



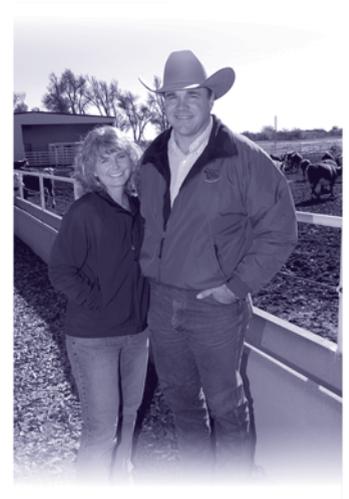
# An Informal Report to the Kansas Legislature

*January 2010*

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Larry Steckline (left), farm director for Mid America Ag Network, interviews Fred Cholick, director of K-State Research and Extension, at the Kansas State Fair.

## Director's Introduction

General Motors developed an advertising campaign in the late 1980s using the slogan "This is not your father's Oldsmobile." I'd like to paraphrase that as "K-State Research and Extension is not your grandfather's extension service."

K-State Research and Extension is reaching out in new ways to new audiences, while still serving our traditional clientele. Here are a few examples from this publication.

Our new office on the Fort Riley post is partnering with government agencies to offer services to military families before, during, and after troop deployments. We have had tremendous support from military leaders who recognize that strong, healthy families improve the stability and well-being of troops.

The demographics of Kansas have changed and will continue to change. K-State Research and Extension is reaching out to both underserved and traditional audiences through new venues. The article on page 23 describes how short telenovelas, featuring a traditional family custom, were used to educate families on healthy eating and exercise habits.

Kansas 4-H has a long tradition of training leaders for the future. The Citizenship in Action program encourages teenagers to learn more about how government functions and how to actively participate in the legislative process. Also, the 4-H SET program focuses on preparing more youth who are proficient in science, engineering, and technology.

Research on biofuels is another important topic for Kansans – those who will use biofuels to heat their homes and those who produce the crops that are converted to fuel.

We are effectively using our statewide network of offices to share research-based information related to the environment, families, communities, and production agriculture.

*Fred H. Cholick*

## 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.

## Mission

K-State Research and Extension is dedicated to a safe, sustainable, competitive food and fiber system and to strong, healthy communities, families, and youth through integrated research, analysis, and education.

To accomplish this, K-State Research and Extension focuses its efforts on five core mission themes:

- Natural Resources and Environmental Management
- Healthy Communities: Youth, Adults, and Families
- Safe Food and Human Nutrition
- Competitive Agricultural Systems
- Economic Development through Value-Added Products

Jim Irey (left) and Darrel Schultze prepare to give an informational tour of Melvern's community/fitness center. Local citizens converted the former equipment parts store with assistance from the PRIDE program.



## Kansas PRIDE Program Celebrates 40 Years

While some government programs come and go, the Kansas PRIDE Program is celebrating its 40th year of service.

Since 1970, K-State Research and Extension and the Kansas Department of Commerce have partnered on a grassroots, volunteer-based community and economic development effort to assist Kansas communities, said Dan Kahl, K-State's PRIDE Program coordinator.

To date, the effort has assisted 392 different communities.

"Working with the PRIDE Program has helped give our community pride," said Jim Irey, former PRIDE president in Melvern.

Irey, a former school superintendent, credits the PRIDE Program with helping residents plan and build a much-needed community/fitness center.

"The center is a popular gathering place and also the site for an annual free Thanksgiving dinner – planned and organized by PRIDE volunteers – to say 'thank you' to community volunteers," said Irey.

Melvorn PRIDE volunteers also initiated an environmental makeover for the nearby Marais des Cygnes River recreational area. Volunteers from high-school age to seniors collaborated with state agencies and programs, including PRIDE's Healthy Ecosystems-Healthy Communities effort, and dedicated more than 4,000 volunteer hours to clean up the Melvern Riverfront Park and Trails.

During the 2008-2009 program year, Kansas PRIDE volunteers raised \$900,712 and partnered with 644 other organizations to complete 1,216 community improvement projects, Kahl said.

Volunteers invested more than 85,231 hours – the equivalent of 10,654 eight-hour work days or 41 years of full-time work – he said.

"Projects vary among an average of 60 participating communities and most PRIDE organizations are striving to encourage youth and adult partnerships," Kahl said. "Children and teens who learn to give back to the community are more likely to do so later in life."

In Courtland, PRIDE volunteers sought grant funding to buy computers for the library and enlisted tech-savvy teens to help older adults learn to use technology effectively.

In contrast, PRIDE volunteers in Kinsley take turns staffing "Twice is Nice," a thrift shop.

"The goal," said Shirley Watson, current PRIDE president, "is to resell clothing, toys, and household items to fund community improvements."

Kinsley's PRIDE treasurer, Ray Gaskill, reported that the volunteer effort nets about \$12,000 annually. Proceeds help to support the Carnival Heritage Museum, local library, theater, youth and community groups, and other needs as they arise.

"The PRIDE program provides structure and guidance for community members to organize and connect with their local government by creating a forum to identify and discuss shared values and goals," said Kahl.

"The fact that community needs vary is part of why the program continues to work well. Bringing people together, deciding their priorities, and creating positive action for the future of the community – that is what PRIDE does."

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## View Slide Stories

Go to [www.ksre.ksu.edu/slidestories](http://www.ksre.ksu.edu/slidestories) to watch audio slide shows about Kansas PRIDE and other timely topics.

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## Plan for the Future

After seeing businesses close and leave a void in the local economy and community, the Ellis County Economic Development Program Development Committee (PDC) members saw a need to address business succession planning. The PDC, working in partnership with Ellis County K-State Research and Extension agents, is preparing a "Business Succession Planning" DVD. The DVD highlights experts in their respective fields laying out the groundwork of the components and resources necessary to develop a comprehensive and thorough plan to transition a business, whether to a family member or business associate.

Holly Dickman

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## Grocery Shopping Habits Change

Economic restructuring has transformed rural America over the past 30 years. The rise of massive superstores and big-box stores has revolutionized the grocery industry. Communications researchers want to know why rural residents who work in larger metropolitan areas prefer to shop at a box store instead of the local grocer "back home." Consumers will be surveyed from 16 rural grocery stores located within 20 miles of urban areas across the state. The Center for Engagement and Community Development funded the study.

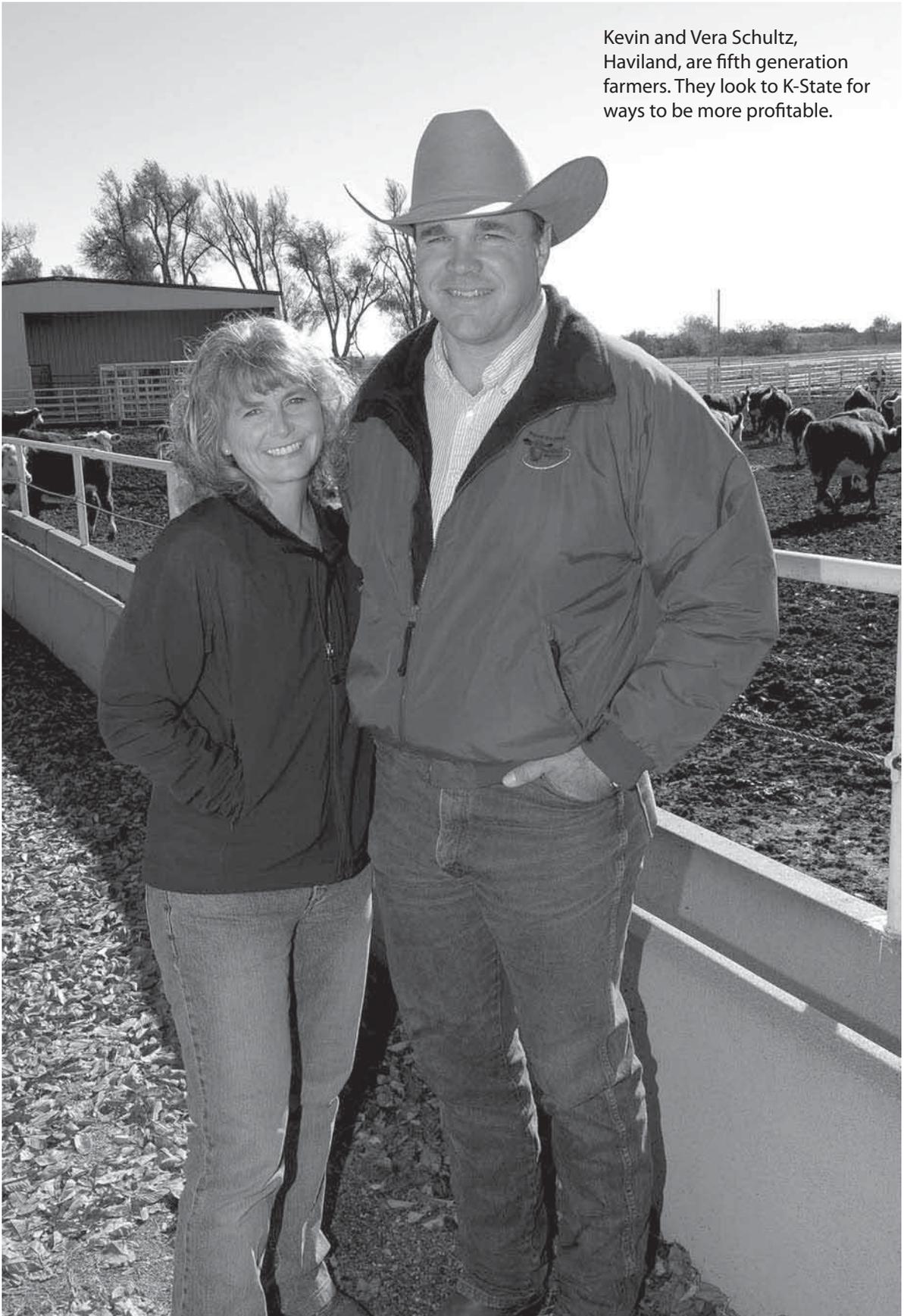
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Kevin and Vera Schultz, Haviland, are fifth generation farmers. They look to K-State for ways to be more profitable.



