



Kansas State University®

Research and Extension



REACHING ALL KANSANS

Knowledge for life



An Informal Report to the Kansas Legislature 2011



An Informal Report to the Kansas Legislature 2011

4-H Helps Military Youth and Families Worldwide	4
Fire Management Benefits Urban and Rural Kansans	6
Kansas PRIDE Builds Community, Sustainability	8
Groups Cooperate to Slow Reservoir Sedimentation	10
Secure Facility Hosts International Research	12
Timely Information Aids Producer Decision-Making	14
Collaborations Reach More, Teach More	16
Researchers Share Results with Ranchers	18
Businesses Look to K-State for Advice, Employees	20
Website Offers One-Stop Resource for Clients	22
Workshops Bring Stakeholders Together	24
Area Residents See Advantages of Districting	26
Updates on Previous Features	28
Useful Websites	29
Contacts	30
Budget and Maps	31

Our Commitment

Our commitment is 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



Gary Pierzynski, interim director of K-State Research and Extension and interim dean of the College of Agriculture, speaks at the groundbreaking ceremony for the new O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center.

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.

In March 2010, I moved from being head of the K-State Department of Agronomy to interim dean of the College of Agriculture and interim director of K-State Research and Extension. As interim I have developed a greater appreciation for the breadth of our programs and the excellence of our faculty and staff on campus and across the state. This publication offers a view of how K-State Research and Extension benefits Kansas families, youth, ranchers, the military, farmers, and communities.

We celebrated the 100th anniversary of the Department of Grain Science and Industry in October with the groundbreaking of the O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center. The event honored the department's history and offered hope for its bright future. This facility will continue the department's legacy of educating tomorrow's grain industry leaders and also will be used by faculty and students in the Department of Animal Sciences and Industry as they develop feed for livestock research.

Children need positive youth development activities, and Kansas 4-H continues to offer relevant and valued programs. A recent study showed that participants in 4-H clubs and afterschool activities had better grades, were less prone to behavior and emotional problems, were more involved at school and with their communities, and were more likely to go to college. It's no surprise that 4-H continues to be the largest youth program in the United States.

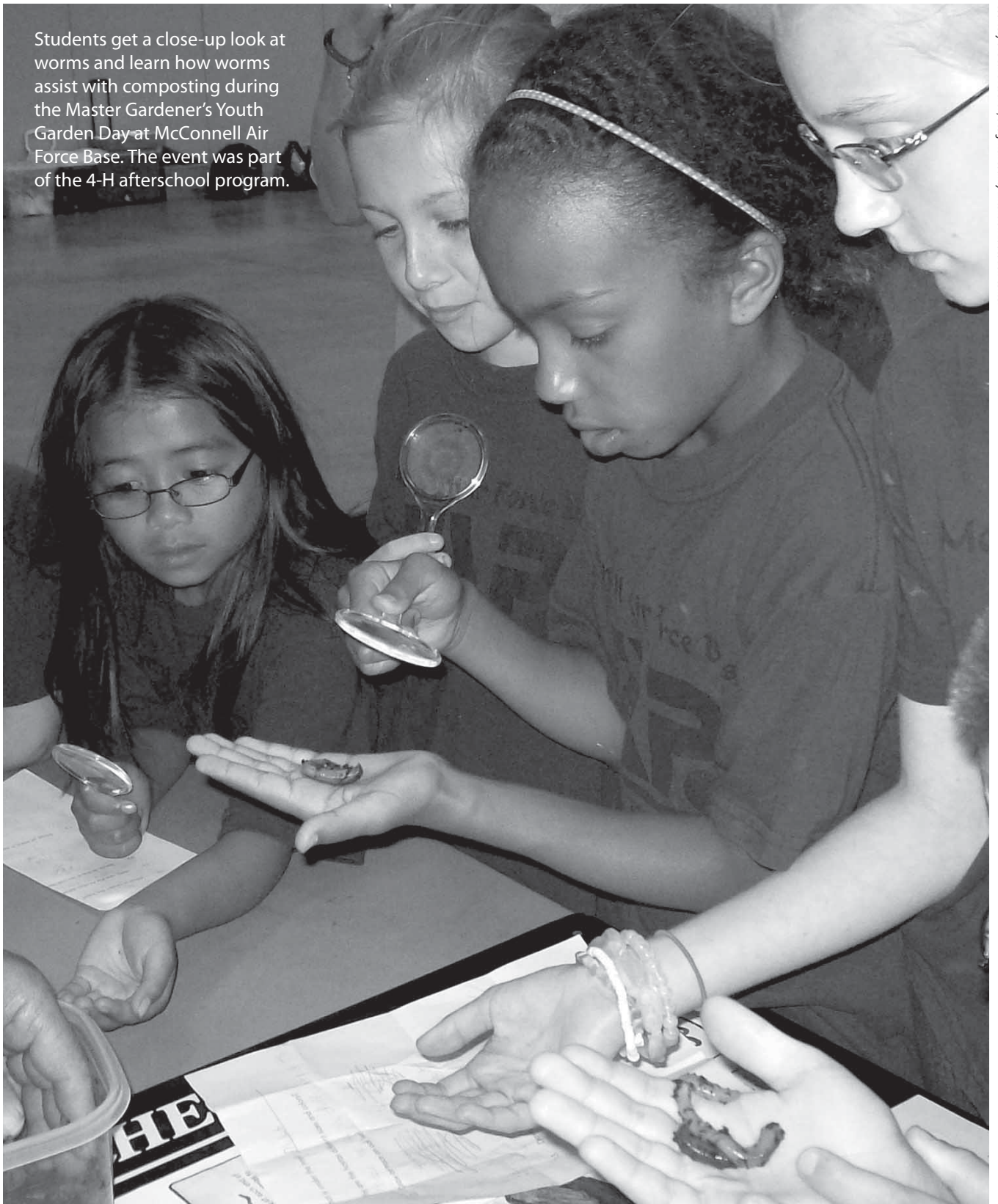
We continue our involvement with the military within Kansas and overseas. In particular, we offer 4-H programs on several military installations in Kansas and trained our third Agribusiness Development Team in support of agricultural development in Afghanistan.

K-State Research and Extension's statewide presence lends itself to collaborative efforts with local groups, state and federal organizations, and colleagues in other states. Our faculty and staff consistently look for more and better ways to reach out to Kansas' increasingly diverse population. In addition to traditional one-on-one methods of communication, they use technology to deliver research-based programs to clients across the state and beyond.

Top-notch research facilities and quality faculty draw businesses and funding to K-State and Kansas. Several high-profile projects are under way in the Biosecurity Research Institute, and infrastructure development for the National Bio and Agro-Defense Facility is in progress.

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

Students get a close-up look at worms and learn how worms assist with composting during the Master Gardener's Youth Garden Day at McConnell Air Force Base. The event was part of the 4-H afterschool program.



The Military 4-H Club Grant Program provides opportunities to more than 24,000 military youth in 44 states and territories. State and county staff also have provided training for more than 1,300 military youth program staff.

4-H Helps Military Youth and Families Worldwide

Moving is part of military life, yet packing up the family, saying “goodbye,” and moving to a new place adds challenges and opportunities. Children can be particularly vulnerable during relocation, especially if one or both parents are being deployed.

Thanks to the 4-H and Army, Air Force, and Navy Partnership Projects, children (ages 5–18) of U.S. military families can join a 4-H club, afterschool program, or project group at one installation and continue in the project or a similar program at a new location in a different state or country.

“The goal,” said Marlene Glasscock, 4-H Military Partnerships director, “is to provide a consistent environment for positive youth development, wherever the family is located.”

At McConnell Air Force Base in Wichita, 4-H afterschool programs are serving children ages 5 to 12. Enrollment in the McConnell program varies, with as many as 75 children in the summer and 40 to 50 during the school year, said Melodie Skillman, McConnell School-Age Program director, who’s been using the 4-H curriculum for five years.

“The curriculum is research based and proven to meet children’s needs,” Skillman said. “With the different curriculum available, we can expose children to a wide variety of learning experiences.”

Military parents — such as Gregory and Denise Beamon who came to Wichita in 2006 from Guam — are enthusiastic about the educational opportunities. Their daughter, Daja, is a third-grader who enjoys field trips and learning opportunities offered through the 4-H programs.

Denise, an afterschool program assistant, explains: “It’s exciting to watch the kids grow. They’ve been learning cooking skills and another mom came in and said: ‘I had no idea my daughter learned there’s a right way to crack an egg.’”

The military partnership concept was introduced in 1995 with the 4-H/Army Youth Development Project. Specialists and youth development professionals from land-grant universities in Kansas, Alabama, Maryland, Virginia, and Washington shared responsibilities for developing the educational programs.

“Much of what we do is ‘4-H 101’ training for military youth development personnel who will be leading and delivering the programs,” said Carol Fink, state 4-H Youth Development specialist, who recently accepted an assignment as the 4-H Navy Youth Development specialist.

Regional training sessions sponsored by National 4-H Headquarters and the Air Force Airman and Family Services provide instruction, resources, and materials to more than 200 participants representing 56 Air Force bases and 4-H professionals from 34 states. The Navy effort is similar to Army programs, in that it will offer 4-H clubs, afterschool programs, and project clubs.

The curriculum has components that nurture mental and physical health and include learn-by-doing activities in food, nutrition, physical activity, and personal growth and development, Fink said. Science, engineering, and technology also are integral to the 4-H curriculum, which includes GPS (global positioning system), computer and aerospace technologies, and environmental education.

“The military recognizes that if military families do well, service men and women also will do well,” Fink said.

Marlene Glasscock, 785-532-1484, glass@ksu.edu

Healthy Food, Kids

Kansas 4-H combined grants from the USDA’s Children, Youth and Families at Risk (CYFAR) Strengthening Communities Project and a Cargill 4-H Science Grant from the National 4-H Council to develop and introduce a food science camp for middle-school youth. Thirty-five students, many with no previous 4-H experience, from McPherson, Shawnee, and Wyandotte counties participated in learn-by-doing lessons on food, food safety, and science along with the practical aspects of choosing and using foods, everyday nutrition, health, and physical activity on the K-State Campus.

Gary Gerhard

785-532-5800, ggerhard@ksu.edu

Support for Youth

Kansas is one of six states participating in the national Building Partnerships for Youth Development initiative. The goal is to build collaborations with educators, community agencies, youth services, and volunteers to provide the state’s 10–19 year olds with opportunities that support positive development through healthy life choices and youth involvement in their communities. The initiative is supported by the National 4-H Council and funded by the Centers for Disease Control and Prevention.

Elaine Johannes

785-532-7720, ejohanne@ksu.edu

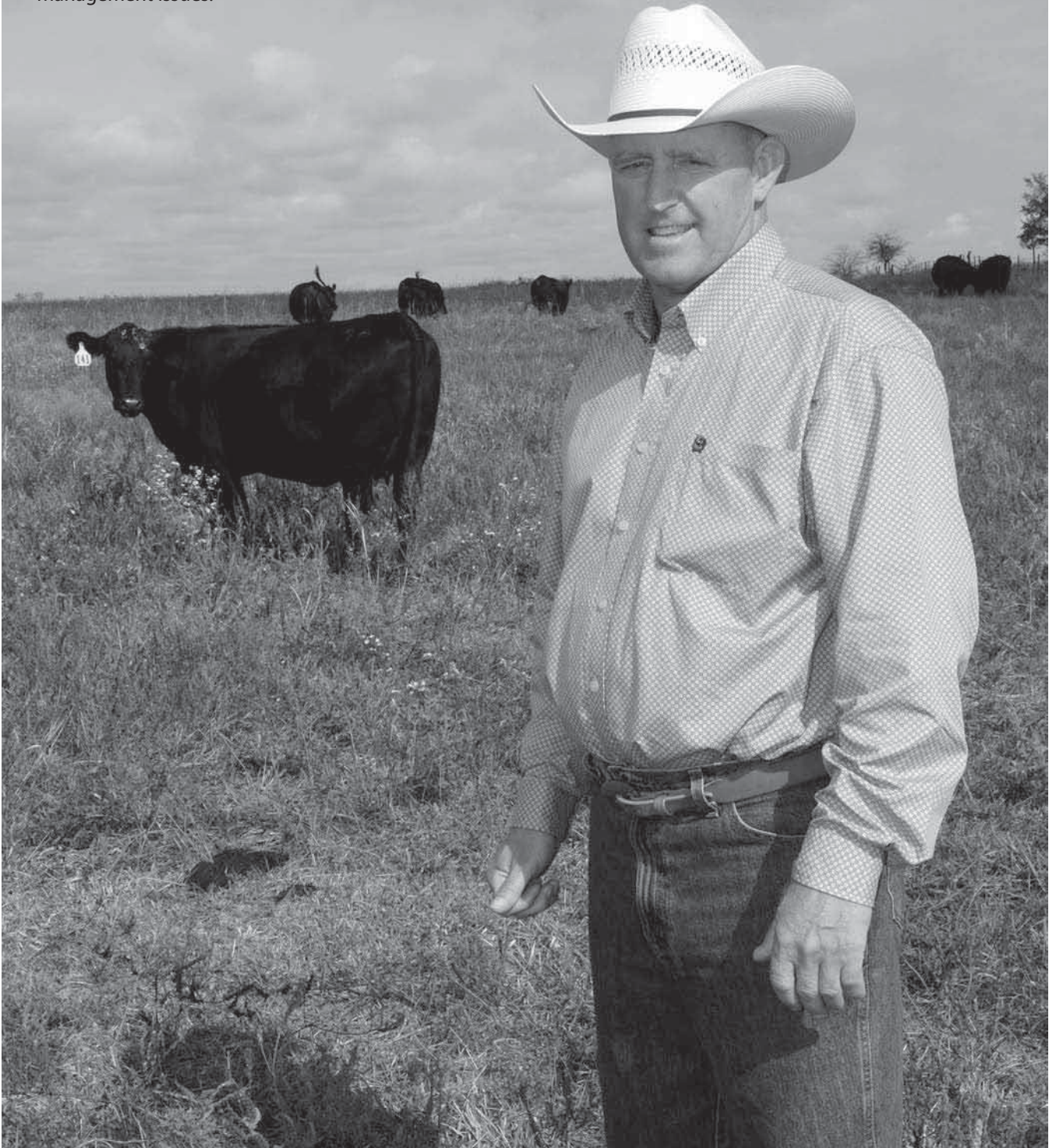
Kids Learn Food Safety

“Kids Can Cook” classes were offered to 235 second- through fifth-grade students in Crawford County. After the three-day summer sessions, 89 percent knew which foods would be safe to pack in a sack lunch (a 15 percent increase), and 89 percent could identify an example of cross-contamination (an 8 percent increase).

