to helpful sites about wheat in Kansas, the United States, and the world.

K-State Research and Extension Statewide Offices and Research Facilities Districting — Finding new ways to work together to serve Kansans

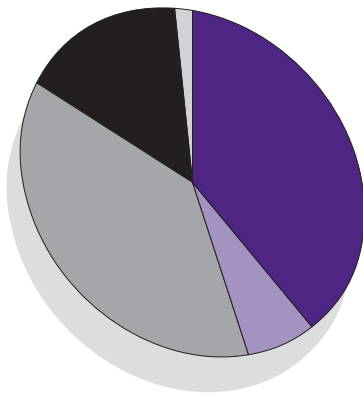
Since 1991, any two or more Kansas counties can legally work together to form an extension district. In an effort to increase efficiency and effectiveness, 39 counties have formed 14 districts.



- 1994 **Post Rock District #1** — Mitchell and Lincoln counties; Jewell and Osborne counties joined in 2005. Smith County will join in July 2012.
- 1997 **Walnut Creek District #2** — Lane, Ness, and Rush counties.
- 2004 **Central Kansas District #3** — Saline and Ottawa counties.
- 2005 **River Valley District #4** — Clay, Cloud, Republic, and Washington counties.
- Phillips-Rooks District #5** — Phillips and Rooks counties.
- Sunflower District #6** — Sherman and Wallace counties; Cheyenne County joined in 2006.
- 2006 **Meadowlark District #7** — Jackson, Jefferson, and Nemaha counties.
- 2008 **Rolling Prairie District #8** — Chautauqua and Elk counties.
- 2009 **Twin Creeks District #9** — Decatur and Norton counties. Sheridan County joined in 2011.
- 2010 **Southwind District #10** — Allen and Neosho counties. Bourbon County joined in 2011.
- Frontier District #11** — Franklin and Osage counties.
- Golden Prairie #12** — Logan and Trego counties. Gove County joined in 2011.
- Flint Hills District #13** — Chase and Morris counties.
- 2011 **Wildcat District #14** — Crawford, Montgomery, and Labette counties.

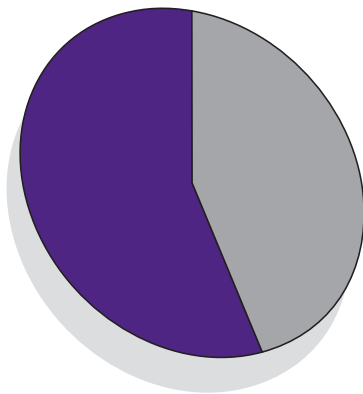
K-State Research and Extension Budget Data for Fiscal Year 2012

Source: Geneva Jahnke, Business/Fiscal Officer, 785-532-7139, geneva@ksu.edu



K-State Research and Extension Budget Fund Source

- State Appropriation (AES/CES) \$48,650,840
- Federal Appropriation (AES/CES) \$9,438,000
- Grants and Services \$52,319,119
- County Funds \$22,642,317
- Main Campus Allocation \$2,815,497

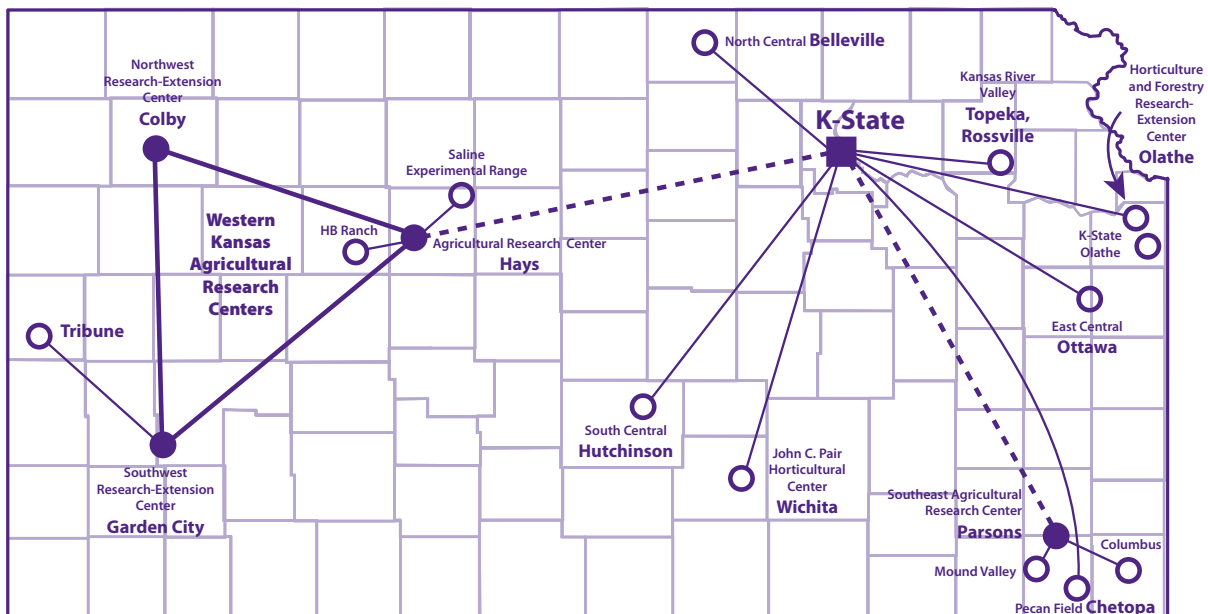


K-State Research and Extension Budget Responsibilities

- Agricultural Experiment Station \$78,286,327
- Cooperative Extension Service \$59,298,112

Facilities Across the State

Headquartered in Manhattan, K-State Research and Extension includes statewide county and district extension offices, research centers, and experiment fields supported by county, state, federal, and private funds. K-State Research and Extension supports faculty in 23 academic departments across five K-State colleges.



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and United States Department of Agriculture Cooperating, Gary Pierzynski, Interim Director.