## Cattlemen Look to K-State for Competitive Edge

Since 1869, members of the Schultz family have lived near Haviland in south central Kansas, where Kevin and Vera Schultz's house now stands. The facilities and farming practices have changed – but not the last name on the mailbox.

The Schultzes own Sandhill Farms, a purebred Hereford cattle and crops operation. Kevin's parents, Arnita and Ron, and their children – Tyler, Courtney, and Brooke – are also part of the Sandhill team.

To help them become more profitable in the always-competitive beef production business, the Schultzes and other Kansas cattle producers look to K-State for research-based information.

Kevin Schultz cited work by K-State animal scientists Dan Moser and Jennifer Bormann, who recently finished a residual feed intake (RFI) merit study with a scientist at the University of Nebraska-Lincoln.

RFI is the difference between what an animal eats, and what it is predicted to eat, based on its size and growth. A low RFI is more desirable because that animal can more efficiently and inexpensively turn what it eats into beef sold in grocery stores and served at dinner tables.

There is no doubt, Bormann said, that a producer would prefer to breed for animals that are as efficient as possible at converting feed to high-quality beef. K-State will continue studying the issue to try to determine the best practices.

"It's really helpful to know which traits are inherited and which are not – and to what extent," Schultz stated. "We can get ahead much faster and more efficiently if the university conducts these studies than if we had to learn the hard way through our day-to-day breeding practices. Research of this type at land-grant universities is critical for producers, who are always looking for a profit edge."

"Kevin's grandfather and father built a quality herd," Moser said. "But Kevin has taken those cattle to a whole new level. Sandhill Farms is one of the premier cattle operations in the nation. They had been selling bulls regionally for quite a few years. Now they have an annual bull sale that draws buyers from across the nation.

"It's gratifying to see the success of Sandhill Farms. They are always looking to the future and eager for new information. My goal is to help people like the Schultzes be more successful."

Working closely with producers also benefits K-State Research and Extension scientists.

"It helps our research program to work with producers, many of them K-State alumni like Kevin, who talk with faculty members at K-State events and cattle shows," Moser said. "They help guide the direction for our research. And it's exciting for us to know someone is waiting for the research results."

Kevin Schultz compared the genetic research conducted by Moser and Bormann to producing a new car model.

"Studying how traits are inherited is a little like building a Model A," he said. "We had to build a Model A to get to a Model T, and we had to build a Model T before we got to a Corvette. We need universities to think outside the box as they study ways for cattle producers to be more efficient."

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## Modules Improve Practices

The Beef Cattle Institute (BCI) has developed audiovisual modules, in both English and Spanish, that outline best management practices for cattle handling, health management, processing, and beef and dairy beef quality assurance.

The modules serve a critical need in the beef industry by training industry workers. Testing before and after the training shows that comprehension improved by 25 percent after viewing these modules, regardless of language preference.

BCI, a collaborative effort among 14 K-State departments and colleges, developed software to facilitate and automate end-user registration, module delivery and transcript tracking, and maintenance.

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## Swine Info Online

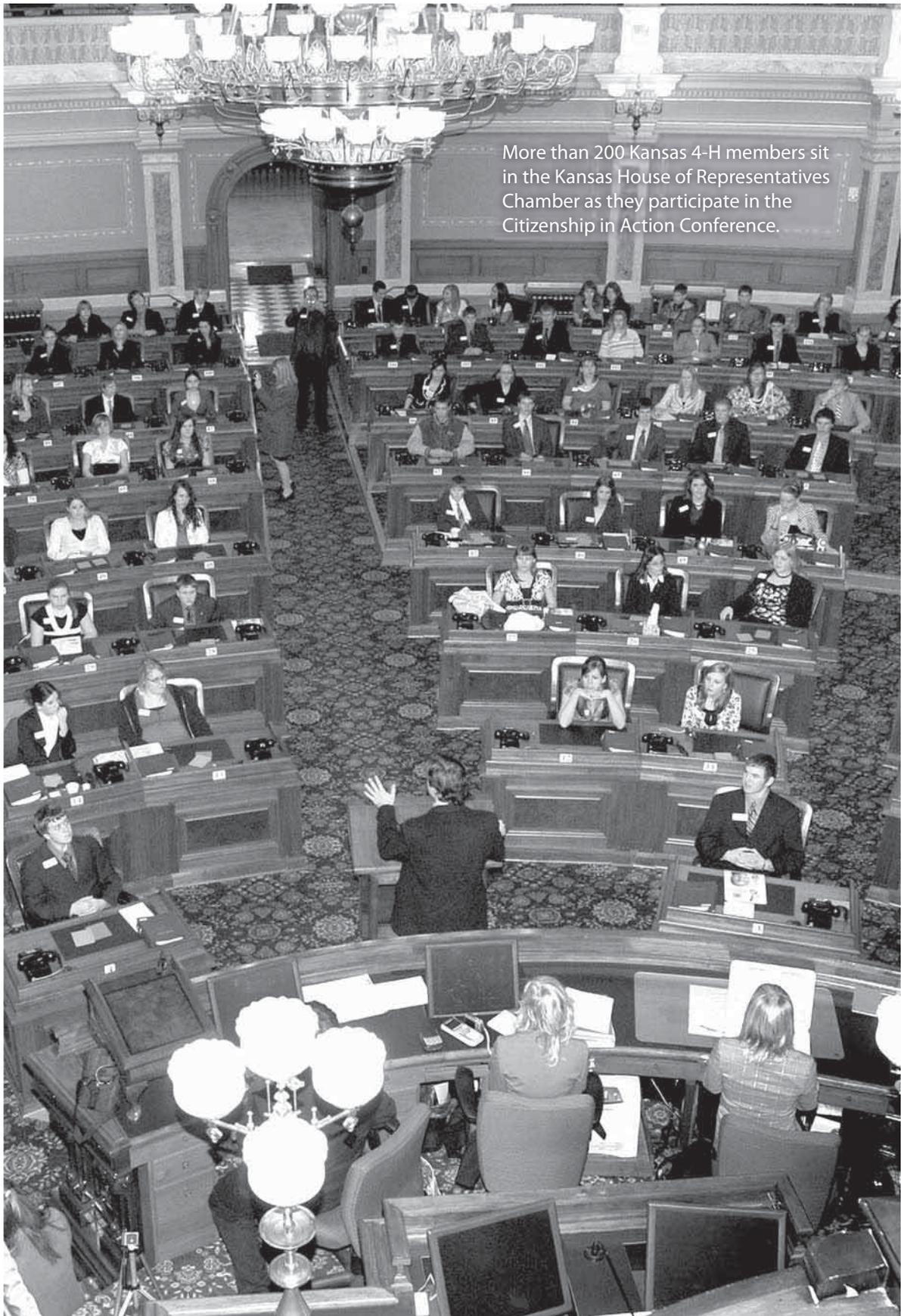
For the third year, K-State swine nutritionists are partnering with 11 universities and private companies to provide content for SowBridge, a year-long, interactive distance-education program for the pork industry.

The program draws participants from 13 states, four Canadian provinces, and Ireland. Employers appreciate the opportunity for employees to participate in the sessions without incurring travel expenses.

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More than 200 Kansas 4-H members sit in the Kansas House of Representatives Chamber as they participate in the Citizenship in Action Conference.

## 4-H'ers Learn Leadership, Citizenship, and Service

Imagine being 14, 16, or 17 years old, traveling to the state capital, approaching the state capitol building, and, once inside, being encouraged to step into the House Chamber and take a seat.

Such is the case for Kansas 4-H members participating in the 4-H Citizenship in Action Conference. The program's attendance topped 200 youth in 2009, said 4-H specialist Justin Wiebers, who works with the Kansas 4-H Youth Council to plan the annual event.

The two-day study in government introduces youth to the legislative process, said Wiebers. He noted that 2009 conference delegates were asked to research and consider three current legislative issues: 1) loss of revenue and subsequent budget crunch; 2) energy, including the development of coal-fired plants; and 3) proposed age changes in driver's licensing.

Students discussed the topics before taking their seats in the House Chamber to debate the issues and make recommendations for public policy.