Martha Murphy

620-232-1930, mmurphy@ksu.edu

Rancher Mike Collinge, Hamilton, works with the KDHE and K-State Research and Extension on fire management issues.



A major goal of the Flint Hills Smoke Management Plan would be to reduce the number of times burning contributes to cities, such as Wichita and Kansas City, exceeding ozone standards.

Fire Management Benefits Urban and Rural Kansans

Much of the central United States was once covered in grass and wildflowers. Less than 4 percent of the nation's tallgrass prairie remains and 80 percent of what's left can be found in the Flint Hills of Kansas.

Mike Collinge lives and raises cattle in the Flint Hills, and he is working with K-State Research and Extension to preserve the beauty and function of the native rangeland through effective burning practices.

"We don't burn just to make the ground black," stated Collinge. "Proper use of prescribed fire has many benefits. It reduces weeds and brush in pastures; decreases the need for fertilizer and herbicides, which can kill beneficial plants along with undesirable ones; and enhances habitat for wildlife and game birds.

"As a rancher, a major benefit is that properly maintained grassland increases weight gain for cattle. Cattle grazing grass after a prescribed fire usually gain 25 pounds more than those grazing unburned grass. It can easily make a \$10 to \$20 per acre difference between pastures that get burned and the ones that don't."

Fire has been an effective management tool for thousand of years, but proximity to urban areas and highways, along with stricter air-quality regulations has increased the need to educate ranchers, firefighters, media, businesses, and medical personnel about the benefits and timing of controlled fires.

Greenwood County, where Collinge lives, has about 500,000 acres of tallgrass prairie with approximately 50 percent of those acres burned at least once every three years.

"April is usually the optimum time to use prescribed fire," Collinge said. "We feel fortunate if we can safely and effectively burn 15 to 20 days during the month. We are close to Highway 99, so I have to make sure the smoke won't drift across the road. A successful prescribed fire takes tremendous prior planning to have the equipment and manpower ready, then we have to make a decision on the spot."

Collinge consults with Jeff Davidson, agriculture and natural resources agent in his county, and is the rancher representative on the KDHE Smoke Management Plan Committee. Davidson and Mike Holder, Flint Hills District agent (Morris and Chase counties); K-State agronomists Carol Blocksom, Walt Fick, and Clenton Owensby; and K-State geographer Doug Goodin are working on a comprehensive smoke management plan.

Many factors influence when pasture can be burned. How many acres need to be burned, temperature, humidity, wind direction, and wind speed must be considered before the fire is lit. The smoke management plan will incorporate those factors as well as the EPA-mandated ozone monitors for Kansas City and Wichita. A prototype of the smoke management plan will be available in spring 2011. The plan includes a decision support model that will map areas where burning may produce air-quality problems downwind. This information will be used by county fire officials and emergency managers to make recommendations about local burning based on smoke management considerations.

"The Environmental Protection Agency and the Kansas Department of Health and Environment are looking to us to get information in the hands of producers and other decision makers," Fick stated.

Go to www.ksre.ksu.edu/fire to watch the audio slide story.

Walt Fick, 785-532-7223, whfick@ksu.edu
Carol Blocksom, 785-532-0416, blocksom@ksu.edu

Wildlife Control

K-State's wildlife damage control specialist fields 20-plus phone calls and e-mails every day. He also makes 100-plus presentations and logs 35,000 miles annually to advise Kansans about aquaculture, quail habitat, mole control, rodents, coyotes, feral hogs, or a "just-sighted" puma. He also secured a \$140,000 grant to help ranchers and farmers control the economic impact of prairie dogs without threatening the endangered black-footed ferret.

Charlie Lee
785-532-5734, clee@ksu.edu

KARL Celebrates 20 Years

The Kansas Agriculture and Rural Leadership (KARL) Program was created in 1990. Since then \$3.8 million has been raised from more than 800 entities, including individuals, farm and civic organizations, businesses, foundations, and corporations. The average investment is nearly \$17,000 per person, which has been invested in 300 key ag and rural leaders through 5,200 hours of education, training, and enriching cultural experiences in Kansas, Washington D.C., and 16 foreign countries. Class X will tour Vietnam. KARL graduates are on every major commodity association board; several commissions; and multiple boards, advisories, and councils from the local through national level.

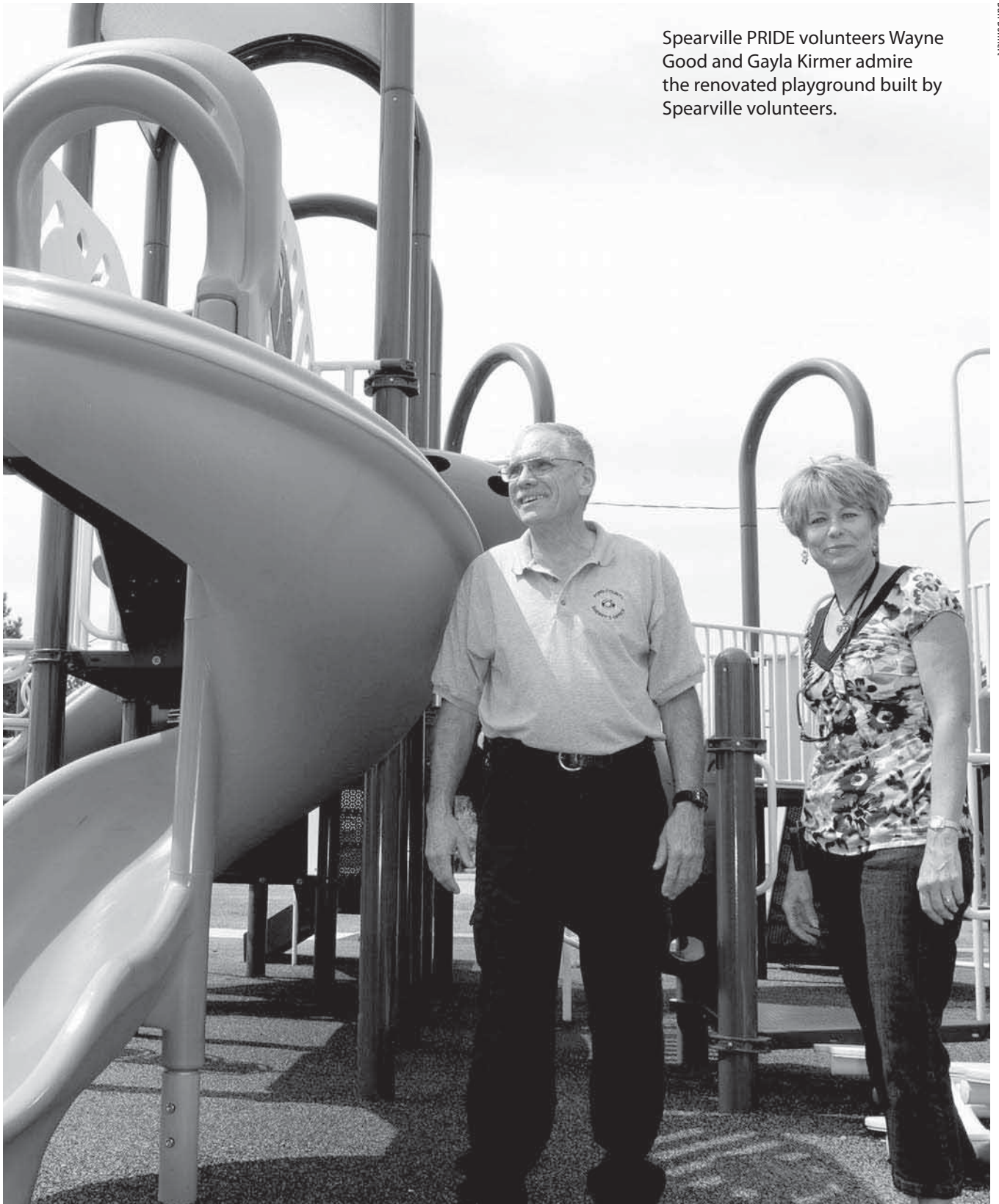
Jack Lindquist
785-532-6300, jack@ksu.edu
<http://www.karlprogram.com>

CRP Conversion Studies

Western Kansas researchers are looking at options for land that has been enrolled in USDA's Conservation Reserve Program (CRP). Converting the land to grain crop production or perennial grasses for energy could affect soil quality, soil carbon sequestration, and water and wind erosion.

Humberto Blanco
785-625-3425, hblanco@ksu.edu

Spearville PRIDE volunteers Wayne Good and Gayla Kirmer admire the renovated playground built by Spearville volunteers.



In 2009, 70 PRIDE communities generated \$723,606, invested 171,036 volunteer hours, and collaborated with 592 partners to complete 1,183 community improvements.

Kansas PRIDE Builds Community, Sustainability

Kansas' landscape is dotted with cities and towns, yet it's the people working on behalf of their communities that make a hometown home, said Dan Kahl, K-State Research and Extension coordinator, speaking on behalf of the Kansas PRIDE Program.

The statewide effort was introduced in 1970 and is co-administered by the Kansas Department of Commerce. To date, it has served more than 400 cities and towns with varying populations.

According to Kahl, enrolling in PRIDE invites public participation. Local PRIDE groups identify common goals, work toward shared benefits, and build social networks that strengthen communication and foster collective decision-making. Projects vary, including recent ones in Lucas and Spearville.

Lucas, population 400, a PRIDE community since 1987, has undertaken numerous projects but is most proud of renovating a local theater that had been vacant for 18 years.

Connie Dougherty, local PRIDE spokesperson, said the community looked to the PRIDE program for help in prioritizing the project and identifying resources to complete the three-phase renovation:

Phase 1 (1998–2000): Raising \$130,000 and contributing more than 4,000 volunteer hours to gut, rebuild, and refurbish the structure.

Phase 2 (2005–2007): Seeking a \$292,485 KAN STEP grant (from the Kansas Department of Commerce) and providing matching volunteer labor (valued at \$199,911) to add a basement storm shelter, community room, kitchen, restrooms, and dressing rooms.

Phase 3 (2009–2010): Raising \$86,000 to update projection equipment to digital and three-dimensional technologies.

The theater is operated by volunteers who contribute about 4,000 hours annually. Last year, they served more than 9,000 patrons, including some from 50 or more miles away.

PRIDE volunteers span the generations, as youth are encouraged to get involved and work beside adults of all ages, Dougherty said.

Completing PRIDE projects successfully encourages the community to move forward, said Dougherty. She added that the small city of Lucas is now seeking funding for public restrooms.

Spearville, population 850, has a history of accomplishments during its long-standing association with the PRIDE Program and is currently focusing on health-promoting programs for kindergarten to fifth-grade youth.

According to Gayla Kirmer, local PRIDE spokesperson, the community sought a PRIDE Get It – Do It! grant of up to \$3,000 to underwrite a summer program offering physical activity, nutrition and health messages, interaction, and socialization with peers. The grant is offered in cooperation with K-State's School of Family Studies and Human Services and the Kansas Department of Health and Environment.

At the end of the summer, youth were encouraged to invite family to join the fun and learn about a healthier lifestyle, Kirmer said. When children and families linger, rather than heading for home, PRIDE volunteers know their time has been invested wisely.

For audio slide stories, go to www.ksre.ksu.edu/Lucas and www.ksre.ksu.edu/Spearville.

Dan Kahl, 785-532-5840, dankahl@ksu.edu

Community Health Focus

Five Kansas PRIDE communities — Glasco, Grinnell, Melvern, Mount Hope, and Stafford — earned \$3,000 Get It–Do It! grants that are matched with volunteer time and energy, and encourage intergenerational community collaborations. The 2010 projects ranged from a mentoring program promoting physical activity to intergenerational dances and included afterschool nutrition classes and fitness games and park improvements. The grant program is sponsored by the Kansas PRIDE Program, K-State Research and Extension, the K-State School of Family Studies and Human Services, the Kansas Department of Health and Environment Healthy Kansas Campaign, and Kansas Department of Commerce.

Elaine Johannes

785-532-7720, ejohanne@ksu.edu

Safe Garden Soil

A K-State research team is working on brownfields as a site for community gardens. Brownfields may have been sites formerly used as anything from auto body shops to manufacturing facilities, and the soil could pose health risks if contaminated with heavy metals, metalloids, or organic compounds. This is a nationwide project, and the team is already working in several states to ensure the urban locales are safe for gardeners and consumers.

Ganga Hettiarachchi

785-532-7209, ganga@ksu.edu

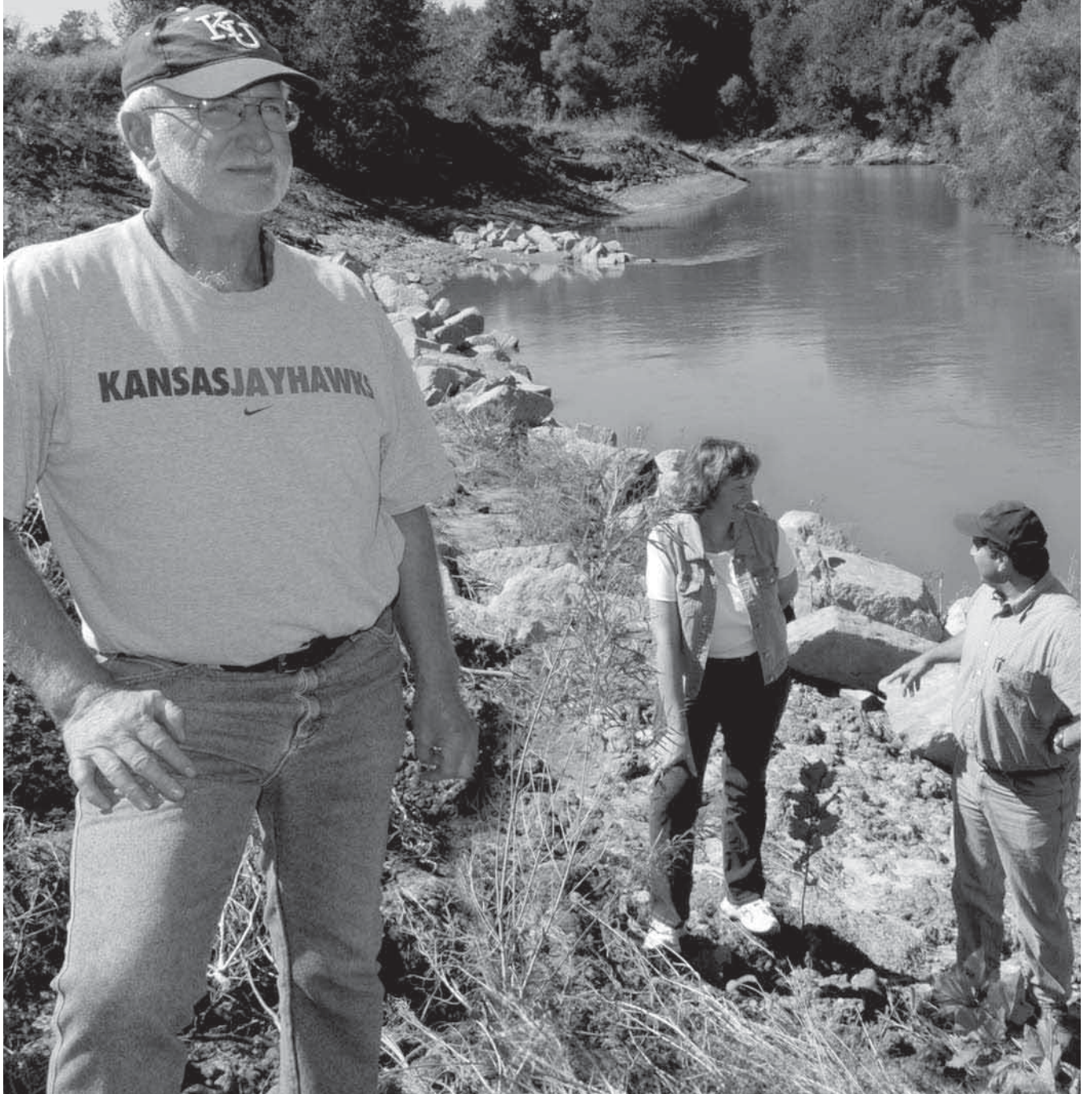
Gardeners Keep Busy

During the past year, 70 active Master Gardeners in southeast Kansas reported a total of 1,265 volunteer hours and 4,442 educational contacts.

Jake Weber

620-429-3849, jweber@ksu.edu

David Royer, left, Marlene Bosworth, and Dave Bruton inspect the repaired streambank on Royer's property.



Federal reservoirs are losing water storage capacity. Economic analysis on Tuttle Creek Reservoir suggests that streambank stabilization combined with riparian forest buffers can save \$42 million in annual dredging costs to prolong storage capacity.

Groups Cooperate to Slow Reservoir Sedimentation

Even an avid University of Kansas fan can see the benefits of collaborating with K-State.

Retired teacher Dave Royer of Arrington proudly wears KU attire and has a four-foot lighted KU sign in his yard; however, when he noticed the Delaware River eroding the bank along his cropland he turned to K-State Research and Extension and its many local, state, and federal partners to solve the problem.

Landowners across the state are concerned about erosion and sediment entering nearby reservoirs. In addition to being valuable recreation resources, federal reservoirs in Kansas supply municipal and industrial water for two-thirds of the state's population.

In 2009, the Kansas Forest Service received a federal grant to use GIS (geographic information system) to assist the Delaware River Watershed Restoration and Protection Strategy group to identify areas where stabilizing streambanks could slow flood water and deposit sediment in riparian buffers — areas planted with vegetation — instead of reservoirs. The grant focuses on the main stem of the Delaware River, Banner Creek Lake and Atchison County Lake subwatersheds, and several other watersheds that carry high sediment loads.

Marlene Bosworth of Sabetha coordinates the Delaware River WRAPS project and talked with Royer about applying for funding to repair the streambanks on his property.

“The eroded bank was vertical,” said Bosworth pointing to the reshaped streambank on Royer's property. She explained that the bank was now sloped to allow vegetation to grow. Carefully placed boulders redirect the river's current toward the center instead of eroding the bank. Three projects on Royer's property and four other sites have been completed. Eight more are designed and waiting for Kansas Department of Health and Environment (KDHE) funding.

WRAPS started in response to the need to address nonpoint source pollutants such as sediment. K-State agronomists, K-State Research and Extension watershed specialists, the Kansas Center for Agricultural Resources and the Environment (KCARE), and the Kansas Forest Service working closely with KDHE and the Kansas Water Office provide expertise on best management practices to improve water quality and reduce erosion. Forty WRAPS projects are under way in Kansas.

The projects are too expensive for individual landowners to undertake alone, but the costs are small compared to the expense of dredging Kansas reservoirs. The estimated cost for dredging sedimentation from Perry Lake, which the Delaware feeds into, would be \$5.6 million per year.

“Perry Lake has already lost 25 percent of its storage capacity, and Perry isn't the most serious case,” said Bob Atchison of the Kansas Forest Service. “A 2007 study found the major cause is stream- and river-carried sediment.”

Dave Bruton, a regional forester, works with landowners to develop buffer zones of grass and trees between fields and streambanks. Trees hold their ground and actually gain land mass during flooding, said Bruton. And trees filter out pollutants in rainfall runoff before it can reach a natural water source.

Watch the audio slide story at www.ksre.ksu.edu/Sedimentation

Additional resource: Sedimentation in Our Reservoirs: Causes and Solutions http://www.ksre.ksu.edu/library/h20ql2/KWRI_Book.pdf

Bob Atchison, 785-532-3310, atchison@ksu.edu

Your Garden On YouTube

Since early 2009, about 100 how-to horticulture videos have been posted to YouTube, the K-State Research and Extension News website, and the Kansas Healthy Yards website at: www.kansasgreenyards.org. The videos are part of the Kansas Healthy Yards and Communities environmental initiative designed to educate the public on environmentally conscious lawn- and garden-care techniques.

Deb Pryor

785-532-5278, dpryor@ksu.edu

Watershed Update

The watershed specialist program, a collaborative effort by the Kansas Department of Health and Environment and Kansas State University, focuses on building awareness of water quality issues; identifying sources of water quality impairment; and demonstrating, promoting, and implementing best management practices (BMPs) for water quality improvement and protection. Since 2000, 675 producers have implemented BMPs, affecting more than 81,000 animal units and 51,000 acres of cropland.

Dan Devlin

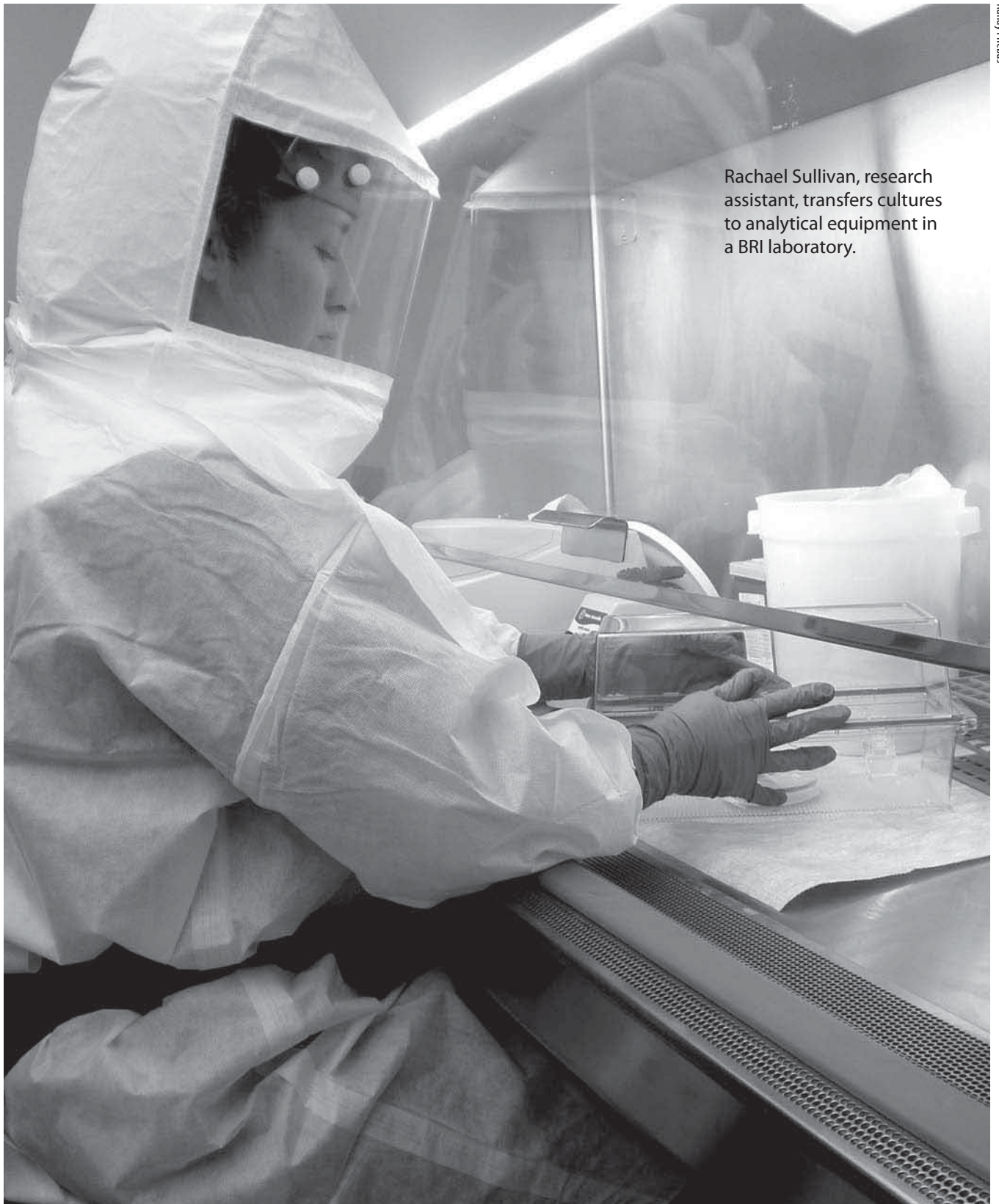
785-532-0393, ddevlin@ksu.edu

Using New Technology

A northeast Kansas watershed specialist is using global positioning system (GPS) technology to build a picture of water quality issues. Since 2008, GPS has been used to determine the quality of streams on the Potawatomie and Kickapoo Nation reservations; the effects of cropland tillage on more than 3,000 fields in six counties; and the effects of sediment in three watersheds. More than 200 Kansas livestock producers have used GPS to install best management practices to help them be better stewards of their land.