"The firsthand experience with Kansas' legislative process brings citizenship and service to life," said Wiebers, who noted that the conference generates interest in government and public service as a career.

Emily Schneider, former Central Kansas District 4-H member, attended 4-H Citizenship in Action in 2006 and helped plan the 2007 event.

"Getting involved in planning the conference helped me build on the planning, organization, and public speaking skills I learned in 4-H," explained Schneider. "Throughout the planning process, we were always working to add value to an already packed agenda. It was challenging at times, but I realized how learning more about our government and how it works can stimulate an interest in the process and career opportunities."

Schneider is a senior at K-State, majoring in agricultural communication and journalism with minors in agricultural economics and international agriculture. She is working toward a career in public administration.

Wesley Callahan is a former Douglas County 4-H member. He attended the 4-H Citizenship in Action Conference and credits Citizenship Washington Focus, a 4-H trip that focuses on the U.S. governing process, as a growth step in establishing his personal and professional goals.

"Visiting our nation's capital inspired me," said Callahan.

According to Callahan, 4-H experiences have given him a toolbox of skills, including learning and practicing leadership and public speaking, reasoning, and debating competently.

Callahan, a junior at George Washington University (in Washington, D.C.), is majoring in economics and political science. On campus, he serves as vice chair of the program board and is responsible for planning and organizing events, and recruiting and hosting speakers.

With an eye on a career in economic forecasting and investment, Callahan has "worked on the Hill" during various internships.

"Participating in the legislative process has helped me to understand how public policy is crafted. And, while I am better able to understand why – and how – things happen as they do, I still like to believe that everyone can make a difference."

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## SET Program Prepares Youth for the Future

The nation faces a shortage of young people who are proficient in science, engineering, and technology. Kansas 4-H is addressing that critical challenge with Science, Engineering, and Technology (SET) out-of-school programs. The nationwide goal is to improve the science literacy and aptitude of one million American youth.

SET increases the science content of 4-H subject matter, advances statewide literacy in GIS (geographic information systems) and GPS (global positioning systems), and prepares young people to become citizen scientists – able to sort fact from fiction in the information overload of the 21st century.

K-State faculty – in cooperation with National 4-H – are designing curriculum to support this initiative through a grant from the National 4-H Council.

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## Partnership Formed

The Kansas Wheat Commission – a longtime supporter of K-State wheat research – in collaboration with the University of Kansas and K-State, has established the Innovation Center for Advanced Plant Design: Plants for the Heartland, with funding by the Kansas Bioscience Authority. Heartland Plant Innovations, Inc., the corporate entity directing the project, is expected to provide approximately \$2 million to K-State scientists during the next four years. The research will focus on commercial opportunities for wheat and sorghum, crops in which Kansas has world-renowned leadership and expertise.

*Frank White*

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Producers Tom Bergner (left) and Ray Smith (right) inspect a wheat field near Tribune with K-State agronomist Alan Schlegel.



## Tribune-Area Producers Endorse Research Efforts

Farming is a business. And farmers are always searching for new practices to increase profits.

Ray Smith, a former high school science teacher who returned to the family farm near Sharon Springs, and Tom Bergner, who grows dryland wheat, corn, and sorghum near Tribune, rely on agronomist Alan Schlegel at the Tribune unit of K-State's Southwest Research-Extension Center for research-based information they can use to be more profitable.

"Alan does a lot of research with grain sorghum," said Smith. "Because of that I started raising more grain sorghum, which produces a lot of crop residue."

Smith uses no-till farming, a practice that minimizes the disturbance of the soil, leaving crop residue to help reduce soil erosion, maintain soil moisture, and add organic matter to the soil.

"I had always wondered why Alan was so successful," stated Smith. "He didn't have a lot of the problems I had when I tried no-till. I figured out that it was the grain sorghum in his crop rotation that was so important."

Schlegel's work on sorghum is a continuation of research started by his predecessor, Roy Gwinn, in the 1960s. Bergner worked for Gwinn at the research unit.

"I worked there for about 10 months when I first moved to the Tribune area in 1979," said Bergner. "Most of what I do on my farm, I learned from research done at the Tribune unit."

K-State has been conducting research near Tribune for almost 100 years. For 23 of those years, Schlegel has been working with local farmers to make sure his research meets their needs.

"The soil, rainfall, and climate in general are different at Tribune than at the other K-State Research and Extension centers and experiment fields," said Schlegel. "I talk with the producers to find out what will be helpful to them instead of doing research on something I dream up."

"Right now Alan is studying where to adjust the combine header when cutting wheat – whether to leave the stubble tall or cut closer to the ground," said Smith. "The results show the value of leaving the residue. He is getting really good yield results. It's impressive to improve the yield by six to seven bushels just by that one change in your operation."

"That study was initiated by the Wildlife and Parks Department," said Schlegel. "The taller stubble improves the pheasant habitat, but producers weren't willing to make the change only for the hunting aspect. When the increased stubble improved the yield, more farmers were willing to adopt the practice. Producers are usually open to new ideas if they are profitable for them."

Smith and Bergner have much in common. They both graduated from K-State, have sons majoring in agricultural economics at K-State, and are members of the advisory committee for the Tribune unit.

"The advisory committee has been very useful in providing direction and ideas for research and garnering support," Schlegel added.

Schlegel's research applies to a broad area because the soil near Tribune is typical of about 4 million acres in the High Plains in western Kansas, eastern Colorado, and the Oklahoma panhandle. He also has been working on soil evaporation and wind erosion studies with scientists at Texas Tech and the U.S. Department of Agriculture-Agricultural Research Service for five years.

*Alan Schlegel, 620-376-4761, schlegel@ksu.edu*

## Webinar Explains ACRE

Under the Food, Conservation, and Energy Act of 2008, producers of USDA program crops, such as soybeans, wheat, and corn have the option to enroll in a new revenue plan: the Average Crop Revenue Election. Nearly 1,150 people – from 26 states, with the largest number from Kansas – participated in Web seminars to explain the new program. Most of the 17 Kansas group meetings were hosted by K-State Research and Extension agents. Two K-State agricultural economists provided the information.

*Art Barnaby*

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## Wheat Research Pays Off

A K-State Research and Extension study showed that between 1977 and 2006, the wheat breeding program increased yield by 6.2 bushels per acre or an average increase of 0.21 bushels per year. The benefits of the wheat breeding program appear to outweigh the costs by 17.6 to 1.

For every dollar invested in the K-State wheat breeding program, more than 17 dollars are returned to the economy.

*Andrew Barkley*

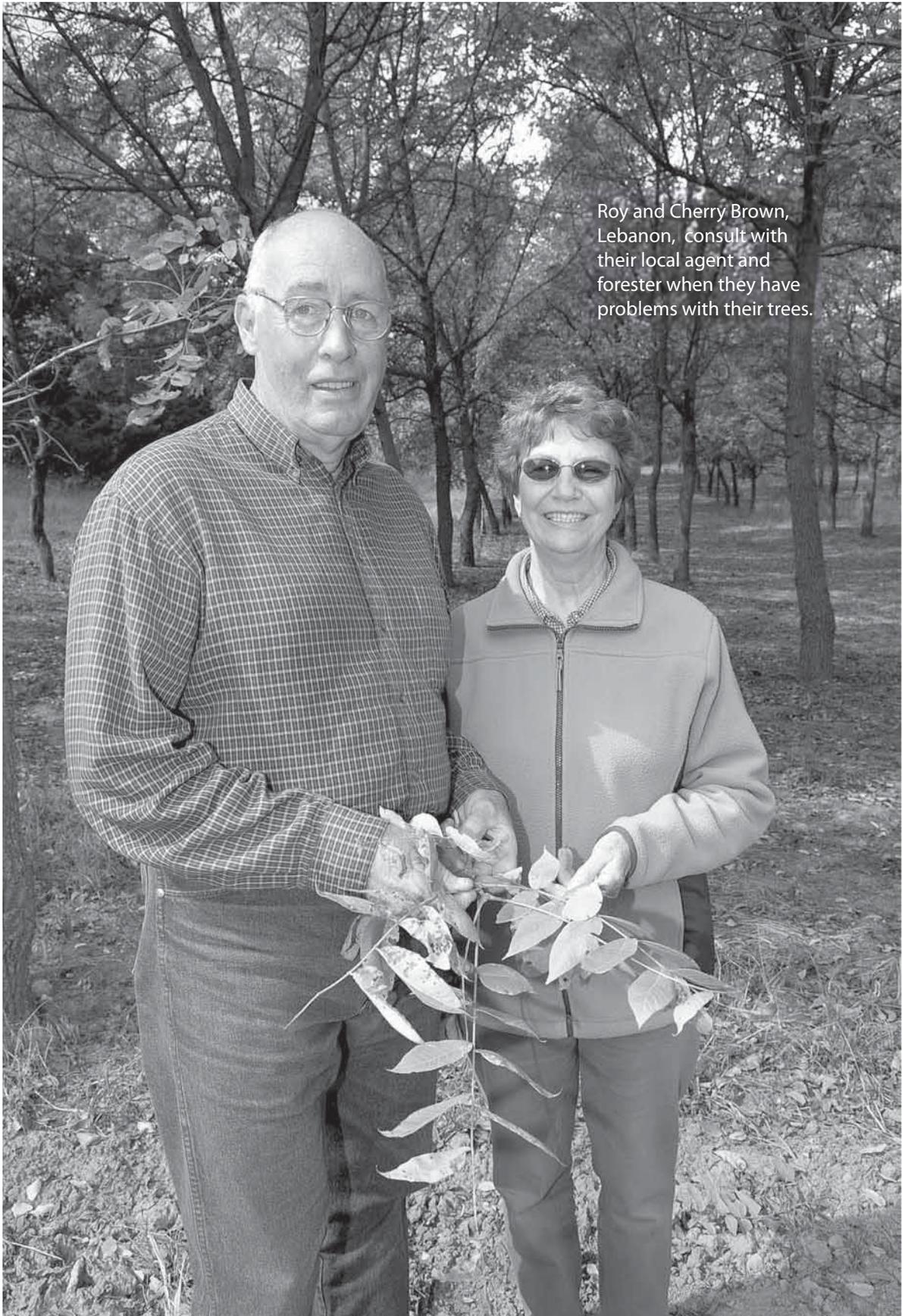
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## Workshop Draws World Audience

K-State hosted the 10th annual Fusarium Laboratory Workshop. Researchers from nearly 30 countries shared information on Fusarium – a common fungus that poses a threat to the food supply, economics, and occasionally human health. The workshop draws people from academia, industry, health care, agriculture, and air quality control.

*John Leslie*

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Roy and Cherry Brown, Lebanon, consult with their local agent and forester when they have problems with their trees.

## Forester and Agent Cooperate to Solve Problems

Roy and Cherry Brown appreciate nature. Their home in Smith County, near the geographical center of the United States, features beautiful annual and perennial flowers, a manicured lawn, wildlife habitat, and lots of trees – including three types of windbreaks and 3.5-acres of black walnut and bur oak.

Roy Brown started planting trees on the property in 1978 and has been consulting with K-State Research and Extension and the Kansas Forest Service (KFS) for most of those years.

“We originally planted windbreaks to stop the blowing snow,” Roy said. “We’ve had less snow recently, but the trees really provide wind protection.”

They have been recognized for their efforts by the American Tree Farm System, the 1993 Kansas Banker’s Association Windbreak Award, and the 2007 Kansas Agroforestry Award.

Cherry compliments her husband on his meticulous care of their trees and property. However, occasionally a problem arises, and they call their local K-State Research and Extension agent Sandra Wick.

Roy Brown first contacted Wick in the early 1990s about winter injury in their arborvitae windbreak. Cherry Brown recalled two other times when they needed help – when mites attacked a spruce tree and when beetles stripped the walnut trees.

Wick responds quickly to requests and, if she needs additional expertise, she calls on specialists such as Jim Strine, district forester with KFS.

“We have a great working relationship with the Kansas Forest Service,” stated Wick. “Any time we have tree problems, we call Jim. If he needs to see the problem, we go together to meet with the homeowner. We usually visit several locations when Jim is available and make good use of his time.”

Strine has been with KFS since 1978. He is stationed at the Agricultural Research Center–Hays and covers 24 counties.

“My work with the Browns is an example of the Rural Forestry Program – helping them design and manage tree plantings and offering advice with insect and disease control problems,” said Strine.

“Through our Community Forestry Program, I work with city personnel and tree boards – providing design recommendations for new tree plantings on public property,” added Strine. “I train city personnel and tree boards on recommended tree species, the right way to plant trees, proper pruning methods, and insect and disease control recommendations.”

He also provides environmental education to youth groups.

Roy Brown said he appreciates the advice that Strine and Wick provide. “They always find time for everyone. I don’t know how they do it; they must put in some long days.”

“It’s a pleasure to work with folks like the Browns,” said Strine. “They graciously hosted the agroforestry field day in May. It was an ideal location.”

The Browns opened the field day program with an overview of their certified Tree Farm. Strine and several other foresters, a sawmill operator, a wildlife damage control specialist, and a range scientist completed the speaker list for the well-attended program.

“I really appreciated how Jim, the forestry team, and Sandra took care of all the details, so we could enjoy the program,” said Cherry Brown.

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## Natural Landscape Options

A K-State Research and Extension agent made two requested presentations to the Kansas City Area Association of Code Enforcers, and another one at the annual meeting of the Kansas Association of Code Enforcers. More than 200 Kansas code enforcement officers learned what constitutes a “naturalistic landscape.” They also learned about K-State Research and Extension’s varied services in each county and where to send homeowners with questions about how to manage their landscape.

*Bruce Chladny*

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## Reducing Diabetes, Health Care Costs

The Centers for Disease Control and Prevention reports that from 1994 to 2007 the percentage of adults diagnosed with diabetes rose from 4.5 to 7 percent of the Kansas population.

To reduce the incidence – and effects – of the disease, K-State Research and Extension has teamed with Blue Cross and Blue Shield of Kansas to offer “What’s Cookin’ with Diabetes.”

The collaborative educational effort teaches preventative health strategies, such as choosing and using a variety of health-promoting foods, managing weight, increasing physical activity, and other diabetes self-care behaviors.

To date, 43 sessions (in English and Spanish) have reached more than 3,400 Kansans.

*Mary Meck Higgins*

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Carol Spangler (left), Sabetha High School teacher, and Sajid Alavi (right), K-State grain scientist, look through Joann Gruber's photos of her Mozambique visit.

## Grains for Hope Program Changes Many Lives

Seven years ago, Carol Spangler didn't envision that her new project idea for Sabetha High School (SHS) students would deliver tons of food processed at K-State to needy villagers in Mozambique.

Spangler, a French teacher and media specialist at SHS, interned with a company that makes extrusion processing equipment. Extrusion is a process by which grain-based ingredients and other materials can be kneaded, cooked, and formed into shapes in a continuous, high-capacity operation.

Her experience prompted the idea for Grains for Hope. The actual mission of the program, Spangler said, is to empower youth to make a difference in the lives of others by providing populations in need with the proper food, materials, education, and training to help them improve and enrich their quality of life.

Grains for Hope is a non-profit organization that has sent several tons of products to Mozambique. The organization represents a partnership among Sabetha High School students and faculty, noted extrusion and food science experts and companies, grain companies, researchers at K-State and the University of Nebraska-Lincoln, as well as support from private donors.

"K-State provides the time and equipment to produce rice-shaped product from corn and wheat and lentil-shaped product from wheat, soybeans, and pinto beans," said Sajid Alavi, a K-State grain scientist. "The products are pre-cooked, so they require less time and fuel to prepare. They also are fortified with vitamins and minerals to help with nutritional needs."

To get a firsthand view of the extrusion process, each year Sabetha students visit the Bioprocessing and Industrial Value-Added Program (BIVAP) center on the K-State campus.

Some SHS students stay involved with the project after they leave high school. Such is the case with Joann Gruber from Morrill, who graduated in 2006. Gruber now is a student at Dartmouth College in Hanover, N.H., and visited Mozambique last summer.

"In Mozambique, many people cannot take antiretroviral medications for HIV/AIDS, because they do not have enough food," explained Gruber. "Grains for Hope is trying to help these people, and other vulnerable groups, by providing them with quick-cooking, fortified foods."

Other former SHS students discovered their career paths through Grains for Hope. When Trevor Huppert became involved with Grains for Hope, he had no plans to attend college. The project opened his eyes to the possibilities that led to an internship with Wenger Manufacturing, one of the project's partners. Now Huppert is majoring in food science and working at BIVAP, where the Grains for Hope products are produced.

Another Sabetha native, Tyler Huber – whose father's company XIM Group was involved with the project – graduated from K-State in 2008 with a degree in food science.

Grains for Hope is one example of how K-State faculty are involved in international activities. Nina Lilja, director of International Agricultural Programs, has compiled a database ([www.ag.ksu.edu/INT/](http://www.ag.ksu.edu/INT/)) of K-State Research and Extension and College of Agriculture faculty with international expertise.

"The database is useful for faculty, companies who are looking for information or collaborators, and students who are interested in studying in a particular area," said Lilja.

Nina Lilja, 785-532-5627, [nlilja@ksu.edu](mailto:nlilja@ksu.edu)

## New Uses for Crop and Paper Residue

Scientists in the bioprocessing lab are evaluating heat- and drought-tolerant corn and grain sorghum feedstocks for use in ethanol production. They also are evaluating the cellulosic ethanol production efficiency of crop residue, such as wheat straw, corn and sorghum stover (leaves and stalks), forage sorghum, and switchgrass.

Another study involves enzymatic and microbial fermentation. For example, paper mill waste was used as feedstock for bioconversion to lactic acid, a chemical used to produce a variety of commercial products and polymers.

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## Grants Aid Families

A human nutrition specialist is part of a \$1.2 million USDA Agriculture and Food Research Initiative Program grant to study childhood obesity by encouraging food manufacturers to develop more nutritious snack foods and school children to choose healthful snacks.

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A family studies and human services faculty member has received \$39.9 million in Department of Defense grants during the last four years to work with 4-H army youth.