Will Boyer

785-843-7058, wboyer@ksu.edu



Rachael Sullivan, research assistant, transfers cultures to analytical equipment in a BRI laboratory.

Research done for the Department of Defense to detect pathogens and protect military personnel at home and abroad can help lower the 76 million cases of foodborne diseases, 325,000 hospitalizations, and 5,000 deaths in the United States each year.

Secure Facility Hosts International Research

National research grants are awarded to applicants with a sound approach, relevant expertise, and quality facilities. K-State Research and Extension scientists who have earned national grants are now conducting food safety and wheat disease research in the \$54 million biosafety-level 3 Biosecurity Research Institute (BRI) housed in Pat Roberts Hall.

The BRI is the only biosafety level-3 biocontainment research and training facility in the United States that can accommodate high-consequence pathogen research on food animals, food crops, and food processing under one roof. The building biocontainment performance and each research project must be authorized by the Centers for Disease Control and Prevention and/or the U.S. Department of Agriculture prior to work with regulated pathogens.

Since 2005, food scientist Randall Phebus and veterinarian Richard Oberst have been funded at \$1.5 – 2 million per year by the U.S. Department of Defense to test procedures used by the military to detect accidental or intentional contamination of the food supply for U.S. troops at home and abroad.

“The military procures food — eggs, dairy products, meat, produce — from sources around the world,” Phebus said. “They must have accurate analytical technologies to test for contamination before the food is consumed. And those systems must be easy to use, able to withstand field conditions, and mobile.

“We conducted our first project in the BRI in 2008, and we have now begun work with our first regulated Select Agents. Our No. 1 priority is to protect our lab workers and the public.”

“The BRI provides integrated capabilities to conduct research on the impact biological agents can have on food,” said Andre Senecal, technical advisor, Food Safety and Defense, Natick Soldier RDE Center, Natick, Mass. “Diagnostic assays and systems need to be validated in their proper test matrix prior to field use by the Department of Defense (DoD). Lastly, risk assessment data of bio-agent behavior in food and food processing will help the DoD better understand potential threats to the military food supply.”

A team of plant pathologists, led by university distinguished professor Barbara Valent, received a \$1 million grant from the U.S. Department of Agriculture to study wheat blast fungus. In 2009, the disease infected 25 to 50 percent of the wheat in Brazil. It also affected yields in Bolivia and Paraguay and was found in Argentina.

Bill Bockus and Jim Stack, of K-State, and Gary Peterson and Kerry Pedley, USDA at Fort Detrick, Md., complete the team. Since December 2009 when the group started working in the facility, they have screened 72 Kansas wheat varieties for susceptibility to wheat blast.

“A few varieties showed significant resistance, others showed no resistance,” said Valent. “The fungus is spreading, and we need to be prepared.”

Their project goals are: to develop tools for rapid detection and accurate diagnosis of the pathogen; identify resistance resources; and establish training resources and a Web-based network to facilitate diagnosis and distribution of resistance resources.

Once the resistance is identified, K-State wheat breeders and faculty in the Wheat Genetics and Genomics Resources Center will work together to breed resistant wheat varieties.

Randall Phebus, 785-532-1215, phebus@ksu.edu
Barbara Valent, 785-532-2336, bvalent@ksu.edu

NBAF Moves Forward

The National Bio and Agro-Defense Facility at K-State is moving forward. Site preparation is in progress and all buildings except the feed mill have been removed, and utilities have been relocated. The O.H. Kruse Feed Mill and Bio-Refinery will replace the existing mill. Construction of the central utility plant should begin in early 2011, with construction of the 500,000-square-foot animal disease laboratory scheduled to begin sometime in 2012. The project will employ an estimated 1,500 to 1,600 construction workers and is scheduled for completion in 2016. NBAF is scheduled to be fully operational within 18 to 24 months after the lab is completed.

Ron Trewyn
785-532-5110, trewyn@ksu.edu
www.bri.ksu.edu

Olathe Innovation Center

The Olathe Innovation Campus will attract people from around the world who are interested in protecting the world's food supply. It will serve as a resource for more than 120 food safety-related businesses along the Kansas City Animal Health Corridor, which stretches from Manhattan, Kan. to Columbia, Mo., and includes the Kansas City area. K-State's expertise in animal health and food safety/security and distance-education offerings will complement the Johnson County Education and Research Triangle, a cooperative effort with the University of Kansas involving KU's Edwards Campus and a KU Cancer Center project.

Curtis Kastner
785-532-1234, ckastner@ksu.edu
http://olathe.k-state.edu/

Matthew Voth (left), Newton, and Justin Schrag, Moundridge, check Voth's wheat for signs of disease. Voth is one of Schrag's clients.



Multiple diseases affect Kansas wheat production every year. In 2010, diseases caused a loss of 13.6 percent or 58.1 million bushels valued at more than \$290 million.

Timely Information Aids Producer Decision-Making

In 2009, Justin Schrag saw firsthand what stripe rust could do to a wheat crop when the disease hit the acreage he farms with his dad in central Kansas. So, when a K-State Research and Extension webinar about the disease was advertised, he was interested, not only from the producer standpoint, but also for his crop insurance and agricultural loan clients.

“I attended the webinar, sitting right here in my office,” Schrag said. “I had to leave midway through and was able to go online and view the results later. Many of my clients were in the field and unable to attend, but I was able to pass the information and links onto them, too.”

K-State Research and Extension crop specialist Brian Olson, plant pathologist Erick De Wolf, and agronomist Jim Shroyer produced the webinar to explain that a new strain of stripe rust was emerging in Texas. This new strain was able to overcome the disease resistance in many popular cultivars, making many acres susceptible to the disease. The webinar also provided a step-by-step decision-making tool to help farmers determine whether it was worthwhile to spray their crops, from both financial and environmental standpoints.

Based on the knowledge gained through the webinar, the Schrag family decided not to spray because it did not appear to be agronomically justified; however, some of Schrag’s customers did spray and saw the benefit. The decisions were based on the data and tools created by K-State Research and Extension, and that decision-making process was repeated throughout the state.

“We tried to help farmers make an informed decision about whether or not to spray,” Olson said. “Farmers became very aware of the potential problem and started scouting their wheat acres. As they started seeing the stripe rust move in, they had the information available to decide whether they wanted to spray or not.”

Olson said K-State prepared for the disease because of the nationwide extension system and De Wolf’s work with colleagues in Texas.

“With the rust, it is extremely important to have a good system, where we have other university research and extension people communicating what is going on,” Olson said.

In the end, stripe rust caused more than 10 percent total yield loss for the Kansas wheat crop. Thanks to the efforts of Olson, De Wolf, and their team, Kansas farmers were prepared long before the disease appeared here.

“We used the existing infrastructure to distribute information about the emerging stripe rust problem,” De Wolf said. “Through the e-newsletter, webinar, specific programs and field days, we made growers aware of potential risks in a timely way so they could respond or make plans ahead of time.”

According to Schrag, the efforts were appreciated.

“With the improvement in seed technology and increased value in Kansas crops recently, the investment in producer training and consultant training is probably worth more today than it ever has been,” said Schrag. “I work with many producers, and they all will say, ‘It’s contributing to make my bottom line stronger and more stable, and I’m becoming more productive thanks to the contributions by K-State Research and Extension.’”

For more information about K-State wheat research and related programs, go to <http://www.ksre.ksu.edu/wheatpage>.

Erick De Wolf, 785-532-3968, dewolf1@ksu.edu

Pest Control Advances

K-State entomologists were first to document a new acetylcholinesterase (AChE) gene in the greenbug. The discovery led to detection of the gene in other insect species and many mutations associated with it. K-State is working with a team of researchers from the Mayo Clinic to make insecticides that are safe for humans but will kill the soybean aphid and perhaps other insect pests.

*Kun Yan Zhu
785-532-4721, kzhu@ksu.edu*

New Canola Developed

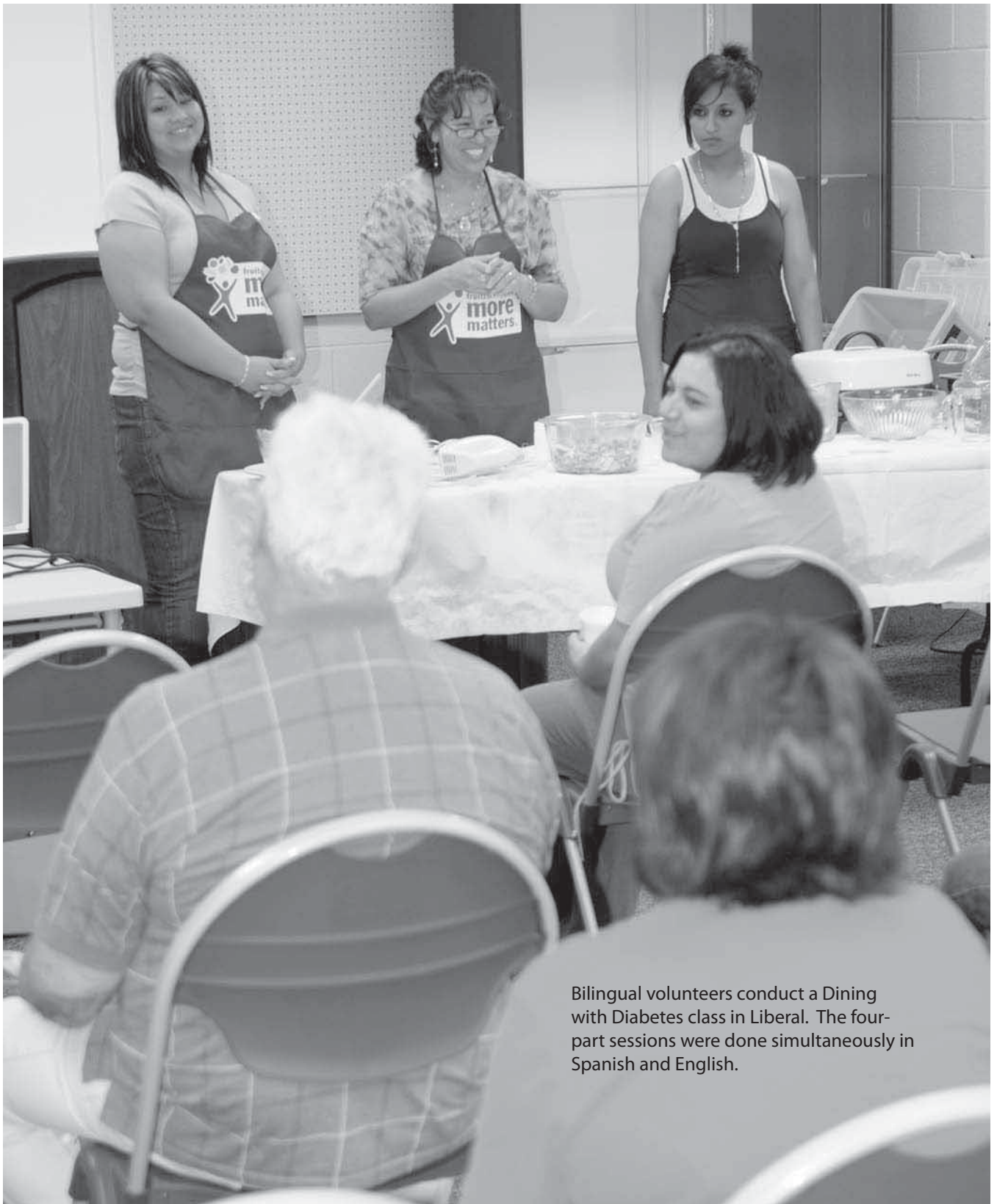
K-State has released a new winter canola variety, Riley, which will be available in fall 2011. The 2008–2010 canola variety trials showed Riley to be among the highest yielding varieties and well adapted to the Great Plains and High Plains regions. Riley is also disease-tolerant and has winter survival rates equivalent to competing varieties.

*Mike Stamm
785-532-3871, mjstamm@ksu.edu*

Soybean Parasite Control

A K-State research team patented a process to control soybean cyst nematode, a destructive parasite that attacks the roots of soybean plants, causing millions of dollars in crop damage each year. They engineered soybean plants with specific traits, so that when nematodes feed on the roots they ingest traits that turn off specific nematode genes. Team members are conducting similar research on 20 different kinds of gene sequences in other plant and nematode species.

*Harold Trick
785-532-1426, hnt@ksu.edu*



Bilingual volunteers conduct a Dining with Diabetes class in Liberal. The four-part sessions were done simultaneously in Spanish and English.