Marlene Glasscock

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Human nutrition was awarded a \$2.3 million grant from USDA and the Kansas Social Rehabilitation Services Nutrition Assistance Program to deliver nutrition education to low-income families.

Paula Peters

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Military families benefit from the programs offered at the new Fort Riley Extension Office.

## New Partnership Supports Military Families

In 2009, K-State Research and Extension opened an office on Fort Riley to help military families. The program – entirely funded by a competitive grant from Fort Riley, the U.S. Department of Defense, and the U.S. Department of Agriculture – is intended to supplement U.S. Army programs, said Toni Jo Bryant, program coordinator.

“The time for adding K-State Research and Extension programs is right,” said Deb Skidmore, media relations officer at Fort Riley. “More than 16,500 soldiers and their families are currently assigned to the fort, and that number is expected to grow to 18,500 by 2011.

“The fort is much like a city,” she said, “and, as our soldiers prepare to make the ultimate sacrifice in putting their lives on the line to defend us, their families – who often are far from their home – need our support.”

The new office is staffed with agents to conduct programs in four essential life skills: family life, child development, family resource management, and nutrition and health. Since the office opened, the agents have made connections and introduced a variety of educational programs to Fort Riley families.

For example, Erin Bishop, family life agent, is focused on helping families build communications skills. While relationships typically face ups and downs, Bishop said, stress from absences and the transitions from the battlefield to everyday living challenge family relationships.

Sara Mietzner, child development agent, is focusing on “helping parents learn how to parent successfully.”

In many cases, a father will miss the birth and much of the first year of his son or daughter’s life, said Mietzner. She is teaming with the Army’s Child Youth and School Services division and school liaison officers on post “to reach parents and help families build skills that nurture resilience.”

Susan Schoneweis, a registered dietitian, uses everyday experiences – such as choosing foods at the commissary, using basic food preparation and storage techniques, and demonstrating how to use a food thermometer to ensure meat and poultry are cooked properly – to help clients meet nutritional needs.

“One participant in the Expanded Food and Nutrition Education Program commented that this was the best nutrition class she had taken, and she loved learning how to use all the beautiful fruits and vegetables,” Schoneweis said.

Deb Wood, family resource agent, contends that “learning to manage your money has a lot to do with quality of life.”

Military families can be vulnerable to the normal pitfalls in managing money, yet may also face relocation expenses or be tempted to spend a deployment bonus quickly, without thinking about long-term financial goals.

At Fort Riley, Wood is teaching basic money management for families and is involved in teaching financial management in a new youth apprenticeship program called “Hired!”

“I have worked very closely with KSRE staff promoting community events for soldiers and their families, such as the Child Abuse Prevention Campaign 2009, Stress Management Works for Parents, and most recently Army Domestic Violence Prevention Campaign 2009,” stated Carolyn Tolliver-Lee, U.S. Army family advocacy program specialist. “The Family Advocacy Program will continue to include K-State Research and Extension as a vital planning committee member.”

*Toni Jo Bryant, 785-239-9548, tjbryant@ksu.edu*

## National Guard Team Learns about Ag

Before deploying to Afghanistan, two separate Kansas National Guard groups spent a week in Manhattan listening to K-State experts and learning about a wide range of agriculture topics. The Agribusiness Development Team (ADT) will use their new knowledge to assess agriculture in Afghanistan. The goal is to determine the country’s food production strengths and challenges and to lay the groundwork for helping it improve its agricultural industry.

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## Training Tomorrow’s Communiators

Department of Communications and Kansas 4-H staff worked with 60 youth and staff from the Army-sponsored Youth Leadership Forum. The teens worked in teams to develop public service announcements focusing on character education, leadership, and fostering teen/adult partnerships. The public service announcements featured photos and video footage of the youth, who stayed at Rock Springs 4-H Center while in Kansas. The youth represented 16 Army garrisons from around the country.

*Pam Van Horn*

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## Help for Military Kids

K-State Research and Extension is reaching out to military families at Fort Leavenworth through camping activities and 4-H programs. Funds from the Operation Military Kids grant provided camp scholarships and enabled agents to better identify and connect with military families.

*Brenda Taxeras*

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K-State food scientists helped with food safety assessments at Grandma Hoerner's midwest processing facility near Alma.



## Food Scientists Assist Local Entrepreneurs

Twenty-two years ago, Duane and Regina McCoy decided to move their business to Alma. Duane's family heritage brought them back to Kansas; Fadi Aramouni helped them succeed there.

The McCoy's own Grandma Hoerner's, a food production business that specializes in gourmet fruit-based products. The company began in 1986 in California with Duane's grandmother's applesauce recipe. At that time, most of their product was produced at other plants throughout the country.

In 2000, the McCoy's decided to relocate and found the facility near Alma. Duane had grown up in the area and liked the idea of coming back to his roots. But, a lot of work needed to be done to transform the big red metal building into a food production and distribution facility.

That's where Fadi Aramouni and his team came in. Aramouni is a food science professor with K-State Research and Extension. He and his team of students help small- and medium-sized companies with many food science issues, including testing product for labeling, creating Hazard Analysis and Critical Control Point (HACCP) plans to meet federally mandated safety requirements, establishing sanitation guidelines and good manufacturing practices, and conducting shelf-life testing.

"We started asking around, and all arrows pointed to K-State and to Dr. Fadi," Duane McCoy said. "He addressed the questions we had, from determining what type of equipment to getting through the development process."

The helpful hand from K-State didn't stop when production started.

"With Grandma Hoerner's, we helped them develop HACCP plans, acquire organic certification, create quality and safety assurance plans, and set up a microbiology testing lab onsite," Aramouni said.

D.J. O'Neal, director of operations for Grandma Hoerner's, says that hands-on experience benefits more than just the business owners.

"Working with the graduate students benefits the university, the students, the department, and us," O'Neal said. "The students get to do projects, like the hazard analysis, that prepare them for a job after college."

In fact, Matt Beyer, a graduate of Aramouni's program, now conducts onsite safety and quality assurance testing for Grandma Hoerner's.

Grandma Hoerner's continues to grow, with a vision to develop their brand nationally. They now have 35 full-time employees, offer more than 50 products, and produce about 18,000 jars per day. Their Alma facility also includes a production viewing window and store, and they often host tour buses interested in their facility.

"Fadi and his team have been so helpful to us, in so many ways," Regina McCoy said. "We're blessed to have access to K-State food scientists."

Aramouni and his team now help about 100 Kansas businesses with their food safety needs.

"It became a definite need in the state as the number of companies increased, regulations became more intricate, and technologies more complicated," Aramouni said. "The bottom line is that my students and I love this work. It is so rewarding to help these businesses, to see the products we worked on being sold in stores, to realize that people in small communities will have a job created in part by our assistance to local businesses."

*Fadi Aramouni, 785-532-1668, aramouni@ksu.edu*

## Support for Diversity

The Change Agent States for Diversity, a national Extension initiative, has received the multistate partnership award from U.S. Department of Agriculture /National Institute of Food and Agriculture. The team was recognized for developing successful and systemic change strategies that support greater diversity and welcoming climates throughout the land-grant university system. Kansas is one of 18 participating states.

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## 24/7 Access to Publications

The "Publications" category is the most popular part of the K-State Research and Extension Web site [www.ksre.ksu.edu](http://www.ksre.ksu.edu). It contains approximately 2,000 publications and last year had more than one million hits with 1.3 million downloads. Many of the most popular publications also are available at local K-State Research and Extension offices.

*Amy Hartman*

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## Pest Research Goes Digital

Entomologists recently launched the beta version of a Web-based decision support system ([www.soypod.info](http://www.soypod.info)), that can be operated on any device with an Internet connection. This user-friendly, interactive tool can manage and track soybean aphid populations in the field. Growers and consultants can add field-specific information; upload aphid density estimates, a quick visual method to determine aphid numbers; and manage resampling efforts using their phone.

*Brian McCornack*

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Jeff Varner (right) and his brother, Calvin, rely on advice from the Kansas Farm Management Association to keep their family corporation profitable.

## Farm Management Data Benefit Producers

She may be coming over for business, but Hannah Berns feels a lot like she's meeting friends when she rolls up Jeff Varner's driveway.

Varner and his brother Calvin manage the family's 5,200-acre farm near El Dorado. Two or three times a year, Berns – an economist with the Kansas Farm Management Association (KFMA) – drops by the Varners' home to help the family stay on top of the farm's business decisions.

"The last year or so have been interesting," Jeff Varner said. "The farm's hay business has made us as tight as we've been in some time."

Berns' regular lunchtime visits with the Varners go a long way to help the family weather agriculture's economic cycles. As a KFMA economist, she's able to share information from that organization's vast database, which measures the relative success of more than 3,000 Kansas farm families.

"It's easy to sit down and talk with them," said Berns. "Family and the family business are very important to them. They share what they have learned from the past and look forward to the future. They are very eager to learn new things and share information."

"That information is important to the KFMA members, so they can measure how well they are doing in comparison to an average farm. It helps them make better informed management and production decisions."

In 2009, KFMA's membership included 2,314 farms and 3,080 families. Berns is one of 20 economists in Kansas – making KFMA the second-largest program of its kind in the United States. Each economist works with an average of 114 farms each year.