In the last year, six southwestern Kansas agents contacted more than 8,000 Kansans and provided 37,500 hours of education.

Collaborations Reach More, Teach More

Bill Watson, from Liberal, Kan., has type 2 diabetes, which he and his wife, Linda, had been trying to manage with diet and medication.

Neither had prior experience with the disease, so Linda signed up to attend a Dining with Diabetes Workshop offered by the K-State Research and Extension office in Seward County.

“We didn’t know that we should be asking for an A1c test,” Linda said.

The test measures the average blood sugar level over a three-month period. She and her husband each had higher-than-desired levels.

“We also were eating too much,” said Linda, who appreciated the tips on portion control such as dividing the plate into fourths to accommodate recommended portions of a variety of foods.

While the couple reported that they are now more confident in managing diabetes, Bill said they will continue to build on what they have learned: “The more we know, the better we can do.”

Dining with Diabetes is a popular program, and the Seward County workshop highlights the collaboration of six agents who are working together to expand programs and services for youth, families, and communities.

Experienced agents typically mentor new ones, and this western Kansas group has expanded on that collaborative concept. Nancy Honig, Stevens County; Crystal Bashford, Morton County; Christine McPheter, Meade County; Kathy Bloom, Seward County; Kristin Penner, Haskell County; and Mary Sullivan, Grant County, have written more than \$750,000 in grants to support educational programs.

By working together, the six agents were able to offer Dining with Diabetes to 57 people in one evening, said Bloom, who organized English and Spanish sessions on preparing healthy meals and snacks, choosing a lifestyle to reduce the risks of diabetes and obesity (which contributes to the disease), dependence on medication, and long-term effects (blindness is an example) of the disease.

Building cultural competence, trust, and a sense of community among an increasingly diverse population is important in building a foundation for educational outreach, Bloom said. Language, culture, and food choices vary, but the need to make healthy choices is universal.

Sullivan puts it this way: “We continue to learn in the process of combining resources and working together to focus on **relevance** — the practical, quality-of-life education on which research-based programs are built; **sustainability** in maintaining existing educational efforts and reaching out to serve a greater and more diverse audience that reflects Kansas’ population; and **value**.

“Because all six of us have our eyes on the same goal, we also can serve as a sounding board in tailoring programs to match grant opportunities and seek supplementary or matching funds from local sources to benefit the combined educational effort,” Sullivan said.

“We’re doing more with less, yet we each know that working together has helped us grow as individuals, as professionals, and as a team focused on education that has the power to help others improve quality of life and community,” Honig said.

Go to www.ksre.ksu.edu/Diabetes to watch the audio slide story.

Kathy Bloom, 620-624-5604, kbloom@ksu.edu

Resource for Grandparents

In 2008, nearly 20,000 grandparents in Kansas were primary caregivers for one or more grandchildren. In response to requests from grandparents’ questions, K-State Research and Extension is offering a new food, nutrition, and health newsletter: “Nourishing the Next Generation: Practical Advice for Caring for Your Young Ones with Food, Fun and Love.”

Mary Meck Higgins

785-532-1671, mhiggins@ksu.edu

www.ksre.ksu.edu/humannutrition/

nourishing.htm

TBI Support Network

The Centers for Disease Control and Prevention reports that 1.7 million people sustain a traumatic brain injury (TBI) each year. TBIs can result from a bump, blow, or penetrating head injury. About 35 percent are attributed to falls, which is a concern for Kansas’ aging population because one of three adults age 65 or older fall each year. Two K-State professors obtained grant funding from Kansas Social and Rehabilitation Services, the National Institute of Food and Agriculture, and K-State’s College of Human Ecology to promote awareness, educate the public about TBI, and help survivors and families identify resources to promote successful living.

Deb Sellers, dsellers@ksu.edu

Jane Garcia, jgarcia@ksu.edu

http://www.TBIOptions.ksu.edu

Improving Techniques

Agricultural education faculty are sharing teaching and training techniques with agents based in statewide offices, Army Community Services folks at Fort Riley, College of Agriculture faculty, and instructors at the American Institute of Baking.

Shannon Washburn

785-532-1250, sgw@ksu.edu

Rich Porter (left), Reading, and Hal Mayer, Alta Vista, participate in a panel discussion at the Beef Stocker Field Day.



If one million cattle increase in value by \$20 to \$40 during the short time they are in a stocker producer's hands, that adds an average of \$30 million to the Kansas economy.

Researchers Share Results with Ranchers

Richard Porter took an unusual route to being a rancher. He earned a chemical engineering degree from K-State then worked for the EPA enforcement division while completing a law degree. After four years in environmental law, he returned to his roots in the Kansas Flint Hills. His operation now includes about 8,000 head of cattle and 12,000 acres of crops and pasture.

He received the 2010 Beef Stocker Award, which was developed by BEEF magazine to recognize stocker cattle operations that excel through improved efficiencies, innovation, and management. Stockers are young cattle kept as stock until fattened or matured and suitable for breeding or slaughter.

As a businessman, Porter is open to new ideas. He relies on K-State research and events such as the Beef Stocker Field Day, developed by K-State animal scientist Dale Blasi, to provide timely research-based information. Blasi recently hosted the 11th annual Beef Stocker Field Day at the Beef Stocker Unit northwest of Manhattan.

“This event brings together the top experts and stocker operators from around the state,” said Porter. “It’s clearly my best source of information about running my stocker program. I’ve attended every year and will continue ‘til I die. Before Dale built up K-State’s stocker program, this was an underserved area. It’s very important to Kansas because it encompasses our huge grazing resources, growing cattle in confinement, and meeting the challenges of starting calves.”

Blasi offered an example of how important stocker cattle are to Kansas. “Given the tremendous variability in weather conditions, it’s almost impossible for one to know the number of stockers raised on Kansas operations. However, the January 2010 estimate for the ‘cattle available for placement outside of feedlots’ was 1 million head in Kansas. If each animal increases in value by \$20 to \$40, that adds an average of \$30 million to the Kansas economy.”

“Dale has addressed by-product utilization (such as distillers grains) and feed additive comparisons on native grass,” stated Porter. “He studies health-related issues that impact the stocker industry as well as feed and health additives designed to improve the health and performance of new calves. And he’s starting research on using whole shelled corn with by-products from the corn industry.

“What makes this research so valuable to Kansas is that the results are shared with the cattle industry, so it can be quickly put to use. In addition to the field days, this information is presented in the press, on websites, and direct communication with producers. Also, students who work with Dale graduate and apply this research.”

K-State’s Beef Stocker Unit is wellknown throughout the state and attracts hundreds of visitors annually from as far away as Tennessee. Blasi attributes the unit’s popularity to the ways it benefits producers.

“Our practices fit closely to those of producers,” Blasi stated. “Our studies apply to their situations. We query producers and run ideas by them to make sure we are concentrating on what they need. Since we are so close to campus, students and faculty in multiple departments also benefit from our research and facilities.”

Watch a field day video at www.ksre.ksu.edu/StockerDay and view an audio slide story at www.ksre.ksu.edu/BeefStocker.

Dale Blasi, 785-532-5427, dblasi@ksu.edu

Patent Issued to Researchers

A patent was issued to a team of K-State researchers for a plentiful and noncontroversial source of stem cells from a substance in the umbilical cord. The patent addresses procedures to isolate, culture, and bank stem cells found in Wharton’s jelly — the substance that cushions blood vessels in the umbilical cord. These cells are called cord matrix stems cells and are different than those obtained from the blood cells in umbilical cords.

Duane Davis

785-532-1244, davis@ksu.edu

Education for Ranchers

About 200 producers attended three sessions of the Five-State Beef Conference, an extension program targeted toward cow-calf and stocker producers in southwest Kansas, the Oklahoma and Texas panhandles, southeast Colorado, and northeastern New Mexico. Faculty from Oklahoma State, Colorado State, Texas Agri-Life Extension, and New Mexico State collaborated with K-State faculty.

Justin Waggoner

620-275-9164, jwaggon@ksu.edu

Resources for Producers

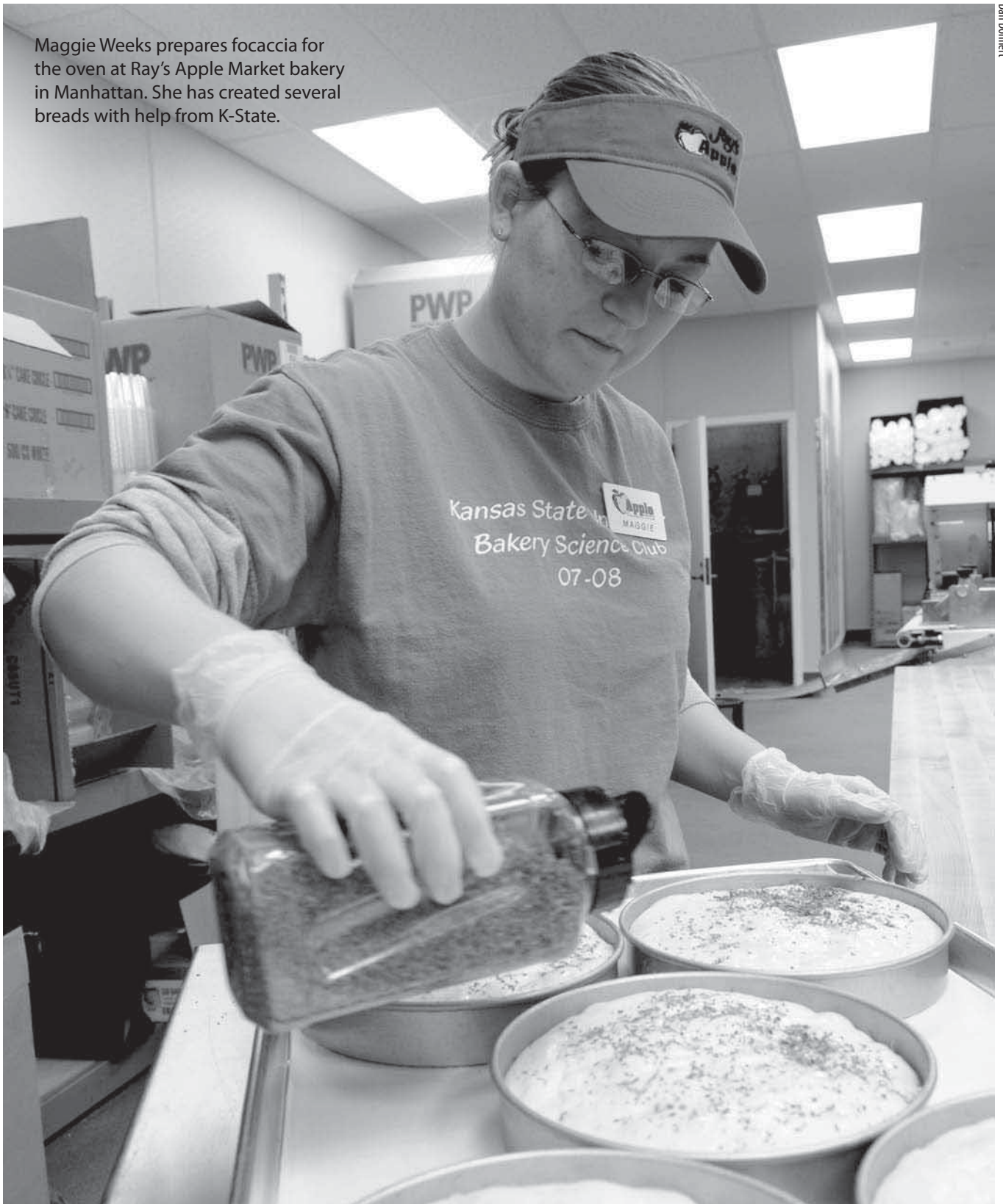
A computer model is being used by a nutritionist and veterinarians to model the impact of dairy facilities on cow behavior. Producers are able to use the results specific for their dairy and explore potential opportunities to change current housing practices.

Educational programs have increased beef producers’ awareness of environmental issues and potential water quality problems. As a result, they are seeking input on beef facilities prior to making an economic investment in new or expanding facilities.

Joe Harner

785-532-5580, harner@ksu.edu

Maggie Weeks prepares focaccia for the oven at Ray's Apple Market bakery in Manhattan. She has created several breads with help from K-State.



The U.S. Department of Agriculture states that one in five people are employed in an industry related to agriculture and businesses are searching for qualified employees.

Businesses Look to K-State for Advice, Employees

Loaves of fresh-baked bread with the label “Developed Locally by Maggie” are familiar to grocery shoppers at Ray’s Apple Markets in northeast Kansas.

Maggie Weeks, a 2009 graduate of K-State’s bakery science and management program, has developed two different formulas to make several whole white wheat breads and the Vienna bread, baguettes, and focaccia that bear her name.

She met her future employers — Tom and Rob Floersch of Ray’s Apple Markets — when they contacted K-State for advice on developing new bakery products.

“We were looking to develop some signature bread items in our bakery department to set us apart from our competition,” said Rob Floersch. “The breads developed in conjunction with Kansas State University have helped us accomplish this and have helped us compete in a very competitive marketplace. We feel these signature items have set us apart from our competition.”

Weeks honed her scratch baker skills in Baking I and II and Bakery Layout classes taught by Instructor Dave Krishock.

“I learned what each ingredient is and why it is in the recipe,” Weeks said. “I find that I use what I learned in all my classes, including Management Applications in the Grain Processing Industries.”

Fred Fairchild, professor of feed science, has taught the applications class for 16 years. The senior-level class is designed to help students take the combined knowledge from their college career — classes, research, and internships — and apply it to real-world products.

“I encourage the students to create a business plan for a grain-based or grain-related product or service,” Fairchild said.

Since 2009, the main class project has been to create an entry for the Next Big Thing contest sponsored by K-State’s Center for the Advancement for Entrepreneurship. The first year, Fairchild’s students took the top three places in the product division.

Weeks was a member of the winning team that created Flour Indulgence, a company that makes baked goods, such as cookies and brownies, into edible bouquets as a substitute for flowers. The second place team was Prestige Worldwide, a microbrewery producing quality wheat beers and celiac-friendly beers. Third place went to Bone on the Go, a company producing meal-replacement dog bones for dog owners to feed their pets while traveling.

“Professor Fairchild’s class gave me perspective on what I wanted to do and made me think about my future plans,” Weeks added.

In 2010, five of his students came up with an idea for Integrated Bin Solutions LLC that could resolve a persistent problem in storing grain and reduce fatalities associated with managing stored products. They are exploring business strategies to market their idea and put it to work saving lives.

“Students from the College of Agriculture are good at basing their ideas on current ag issues,” said Jeff Hornsby, director of K-State’s Center for the Advancement of Leadership. “The process is referred to as ‘find the pain, heal the pain,’ which means they research a problem in a particular industry then look for a business opportunity to solve the problem.”

Fred Fairchild, 785-532-7010, fff@ksu.edu

Adhesives from Grains

A K-State research group has developed a bio-based adhesive that can be used in products such as laminate countertops. Through the Bio-Materials and Technology Laboratory (BTL), the group is studying adhesives from by-products of soybean, corn, sorghum, and biomass fuels.

*X. Susan Sun
785-532-4077, xss@ksu.edu*

Grain Science Centennial

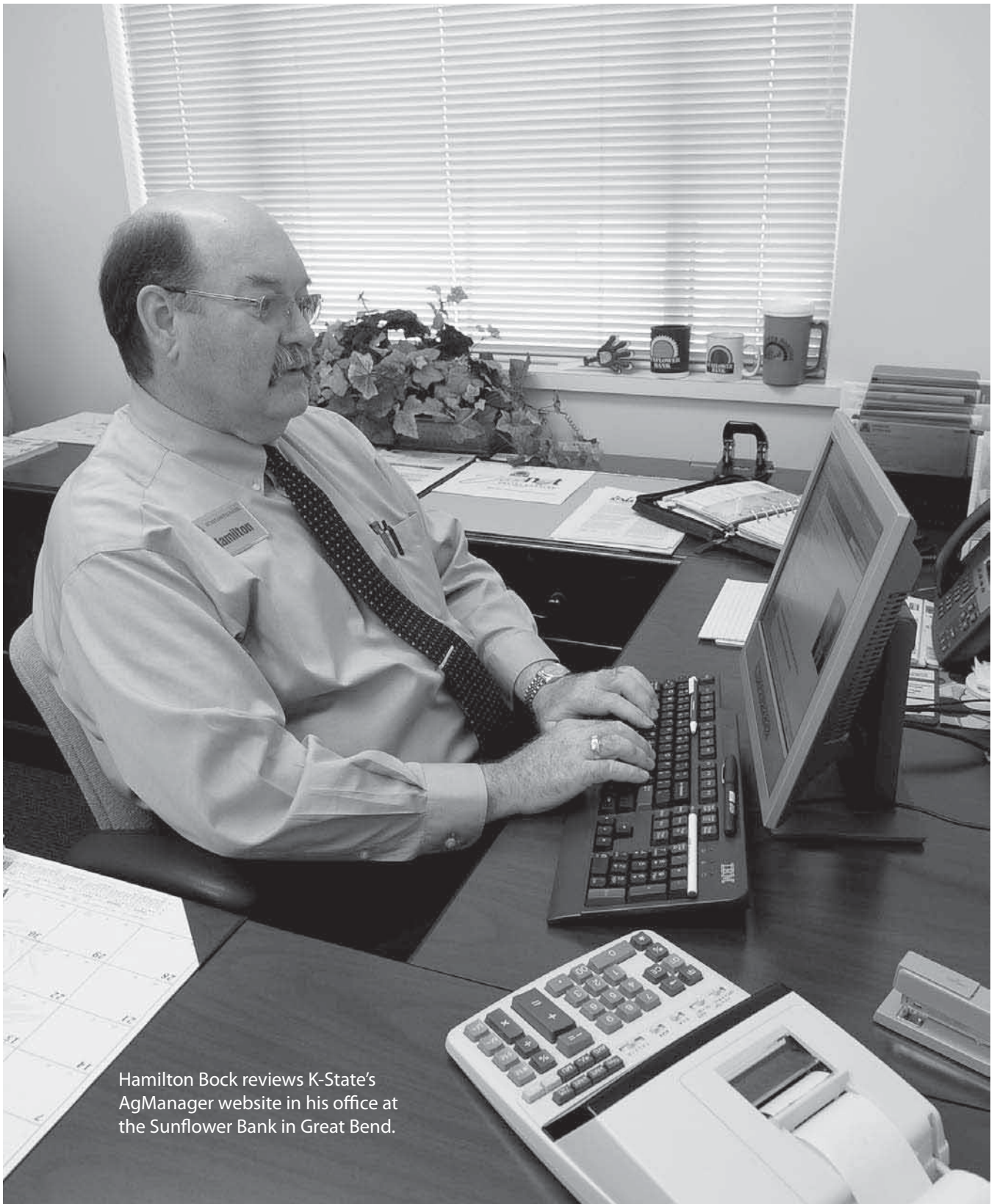
Honoring Our Past, Envisioning Our Future was the theme for the Department of Grain Science and Industry centennial celebration Oct. 1-2, 2010. Grain industry leaders, alumni, students, and faculty participated in a golf tournament, facility tours, forums on current research, and the groundbreaking for the O.H. Kruse Mill and Bio-Refinery Teaching and Research Center. Nine individuals were honored for their outstanding contributions to the department and grains industry.

*Dirk Maier
785-532-6161, dmaier@ksu.edu*

KOHP Offers Hope

The Kansans Optimizing Health Program (KOHP) helps adults manage a chronic disease or care for someone with a chronic condition. K-State Research and Extension personnel conduct six-week workshops in community settings. Topics include: 1) techniques to deal with frustration, pain, and fatigue; 2) exercise; 3) medications; 4) communication; 5) nutrition; and 6) making informed treatment decisions. Mutual support and success build the participants’ confidence in their ability to manage their health, as well as to help them keep active in their lives. The program was developed at Stanford University.

*Joan Kahl
785-532-1905, jkahl@ksu.edu*



Hamilton Bock reviews K-State's AgManager website in his office at the Sunflower Bank in Great Bend.

The AgManager site hosts various spreadsheets. The three most popular spreadsheets and their average monthly downloads in 2010: Option Strategies (249), KSU-Landbuy (144), and KSU-Lease (134).

Website Offers One-Stop Resource for Clients

When it comes to finding the latest information on land leasing, crop price trends, and other agriculture-related subjects, Hamilton Bock knows where to turn.

“The AgManager website contains a wealth of information on a variety of agricultural subjects,” said Bock of K-State’s agricultural economics website: www.AgManager.info. “I usually reference the site several times a week.”

Bock, who is vice president and an agriculture and commercial loan officer with Sunflower Bank in Great Bend, said the information available on AgManager helps with the bank’s planning process. He also uses its resources to assist producers in planning their operating cycles.

“When we first started posting to the Internet, a number of faculty had their own websites. Then we decided to develop a one-stop shop where our clientele could access information, and AgManager was born,” said Kevin Dhuyvetter, K-State Research and Extension agricultural economist. From August 2009 to July 2010, AgManager averaged 57,822 visitors each month.

Rich Llewelyn manages the website and posts reports by fellow K-State agricultural economists, the U.S. Department of Agriculture, and other sources. The website has information on historical and future livestock and grain supplies and prices — and the factors that affect them — agriculture policy, risk management, including in-depth crop insurance, and other information critical to livestock and grain producers.

The website has links to interactive tools that can help crop producers determine certain market scenarios based on their own operation’s data. Futures-based price forecasts for diesel fuel are updated monthly, and reports related to such topics as distillers grains and ethanol are also available.

The site was awarded the 2010 AAEA Outstanding Electronic Media Education Award by the Agricultural and Applied Economics Association.

Bock said he uses the Kansas Farm Management Association (KFMA) monthly newsletter, available via AgManager, to stay current with trends in agriculture. Economists provide KFMA members with production and financial management information for use in decision making.

“KFMA’s Enterprise Analysis allows me to benchmark my customers and producers to show them how they compare to their peers,” Bock said.

In addition to Bock, other AgManager users offered comments:

Megan Frye, market adviser with Water Street Solutions, based in Peoria, Ill., said she uses AgManager data to produce a livestock video chat with clients to help update them with changes in the marketplace.

Steve Kramer, who farms near Corning, Kan., said he looks to AgManager for farm policy information. “The information allows me to make an informed decision on these programs.”

“I rely on the K-State site as a benchmark for current and past information,” said Jesse Sumner, Clinton, N.C.-based production coordinator for Prestage Farms. “It is very helpful to have a dependable site that you can go to each week to understand current trends as they interrelate.”

For those who prefer other information delivery options, a weekly AgManager electronic newsletter and RSS feeds are available, and AgManager can be found on Facebook.

Kevin Dhuyvetter, 785-532-3527, kcd@ksu.edu

Solar Panels Installed

The K-State Research and Extension Douglas County office installed 20 solar panels on the roof. Electric energy savings are expected to cover the investment expense in 16 years and avoid producing 280,000 pounds of carbon dioxide emissions over the next 25 years. It is one of three solar projects installed in the county this year. Along with producing 15 percent of the building’s electricity, the system will be used as an educational tool. One fourth of the \$20,000 cost will be covered by a Kansas Energy Office grant.

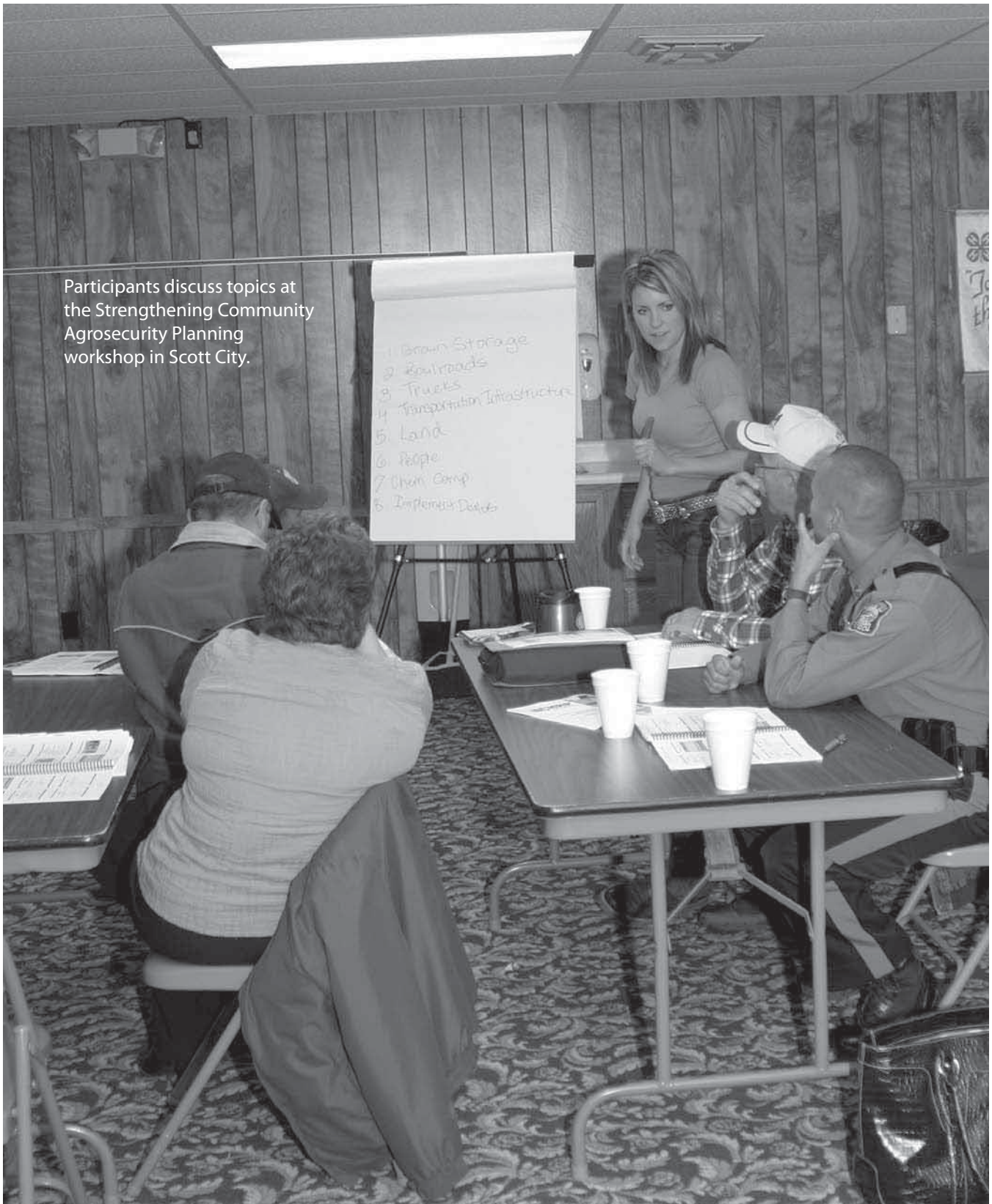
Billy Wood

785-843-7058, bdwood@ksu.edu

Practical Uses for Facebook

K-State Research and Extension units are reaching new audiences with Facebook. For example,

- Riley County invited seniors to learn about changes to the Medicare prescription drug plan.
- The Fort Riley site features upcoming events for military families.
- Johnson County asks for comments on current programs and suggestions for new ones.
- Food safety topics — from tailgating to handling wild game — are popular.
- Others use Facebook to recognize 4-H accomplishments and offer encouragement for future contests. It’s also a great way to introduce new staff.
- A specialist in northeast Kansas developed a site to draw younger farmers into her well-established wheat trial program.
- The K-State Research and Extension Facebook page hosts news releases, radio interviews, video, program updates, and photos.