"A part of what they do is bring together a lot of information that the farm decision-maker needs to digest," said Kevin Herbel, who heads the state program. "The economist is a sounding board and a resource of information so that families can better make those important decisions."

Jeff Varner said that knowing how his business compares to Kansas farms of similar size, goals, and operations can help him understand whether he needs to change his production strategies to make more money, or if the industry is simply having a rough time. He said Berns provides an "unbiased, second opinion" that helps him develop a strategy specific to his farm's situation.

"A decision for one farmer might not be best for another," Herbel said. "The fact that the economists get out on the farm gives them a good knowledge and understanding of that particular farm. They also develop strong relationships and trust, which adds to their ability to help those families."

Varner Farms, Inc. is one of nearly 2,000 Century Farms in Kansas, according to statistics from Kansas Farm Bureau. Jeff and Calvin's great-grandfather started the business in 1902. Together, the Varners raise 250 head of crossbred cows and 150 calves. They also grow wheat, corn, soybeans, and hay.

Varner especially appreciates the help with getting paperwork done right. He noted that he typically gets a warm reception from bankers and others when he brings in forms that Berns has helped him with.

"For me," he said, "it has eased my mind."

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[www.agmanager.info/KFMA/](http://www.agmanager.info/KFMA/)

## Manage Chronic Disease

Individuals and caregivers who live with chronic disease are learning to manage their symptoms through a program from K-State Research and Extension and the Kansas Department of Health and Environment. The Chronic Disease Self Management program teaches people to deal with frustration, pain, fatigue, exercise, medications, communication, nutrition, and treatment decisions. Results have included a decrease in physician visits, an increase in communication with physicians, an increase in exercise levels, and a reduction in health-care costs.

*Deb Sellers*

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## Diet Suggestions to Avoid Cancer

K-State Research and Extension agents in Finney, Hamilton, Scott, and Wichita counties conducted educational programs on "Preventing Cancer with Your Knife and Fork."

The program included an explanation of the top eight types of cancer in Kansas, cancer death statistics for each county, and diet and lifestyle recommendations for preventing cancer.

The 122 people who attended were surveyed before and after the program. Before the program, only 23 percent could identify the leading types of cancer in Kansas, and about half could name three or more foods that could help prevent cancer.

By the end of the program, all participants had learned the top eight cancer types in Kansas, as well as diet and lifestyle recommendations to help prevent cancer.

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Jessie Muñoz learned new healthy eating habits when she participated in a K-State Research and Extension-sponsored telenovela.



## Finding New Ways to Reach Underserved Audiences

You could certainly say that Jessie Muñoz practices what she preaches.

Last year, Muñoz, from Garden City, appeared in a series of eight telenovelas – Spanish soap operas – that aired on the city’s local access channel.

The “actors” in the telenovelas were local citizens with no formal training. Each program was about 2 minutes long and led viewers through preparations for La Quinceañera de Elisa – Elisa’s 15th birthday celebration – a great tradition in the Hispanic culture.

As the family prepared for the big day, they learned more and more about healthy eating, exercise, stress management, and overall good health.

“My experience,” Muñoz said, “really opened my eyes to healthy eating and watching what we eat at home.”

K-State Research and Extension family and consumer sciences specialist Debra Bolton helped to develop the series for the community’s Hispanic population, which is just more than 43 percent of the county’s 41,000 residents.

According to 2008 U.S. Census figures, Hispanic populations are the majority in nearby Liberal (52.9 percent) and Dodge City (53.6 percent).

In 2009, CNN News highlighted Finney County as a representative Midwest county where minority populations outnumber the non-Hispanic white population. CNN reported that traditional minority populations are now the majority in nearly 10 percent (309) of the nation’s 3,142 counties.

“It was great to be able to involve people in the community who are not real actors, but who have a real love for the community and for helping those who may be having nutrition, health, or any other challenges,” Bolton said. “The messages in each episode give general health and nutrition advice to reinforce what is already known and to give new ideas on the topics.”

Muñoz admits she needed the support. She is diabetic and had struggled to maintain healthy levels to manage a disease that affects Hispanic Americans disproportionately, according to the U.S. Department of Health and Human Services and the National Institutes of Health.

As a result of her experience, Muñoz said she incorporates more fruit, vegetables, and fiber into meals; keeps portion sizes small; cuts back on oils, starchy foods, and unhealthy fats; and never eats after 8 p.m.

“It makes me feel good to know that I’ve been able to go from seeing the doctor every month, to every 6 months between checkups,” she said. “My condition has remained normal, and my averages (health measurements) have been good.”

Bolton said the telenovelas were supported by K-State Research and Extension, United Methodist Health Ministry Fund, and the Family Nutrition Program.

“Eating healthy sounds a lot harder than it really is,” Muñoz said. “People think, ‘I can’t eat this; I can’t eat that.’ Well, yes you can, but you have got to watch what you put into cooked food and how much you eat.

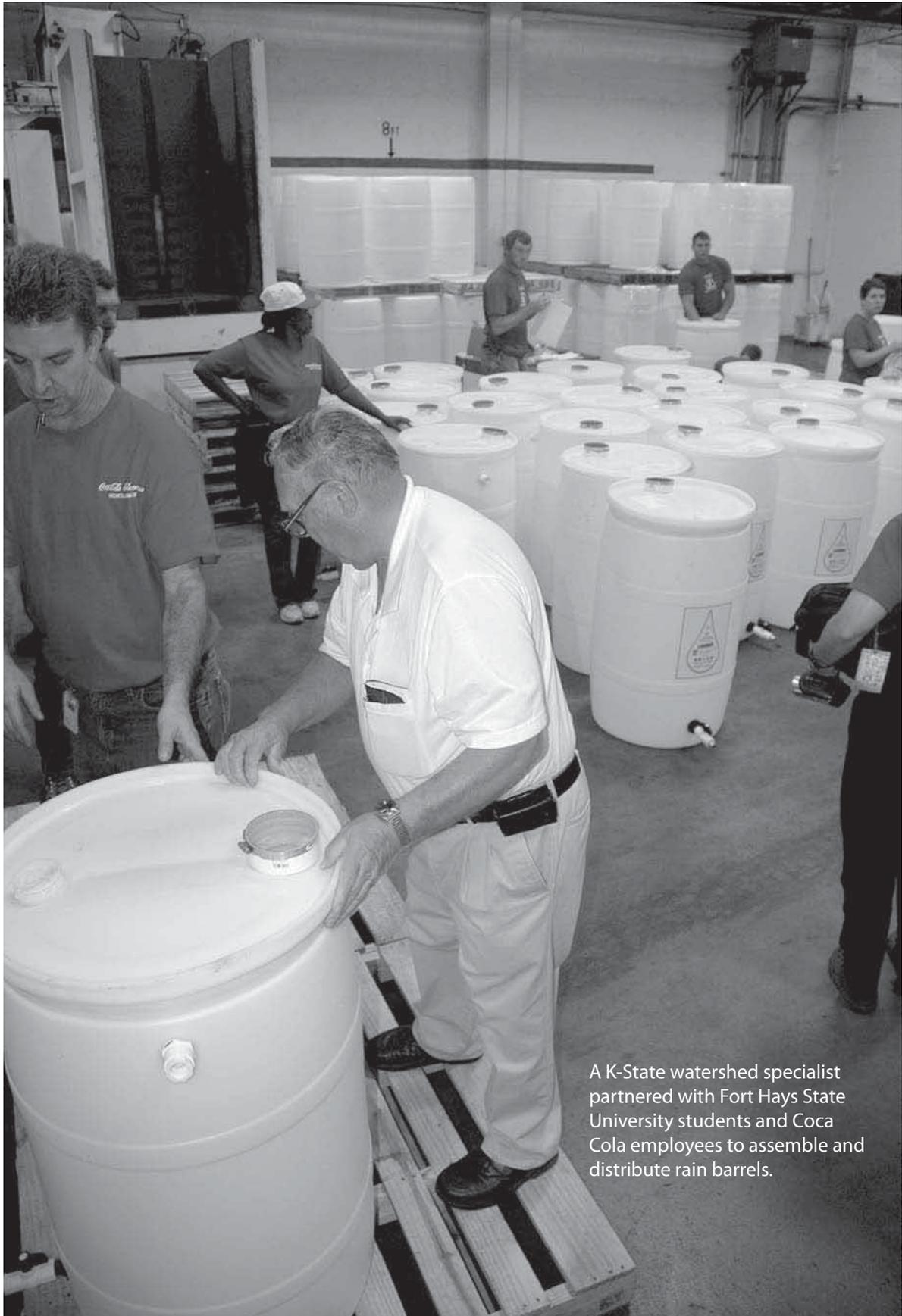
“I treat myself; I just don’t overdo it.”

To view the telenovelas, go to [www.kidsacookin.org/Site.aspx?page=Elisa](http://www.kidsacookin.org/Site.aspx?page=Elisa)

Debra Bolton, 620-275-9164, [dbolton@ksu.edu](mailto:dbolton@ksu.edu)

## Using Social Networks

- In Finney County, an agent writes a blog (an online journal with comments and links to related topics) for the Garden City Telegram. “It is definitely one of our most popular blogs,” said Emily Behlman, the newspaper’s Web editor. “It’s really useful information, stuff that everybody deals with in real life. Some of the newspaper’s reporters use the blog as a reference point for news articles on budgeting, food safety, and nutrition. Personally, I’ve found it useful when I have money management questions.”
- In Sedgwick County, blogging is a key component in gardening (<http://thedomogardenblog.wordpress.com>), physical activity (<http://g2goutside.wordpress.com>), and Medicare (<http://shickinajiff.wordpress.com>).
- In summer 2009, a Shawnee County 4-H agent created a Twitter account for youth at the Rock Springs 4-H Youth Camp, so parents could follow activities from home. (Twitter enables its users to send and read text-based posts of up to 140 characters.)
- A Johnson County horticulture agent uses Twitter to post a regular gardening tip.
- Some projects also include the ability to participate via Wiki (a Web site that allows the easy creation and editing of any number of interlinked Web pages) and RSS feeds (a Web format used to frequently update content such as news headlines).
- Agents in numerous local offices use Facebook (a Web site that allows registered users to create profiles, upload photos and video, and send messages) to post information about workshops, 4-H programs, and current events.



A K-State watershed specialist partnered with Fort Hays State University students and Coca Cola employees to assemble and distribute rain barrels.

Bob Holcombe

## Project Saves Water, Promotes Community Service

Fort Hays State University (FHSU) students partnered with a K-State Research and Extension watershed specialist to “roll out the rain barrels.” A video of the project is now on YouTube, a popular video-sharing Web site.

Stacie Minson, watershed specialist for the Big Creek Middle Smoky Hill Watersheds, developed a program for companies to donate large, used barrels and repurpose them to catch rainwater. The students drilled holes for downspouts, added a spigot for the drain hose and an overflow hose, and helped distribute the barrels to homeowners at a modest cost. James Leiker, watershed technician, helped design the water barrel.

“I’ve worked with Stacie for 4 to 5 years on various service-learning projects,” said Robert Stephenson, FHSU associate professor of agronomy. “Stacie had been talking to my wife Jean Gleichsner (also an FHSU associate professor) about this project. When I suggested it to my Soil and Water Management class, they jumped all over it.

“It tells me that service-learning projects are alive and worthwhile. It is really a win-win situation for the students and the community – not to mention the environment.”

In addition to recruiting the FHSU students, Minson applied for and received a Kansas Department of Health and Environment Kansas Clean Water Neighbor Grant and Environmental Protection Agency funds to conduct the events.

Other partners included the Ellsworth, Russell, Reno, and Ellis county conservation districts; Post Rock Rural Water District; Eagle Radio; Ellis County Farm Bureau; Ellis County Wellhead Protection Committee; Coca-Cola Enterprises; the city of Hays; Midwest Energy; Kansas Master Gardeners; other K-State Research and Extension watershed specialists and staff in Russell, Ellis, and Sedgwick counties.

A total of 1,220 barrels were distributed in 2009 at “Roll Out the Rain Barrel” events in Hays, Russell, Victoria, and Wichita. Participants were surprised to learn that with a 1-inch rain, it only takes 88 square feet of roof to fill a 55-gallon barrel. The roof of a typical home has 1,200 to 2,000 square feet.

“The rain barrel project has several benefits,” Minson said. “It repurposes a barrel that had been used for another product – such as those donated by Coca Cola. The rain water, which is chemical-free and naturally soft, is better for watering lawns and plants. And the collected water doesn’t run off into storm drains and pollute drinking water supplies.

“Using rainwater may save on water bills,” she added. “In the heat of the summer nearly 40 percent of household water is used for outdoor watering.”

“The FHSU students felt they could make a difference in reducing the amount of water everyone uses for gardens, flowers, etc.,” said Stephenson. “They were really surprised by the number of people who turned out to get a rain barrel. That helped reinforce the idea that they were making a small, yet important contribution to the community.

“They think it is a very worthwhile project. They see rain barrels being used all over the Hays community. They know that they have helped people in the communities understand that we all benefit by helping educate each other.”

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www.MyKansaswatershed.com, www.kcare.ksu.edu/rainbarrel*

## Interns Find Energy Savings

The K-State Pollution Prevention Institute intern program hosted nine interns in 2009. The group identified savings of more than 8.7 million kilowatt-hours of electricity, 9.9 million gallons of water, 480 tons of solid waste, and \$700,000 in operating and disposal costs for Kansas business and industry.

The program links top-level engineering and environmental sciences students with host companies to research projects that reduce industrial emissions and wastes, and conserve natural resources. If implemented, total recommendations of the program, involving 23 K-State students and more than 42 institutions over four years, would collectively realize savings of up to \$5.7 million.

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## Lunchtime Learning

Agents have been hosting lunchtime learning sessions since the early 1980s, reaching thousands of Kansans with timely and practical information. Best known by the name “Knowledge @ Noon,” the noon-hour discussions have featured speakers on food safety, health, nutrition, gardening, economic development, assistive technology, environmental safety, financial education, and other timely topics.

Local offices that host “Knowledge @ Noon” programs do so monthly; some more or less frequently. In 2009, most agents reported an average of 30 participants per session, but some had 80 or more. Anderson County reports more than 300 participants since 2008, and approximately 200 hours of time donated by volunteers.

A K-State graduate student stands next to miscanthus – a tall, perennial grass that can be used to produce biofuels.



Courtesy of Scott Staggenborg

## Biofuels Research Has ‘Great Potential’ for Kansas

Ten years ago, who would have thought 13-foot-tall sorghum would be growing in Kansas, or that we would be able to fuel our cars with it?

Tom Robb is among the group who envisions such potential for a biofuels future in Kansas. Robb is the manager of institutional relations for Abengoa Bioenergy Development. He has been helping build the biofuels industry in the region.

“We feel that our future feedstock supply needs will be very closely tied to dedicated energy crops,” Robb said. “The economic impact will be quite significant. Currently, land that is marginal or even in the red for crop production will be able to become profitable in the future with the use of energy crops.”

Robb said there is also a positive, potential environmental impact from planting these crops.

“The fragile lands that now are being cropped and are extremely subject to wind erosion will be able to be both productive and in a cropping system (grasses) that will hold the soil and be very environmentally compatible,” he said.

But there are a few obstacles to overcome, including determining how the feedstocks will perform in the Kansas climate. That’s where Scott Staggenborg’s research can help.

Staggenborg, a K-State agronomist, is working with a team of scientists to study the potential of sorghums and perennial grasses to produce biomass. Biomass refers to the organic matters produced by the plants, which can then be converted to fuels such as ethanol, biodiesel, or methanol.

“We think sorghums and perennial grasses will be used in Kansas’ non-irrigated acreage to produce biomass,” Staggenborg said. “On our dryland acres, perennial grasses may be the crop of choice. Since sorghum has the ability to perform better than corn when it is hot and dry, it gives us options.”

Staggenborg’s research is studying the amount of biomass these crops can produce, looking at how they perform in the Kansas climate, and identifying strengths and weaknesses of each crop.

“We like the dual-purpose forage sorghum because it produces grain and stover (leaves and stalks), and can do so at nearly the same rate as corn,” Staggenborg said. “The reason both grain and stover are important is that right now the ethanol industry is grain-based, and that will not change overnight. If we have a crop that produces both, we can help the industry evolve.”

The scientists are also studying sweet sorghum, which has good potential because of its ability to produce sugar water that is easily fermented for fuel; however, its tall stalks are susceptible to the strong Kansas winds.

Perennial grasses, including big bluestem, switch grass, and miscanthus, are also being studied. Miscanthus has been catching the eye of those who pass by the impressively tall grass growing across from the K-State football stadium. It produced the highest biomass, yielding six tons per acre. But it is labor-intensive to plant, and there is some concern about its spread.

Staggenborg and his team continue to look at these and other concerns.

“Scott Staggenborg’s work is squarely focused on the uncertainty of the ability of the feedstocks to perform and will be extremely valuable to all as we go forward,” Robb said.

*Scott Staggenborg, 785-532-7214, sstaggen@ksu.edu*

## Faculty Supplement Funds through Grants

To qualify for competitive grants, applicants must show they have a good idea, a sound approach, the expertise, and the facilities in place to conduct the research or programs.

K-State Research and Extension professionals successfully leverage state funds to win competitive grants.

For example, a Nobel-prize winning agronomist, will lead a multi-institutional team to study climate change and renewable energy. The project is part of a \$20 million grant from the National Science Foundation.

*Chuck Rice*

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A team of plant pathologists received a \$1 million grant from the U.S.

Department of Agriculture to study the wheat blast fungus, a pathogen that has become a serious threat in Brazil. It is the first plant project conducted in the Biosecurity Research Institute.

*Barbara Valent*

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A horticulturist received a \$1.04 million grant from USDA’s National Research Institute to teach elementary students to grow and eat vegetables and get more exercise, which will help combat high obesity rates among U.S. youngsters.

*Candace Shoemaker*

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A molecular biologist has a National Institute of Allergy and Infectious Diseases grant to study the phlebotomine sand flies. The flies – whose bite has caused serious skin sores for U.S. military serving in the Middle East – are expanding in the United States, especially the Southeast and Midwest.