Participants discuss topics at the Strengthening Community Agrosecurity Planning workshop in Scott City.

1. Brown Storage
2. Railroads
3. Trucks
4. Transportation Infrastructure
5. Land
6. People
7. Chem. Comp.
8. Implement. Details

K-State Research and Extension agents, who participated in earlier workshops, are certified to bring Strengthening Community Agrosecurity Planning (S-CAP) workshops to more counties across Kansas.

Workshops Bring Stakeholders Together

In 2010, Kansans from several counties came together to strengthen their communities' resilience in the potential face of disaster.

K-State Research and Extension hosted Strengthening Community Agrosecurity Planning (S-CAP) workshops for Sedgwick, Seward, Scott, and surrounding counties to help ensure that agriculture was properly addressed in county emergency plans. The workshops brought together agricultural producers, county emergency managers, veterinarians, law enforcement officers, extension agents, agribusiness representatives, and others to identify agricultural assets in counties and make sure those assets were addressed in county emergency plans.

"The workshop in Seward County was a great opportunity for local producers to come to the table with community and state planners and responders to look at both what has been done to protect our ag infrastructure and also to help guide the process into the future," said Greg Standard, Seward County emergency manager. "Participation of local and regional producers is critical to the success of our plans to protect American agriculture. Developing clear understanding of everyone's positions, perspective, and expectations is facilitated in this workshop environment."

"I believe that this time was critical to getting many people onboard with our work to plan for our local community," he added.

The workshops were supported by the Extension Disaster Education Network (EDEN), a collaborative multistate effort to improve the delivery of services to citizens affected by disasters. Farm Credit Associations of Kansas supported the workshops.

The events were designed to address how to handle agricultural issues during a disaster, to improve networking among stakeholders who can plan for and respond to emergencies, and to develop community agrosecurity planning teams who will establish or enhance agrosecurity components within existing local emergency operations plans.

"Many counties in states across the country have a plan that includes agriculture, but many more don't," said Billy Dictson, director of the Office of Biosecurity in the Southwest Border Food Safety and Defense Center at New Mexico State University and one of the workshop presenters.

"It's an effective way to work through a standard operating procedure," said Sandy Johnson, homeland security specialist with the Kansas Department of Agriculture. She is working with K-State Research and Extension to bring more S-CAP workshops to Kansas.

Andrea Husband, agrosecurity program coordinator at the University of Kentucky, reminded workshop participants about the toll of the foot-and-mouth disease outbreak in the United Kingdom in 2001. The direct economic impact from that incident totaled about \$3.3 billion (in U.S. dollars) and another \$8.3 billion in lost tourism and related industry revenue, she said.

"But it doesn't take a big outbreak to have a huge economic impact," Husband added, citing the financial impact sparked by one cow confirmed to have bovine spongiform encephalopathy in Washington, including beef export losses that ranged from \$3.2 billion to \$4.7 billion.

"Domestic cattle prices dropped 16 percent in the first week alone, and international trade restrictions still exist," she said.

For more information, go to <http://www.eden.lsu.edu/s-cap>.

Mary Lou Peter, 913-856-2335 Ext.130, mlpeter@ksu.edu

Collaboration Formed

Kansas State University and Monsanto announced a new public/private collaborative relationship that will allow both to improve their wheat breeding programs. Agreements of this type benefit Kansas wheat growers because they will have a greater selection of improved varieties from both public and private wheat breeding programs.

Ernie Minton

785-532-6148, eminton@ksu.edu

New Uses for Sorghum

With Kansas as the leading U.S. producer of grain sorghum, K-State hosts the Great Plains Sorghum Improvement and Utilization Center to foster collaboration with other universities and the USDA. In addition to being a feed crop, sorghum could become a key ingredient in healthful food products for millions of people sensitive to wheat gluten. Sorghum is rich in disease-fighting nutrients and is used as a part of the human food source for 35 to 40 percent of the world's population.

Vara Prasad

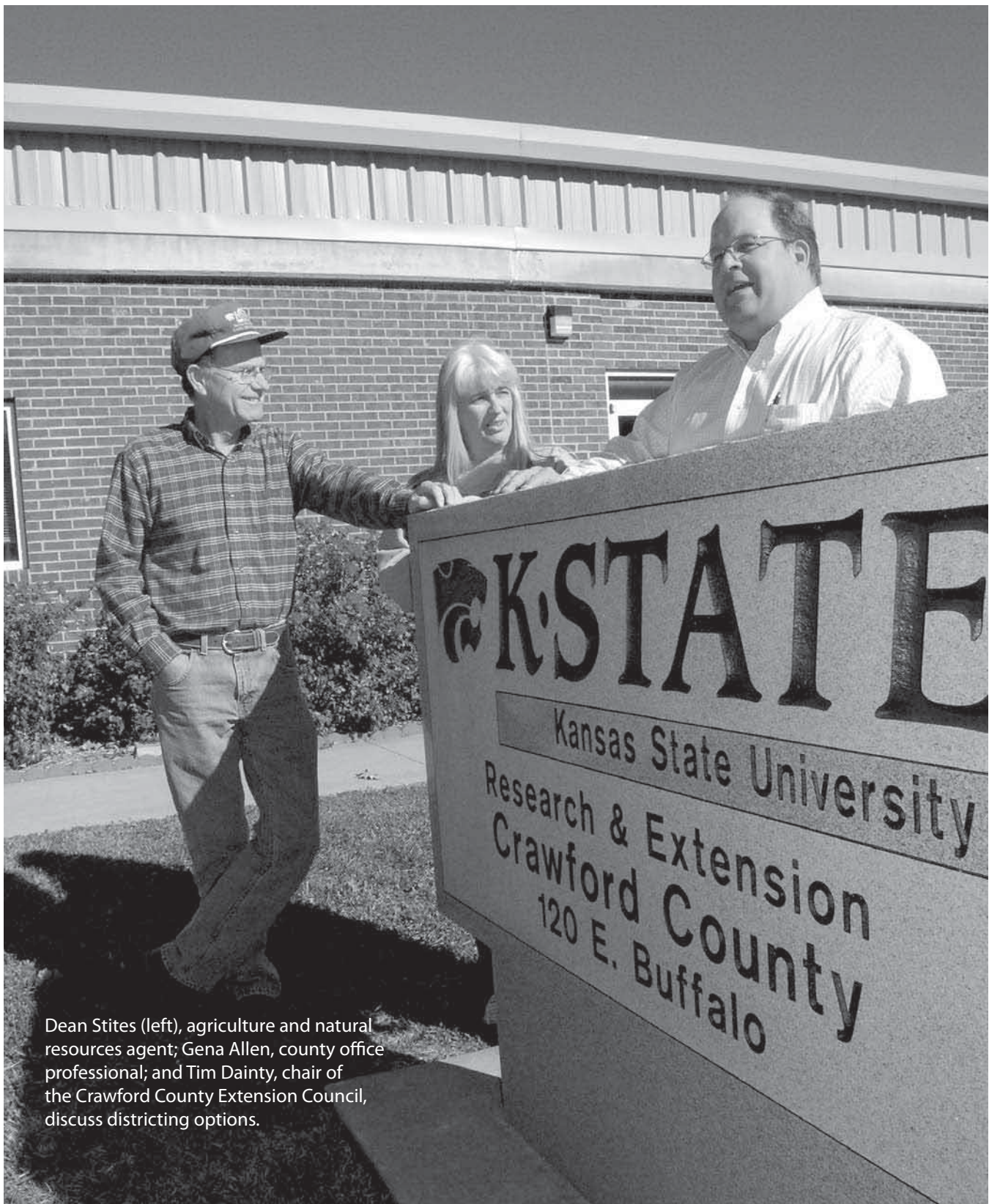
785-532-3746, vara@ksu.edu

Swine Info Popular

The 2009 Swine Day publication, with research-based information for swine producers and allied industries, ranked No. 4 in hits for K-State Research and Extension publications from Dec. 1, 2009 to Nov. 30, 2010, and the 2010 Swine Day publication is getting a similar response. Swine nutritionists attribute the popularity to being linked to their comprehensive website KSUswine.org. They also have uploaded the fully searchable documents to the K-State Research Exchange (KREx.ksu.edu), a K-State Libraries service.

Mike Tokach

785-532-2032, mtokach@ksu.edu



Dean Stites (left), agriculture and natural resources agent; Gena Allen, county office professional; and Tim Dainty, chair of the Crawford County Extension Council, discuss districting options.

K-State Research and Extension has 13 districts with 33 counties. Gove County recently voted to join the existing Golden Prairie Extension District. Crawford, Montgomery, and Labette counties are on track to form a 14th district.

Area Residents See Advantages of Districting

The residents of Gove County spoke clearly during November's mid-term election. By more than a 2-to-1 margin, voters merged their local K-State Research and Extension operations with those in neighboring Trego and Logan counties, which had formed the Golden Prairie District in 2010.

The district's director, Scott Barrows, thinks Gove County voters made a pretty good decision.

"I'm just so excited," Barrows said. "It's a very good move for the three counties. People in Gove County realized that if they want to keep the traditional programs in Gove County, they needed to move to a district."

Jim Lindquist, K-State Research and Extension's assistant director for field operations, is one of the organization's leaders in helping counties form districts. By early 2011, Lindquist said he anticipates 14 districts covering 38 counties in Kansas.

Golden Prairie District was the 12th district in Kansas. Post Rock District in north central Kansas was the first district formed in 1994.

"Districts were conceived as a way for local extension councils to change how they are organized for greater efficiency and greater effectiveness," Lindquist said. "We feel like they give us the best opportunity to be relevant to Kansas citizens."

One of K-State's success stories is the Meadowlark District, which was formed in 2006 and consists of Nemaha, Jefferson, and Jackson counties. Six agents serve residents in the three counties.

"What I like about districts is that patrons can now interact with an agent who has had specialized training," said David Keys, Meadowlark District director. "This process has not been easy. Individuals accept change differently. Many people now see the benefits of a district and appreciate the effort of the agents and the board to keep up the good work."

In southeast Kansas, Crawford, Montgomery, and Labette counties are on track to form the state's 14th district, which should become official on July 1, 2011. The three counties have a history of sharing resources — they've split the cost of a horticulture agent for nearly 35 years.

Forming a district means the counties "will be able to commit more personnel resources to residents," said Tim Dainty, chair of the Crawford County Extension Council. "We will be able to pool resources from three counties and provide greater reach. This translates to dollar savings in terms of purchasing power, and time savings in terms of time dedicated to programming."

Lindquist said K-State Research and Extension's goal is to provide the opportunity for any Kansas county to join a district if it wants to do so.

"It may not be appropriate for every extension council," he said. "They have to evaluate the potential benefits for their county and the potential opportunities for sharing information. I'm pleased that more and more counties see beneficial aspects of forming districts."

Jennifer Schoenfeld, an agent in Gove County, was especially excited when her county's residents chose to join the Golden Prairie District.

"It's going to be a great move for Gove County as far as sustaining services and moving forward," she said. "People will see us not only maintain K-State Research and Extension in the county, but also increase exposure and services for citizens. And I think people deserve that."

Jim Lindquist, 785-532-3519, jilindqui@ksu.edu

Money Matters

In 2009, an agent developed a monthly e-mail with money management ideas on managing debt, building an emergency fund, and tax tips. She expanded her listserv of 150 to eight major employers in the Garden City area with an invitation to share it with employees. She based her invitation on research that employees who have money problems tend to be less productive on the job and absent more frequently, generating a monthly financial loss to employers at about \$480 a month per employee. Her distribution list is now up to 1,200.

Linda Beech

620-272-3670, lbeech@ksu.edu

4-H Benefits Youth

A five-year study of positive youth development by Tufts University showed how 4-H programs make a difference. Youth (grades five through nine) involved with 4-H clubs or afterschool programs are 25 percent more likely to contribute to their communities than those involved in other out-of-school-time activities. They also had better grades, saw themselves going on to college, and were 41 percent less likely to exhibit risk or problem behavior.

<http://www.4-h.org/about/youth-development-research/>

Gary Gerhard,

785-532-5800, ggerhard@ksu.edu

Safe Use of Herbicides

A weed scientist established an education program for Malawian farmers and agro-dealers on the benefits and safe use of herbicides. Through his volunteer efforts with the Citizens Network for Foreign Affairs, he also helped develop 25 demonstration plots throughout the country.

Phil Stahlman

785-625-3425, stahlman@ksu.edu

Updates on Features from Previous Reports

Project Saves Water, Promotes Community

More than 120 rain barrels were sold to EPA Region VII employees, raising more than \$2,400 for local charities. Coca-Cola Enterprises, Inc. in Lenexa, Kan., donated the barrels. The K-State Big Creek Middle Smoky Hill River Watershed Group helped convert the barrels into rain barrels and provided technical information on installation and maintenance. The barrels will prevent an estimated 2.6 million gallons of water over 10 years from entering local waters and carrying with it contaminants such as excess nutrients, sediment, oil and grease, and lawn pesticides. Original article page 25, www.ksre.ksu.edu/library/misc2/UNN24.pdf

Stacie Minson, sedgett@ksu.edu

Communities Network to Keep Groceries Local

Fifty-one percent of Kansas communities now lack a grocery store. Since 2006, 82 of 213 grocery stores — serving Kansas communities with populations of 2,500 or less — have closed. A study of grocery shopping preferences in Kansas communities shows that for every \$100 spent within a community, \$45 stays within the community and may be circulated within the community as many as seven times. For every \$100 spent outside the community, only about \$15 is likely to return. The K-State Center for Engagement and Community Development (CECD) hosted a Rural Grocery Store Summit, attended by 200 participants from 13 states. Original article page 3, www.ksre.ksu.edu/library/misc2/UNN23.pdf

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

David Procter, dprocter@ksu.edu

K-State Helps Fight Climate Change

A K-State professor participated in the 2010 United Nations Climate Conference in Mexico to discuss agriculture's affect on climate change and how agriculture can adapt, while still supporting food security. He presented a workshop about management of agricultural lands and how international policies and incentives can encourage agriculture and mitigation strategies. Original article page 8, www.ksre.ksu.edu/library/misc2/UNN23.pdf

Chuck Rice, cwrice@ksu.edu

Participants Record Four-Ton Weight Loss

The Finney County Corporate Meltdown is an eight-week team challenge to increase physical activity and improve nutrition in order to lose weight and improve health after the holidays. In 2010, 49 teams with 245 people lost 1,244 pounds. Since the program began in 2000, participants have lost a cumulative total of 8,304 pounds — more than 4 tons! In addition to weight loss, participants improve their eating habits by eating smaller portions; more fruits and vegetables; less sugar, salt, and fat; and exercising more. Original article page 15, www.ksre.ksu.edu/library/misc2/UNN22.pdf

Linda Beech, lbeech@ksu.edu

Sessions Help Seniors Choose Medicare Coverage

Approximately 30 K-State Research and Extension agents have been Senior Health Insurance Counseling for Kansas (SHICK) counselors. In 2009, agents and volunteers helped 3,606 Kansans compare their current drug plans with Medicare options. Those that changed plans saved nearly \$1.4 million. As SHICK counselors, agents and their army of volunteers explain options by comparing their Medicare drug plan at the end of each year to plans offered for the following year. They are also trained on other parts of Medicare and can help resolve problems related to insurance coverage. In 2008, the U.S. Census Bureau reported that more than 366,000 Kansans are age 65 or older. That number will hit 420,000 by 2015 and about half a million by 2020. Original article page 6, www.ksre.ksu.edu/library/misc2/KSRE2006.pdf

Mary Lou Odle, mlodle@ksu.edu

Subsurface Drip Irrigation Offers Alternatives

The Northwest Research-Extension Center in Colby recently noted the 20th anniversary of a study of subsurface drip irrigation (SDI) to improve the use of scarce water resources for row crop production. The study represents the longest continuously operated SDI research system for row crops in North America. Original article page 26, www.ksre.ksu.edu/library/misc2/KSRE2006.pdf

Freddie Lamm, flamm@ksu.edu

Research Improves Grain Insect Control in the Food Processing Industry

In the United States, insects destroy 5 to 10 percent of stored grains and grain products, which translates into an annual financial loss of \$2.2 to \$4.4 billion. The USDA has awarded \$782,000 to K-State entomologists and a team of scientists from USDA's Center for Grain and Animal Health Research in Manhattan and Oklahoma State University. The team is evaluating several insect treatments at K-State's Hal Ross Flour Mill. Original article page 24, www.ksre.ksu.edu/library/misc2/KSRE2005.pdf

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

Subramanyam "Subi" Bhadriraju, sbhadrir@ksu.edu

Working Out While Walking Kansas

Walk Kansas is a statewide health initiative that encourages five-member teams to walk 423 miles — the distance across Kansas. Since the program started in 2000, it has grown from 5,000 to 22,000 participants. Approximately 85 percent of the teams reach the goal of 30 minutes of physical activity at least five days per week, and more than 95 percent report increasing their consumption of fruits and vegetables during the eight-week program. Original article page 8, www.ksre.ksu.edu/library/misc2/KSRE2005.pdf

For more information on the program go to, www.walkkansan.org

Sharolyn Flaming Jackson, sharolyn@ksu.edu

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.

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 challenges in the public.

Financial Management

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

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

International Grains Program

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

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

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.

Mobile Irrigation Lab

www.ksre.ksu.edu/mil

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

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 and nutrition and links to other health-related sites.

Sustainable Agriculture Reference Library

www.kansassustainableag.org/library.htm

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

Walk Kansas

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

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.

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

Interim Dean of the College of Agriculture and Interim Director of K-State Research and Extension

Gary Pierzynski
785-532-6147, gmp@ksu.edu

Assistant to the Dean and Director

Steven Graham
785-532-6147, sgraham@ksu.edu

Associate Director of Extension and Applied Research

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

Associate Director of Research and Technology Transfer

J. Ernest "Ernie" Minton
785-532-6148, eminton@ksu.edu

Associate Dean of Agriculture

Don Boggs, 785-532-6151,
dboggs@ksu.edu, www.ag.ksu.edu

Interim Assistant Director, Agriculture and Natural Resources

James "Pat" Murphy
785-532-5838, jmurphy@ksu.edu

Assistant Director, 4-H Youth Development

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

Assistant Director, Family and Consumer Sciences

Paula Peters
785-532-1562, ppeters@ksu.edu

Assistant Director, Extension Field Operations

James Lindquist
785-532-3519, jlindqui@ksu.edu

Assistant Dean, Diversity Programs Office

Zelia Wiley
785-532-5793, zwiley@ksu.edu

Department Head, Agricultural Economics

David Lambert
785-532-6702, lambertd@ksu.edu

Interim Department Head, Agronomy

William Schapaugh
785-532-6101, wts@ksu.edu

Department Head, Animal Sciences and Industry

Kenneth Odde
785-532-6533, kenodde@ksu.edu

Department Head, Biological and Agricultural Engineering

Joe Harner
785-532-5580, jharner@ksu.edu

Department Head, Communications

Kristina Boone
785-532-5804, kboone@ksu.edu

Department Head, Entomology

Thomas Phillips
785-532-6154, twp1@ksu.edu

Department Head, Grain Science and Industry

Dirk Maier, 785-532-6161,
dmaier@ksu.edu, www.grains.ksu.edu

Department Head, Horticulture, Forestry and Recreation Resources

Stuart Warren
785-532-6170, slwarren@ksu.edu

Department Head, Plant Pathology

John Leslie
785-532-6176, jfl@ksu.edu

Head, Western Kansas Agricultural Research Centers

Robert Gillen, 785-625-3425, Ext. 202,
gillen@ksu.edu, www.wkarc.org

Head, Southeast Agricultural Research Center

Lyle Lomas
620-421-4826, Ext. 12, llomas@ksu.edu

Director, Northeast Area Extension Office

Dale Fjell
785-532-5833, dfjell@ksu.edu

Director, Northwest Area Extension Office

Chris Onstad
785-462-6281, constad@ksu.edu

Director, Southeast Area Extension Office

J.D. McNutt
620-431-1530, jdmcnutt@ksu.edu

Director, Southwest Area Extension Office

Phil Sloderbeck
620-275-9164, psloderb@ksu.edu

Director, Bioprocessing and Industrial Value-Added Program

Ron Madl, 785-532-7035,
rmadl@ksu.edu, www.grains.ksu.edu/bivap

Director, Food Science Institute

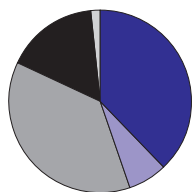
Curtis Kastner, 785-532-4057,
ckastner@ksu.edu, www.foodsci.k-state.edu

Director, Kansas Center for Agricultural Resources and the Environment (KCARE)

Dan Devlin, 785-532-0393,
ddevlin@ksu.edu, www.kcare.ksu.edu

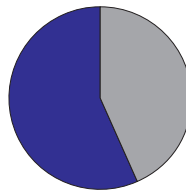
K-State Research and Extension Budget Data for Fiscal Year 2011

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



K-State Research and Extension Budget Fund Source

- State Appropriation (AES/CES) \$49,447,332
- Federal Appropriation (AES/CES) \$9,438,000
- Grants and Services \$48,982,944
- County Funds \$21,000,000
- Main Campus Allocation \$2,931,532

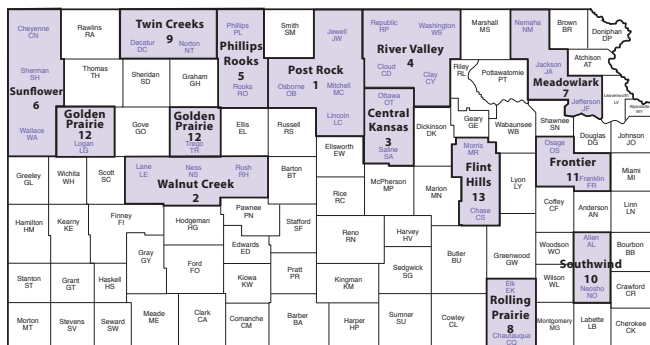


K-State Research and Extension Budget Responsibilities

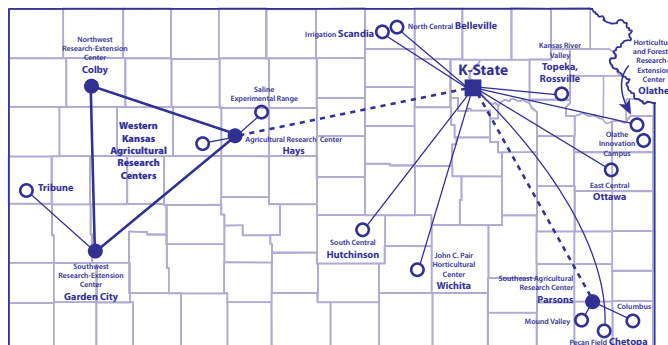
- Agricultural Experiment Station \$74,799,704
- Cooperative Extension Service \$57,000,104

K-State Research and Extension Statewide Offices and Research Facilities

Counties and Extension Districts



Research and Extension 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, 33 counties have formed 13 districts.

- 1994 Post Rock District #1 — Mitchell and Lincoln counties; Jewell and Osborne counties joined in 2005.
- 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.
- 2010 Southwind District #10 — Allen and Neosho counties.
- Frontier District #11 — Franklin and Osage counties.
- Golden Prairie #12 — Logan and Trego counties.
- Flint Hills District #13 — Chase and Morris counties.

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. Research conducted on campus and at off-campus facilities is shared with Kansas citizens through meetings, field days, publications, newsletters, websites, news releases, Facebook, RSS feeds, YouTube, Twitter, radio, and television.



Knowledge for Life

This publication is produced by the Department of Communications.
Publications from K-State Research and Extension are available on the Internet at:

www.ksre.ksu.edu

Brand names appearing in this publication are for product identification purposes only.
No endorsement is intended, nor is criticism implied of similar products not mentioned.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service
K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work,
Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts,
and United States Department of Agriculture Cooperating, Gary Pierzynski, Interim Director.