*Marcelo Ramalho-Ortigao*

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## Institute Coordinates, Expands Research



The Food Science Institute (FSI) was developed in 2001 to bring together all the food science expertise at K-State. FSI, under the leadership of Curtis Kastner, organizes the research, extension, and teaching functions of approximately 57 nationally and internationally recognized faculty from five colleges and 13 departments at K-State.

Food science and food safety are more important than ever before to Kansans and the nation. This is emphasized by the addition of the Biosecurity Research Institute (BRI) in the Pat Roberts Hall on the K-State campus and plans to bring the National Bio- and Agro-Defense Facility (NBAF) to Manhattan. Randy Phebus, professor in the Department of Animal Sciences and Industry, is part of the Food Science Institute and has a research project in the BRI.

“FSI and BRI are intertwined,” Phebus said. “This union has led to a vastly expanded and better coordinated and integrated food safety initiative. We are seeing great interest in our unique capabilities to train researchers to work in high-level containment facilities and do research on biodefense of food processing systems.

“The distance-education component is the most obvious benefit to having FSI as a defined unit within K-State,” said Phebus. “Dr. Kastner and his staff have worked aggressively to develop the most comprehensive food science distance learning program in the world.

“Students from around the country and from diverse backgrounds, come to K-State via distance education. After graduation, they are out in the industry praising our program. This has – on numerous occasions – resulted in companies calling me and my colleagues to help with training and research needs, whether through industry, trade associations, or directly with food companies.

“For example, I had a master’s degree student from Costco, who sponsored her fees and tuition. Costco also sponsored a food safety research project in their corporate system that gave me – as a researcher – unprecedented insight and access to retail food safety programs. Additionally, this research was immediately instituted into one of the world’s largest and most progressive retail chains.

Another student, who works for Smithfield Foods, has approval to conduct in-plant studies for his thesis project.

“K-State and the meat industry benefit significantly from these industry-university collaborative efforts,” said Phebus.

Kastner added other ways that FSI is serving diverse audiences.

“Thirty-seven percent of the food science graduate students on campus are minorities,” Kastner said. “The workforce in the food science and food safety industries is becoming more diverse. We are educating professionals to lead that diverse work force.

“A majority of the distance education students take courses while working full time in the food industry. Those who are required to take food safety and defense training enroll in our courses, which are developed for the Department of Homeland Security through the National Center for Food Protection and Defense.

*Curtis Kastner, 785-532-1234, ckastner@ksu.edu  
www.foodsci.k-state.edu*

## Check out these Web sites for more information

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

### Ag Manager

[www.agmanager.info/](http://www.agmanager.info/)

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

### Bioprocessing and Industrial Value-Added Program (BIVAP)

[www.grains.ksu.edu/bivap](http://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](http://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](http://www.extension.org)

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

### Financial Management

[www.ksre.ksu.edu/financialmanagement](http://www.ksre.ksu.edu/financialmanagement)

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

### Horticulture Information Center

[www.hfrr.ksu.edu/HortInfo](http://www.hfrr.ksu.edu/HortInfo)

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

### International Grains Program

[www.ksu.edu/igp](http://www.ksu.edu/igp)

Lists the upcoming short courses offered to foreign business leaders and government officials on grain storage and handling, milling, marketing, and processing.

### Kansas Center for Agricultural Resources and the Environment

[www.kcare.ksu.edu](http://www.kcare.ksu.edu)

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

### Kansas Saves

[www.kansassaves.org](http://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](http://www.konza.ksu.edu)

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

### K-State Research and Extension Publications Library

[www.ksre.ksu.edu/library/](http://www.ksre.ksu.edu/library/)

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

### Mobile Irrigation Lab

[www.ksre.ksu.edu/mil/](http://www.ksre.ksu.edu/mil/)

Educational programs and technical assistance for Kansas agricultural producers who use irrigation.

### Plant Diagnostic Information System

[www.pdis.org](http://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/](http://www.rrc.ksu.edu/)

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

### Sustainable Agriculture Reference Library

[www.kansassustainableag.org/library.htm](http://www.kansassustainableag.org/library.htm)

Links to information on more than 300 topics related to sustainable agriculture.

### Walk Kansas

[www.walkkansas.org](http://www.walkkansas.org)

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

### Western Kansas Agricultural Research Centers

[www.wkarc.org](http://www.wkarc.org)

Links to research conducted at centers in western Kansas.

### Weather Data Library

[www.ksre.ksu.edu/wdl/](http://www.ksre.ksu.edu/wdl/)

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

### Wheat Page

[www.ksre.ksu.edu/wheatpage](http://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.

## Want to know more? Contact these K-Staters for more information

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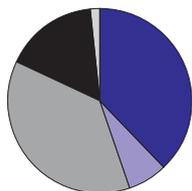
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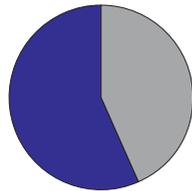
# K-State Research and Extension Budget Data for Fiscal Year 2010

Source: Doug Elcock, Business/Fiscal Officer, 785-532-7139, delcock@ksu.edu



## K-State Research and Extension Budget Fund Source

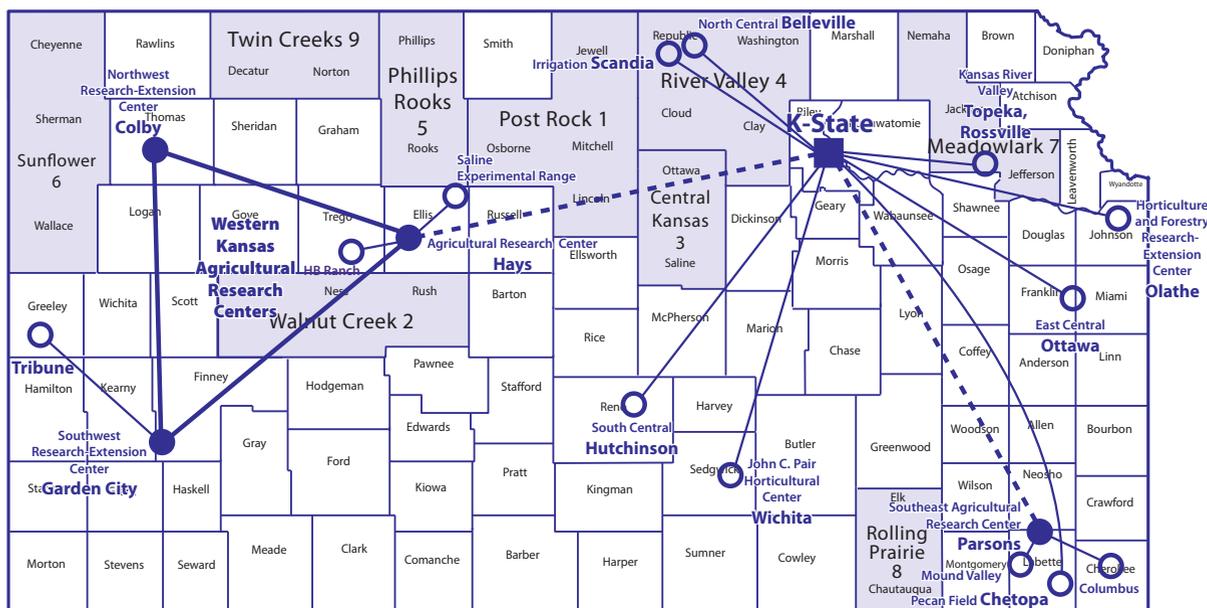
- State Appropriation (AES/CES) \$49,129,279
- Federal Appropriation (AES/CES) \$9,180,000
- Grants and Services \$48,456,889
- County Funds \$21,000,000
- Tuition Allocation \$1,944,614



## K-State Research and Extension Budget Responsibilities

- Agricultural Experiment Station \$73,554,566
- Cooperative Extension Service \$56,156,226

## K-State Research and Extension Statewide Offices and Research Facilities



**Facilities Across the State:** Headquartered on campus 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. Research conducted on campus and at off-campus facilities is shared with Kansas citizens through meetings, field days, publications, newsletters, Web sites, news releases, radio, and television.

**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, 25 counties have formed nine districts.

- Post Rock District #1 (1994) – Mitchell and Lincoln counties; Jewell and Osborne counties joined in 2005.
- Walnut Creek District #2 (1997) – Lane, Ness, and Rush counties.
- Central Kansas District #3 (2004) – Saline and Ottawa counties.
- River Valley District #4 (2005) – Clay, Cloud, Republic, and Washington counties.
- Phillips-Rooks District #5 (2005) – Phillips and Rooks counties.
- Sunflower District #6 (2005) – Sherman and Wallace counties; Cheyenne County joined in 2006.
- Meadowlark District #7 (2006) – Jackson, Jefferson, and Nemaha counties.
- Rolling Prairie District #8 (2008) – Chautauqua and Elk counties.
- Twin Creeks District #9 (2009) – Decatur and Norton counties.



## *Knowledge for Life*



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and United States Department of Agriculture Cooperating, Fred A. Cholick, Director.