

## From the Dean and Director



Dean and director Gary Pierzynski accepts award-winning photographs from 4-H members (from left) Courtney Lonker, Medicine Lodge; Rebecca Wentz, Clayton; and Mariah Larson, Clay Center.

College of Agriculture enrollment is up by more than 100 students over last spring semester. We appreciate your confidence and support. Our faculty and staff continue to offer relevant programs and experiences that prepare our students for today's workforce challenges.

The Department of Grain Science and Industry celebrated its centennial on Oct. 1–2, 2010. Students, faculty, alumni, and industry partners reflected on the department's history and got a glimpse of upcoming research and facility improvements. The highlight of the event was the groundbreaking for the O.H. Kruse Mill and Bio-Refinery Teaching and Research Center, which will be jointly managed by the departments of Grain Science and Industry and Animal Sciences and Industry.

In 2003, the College of Agriculture was the first K-State college to hire a diversity coordinator. Zelia Wiley, assistant dean for diversity, has done an excellent job retaining and recruiting multicultural students and establishing the Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) chapter. She recently received the Commerce Bank Presidential Faculty and Staff Award for Distinguished Service to Historically Underrepresented Students. Thanks to Cargill for financially supporting the Diversity Programs Office.

The Wallace Kidd Memorial Award was presented to Steven Graham, who has served as assistant to the dean and director for the past 15 years. The MANRRS group nominated Graham for his exemplary efforts to

include and accept people from diverse backgrounds.

K-State is playing an important role in the Flint Hills Smoke Management Plan, a voluntary plan to manage grasslands through controlled burning without exceeding EPA-mandated ozone monitors for Wichita and Kansas City. Faculty and staff on campus and in counties within the Flint Hills are cooperating with producers, the Kansas Department of Health and Environment, EPA, county fire officials, and emergency managers.

The college chose Jerry Hatfield as its 2011 Alumni Fellow. He is director of USDA's Laboratory for Agriculture and the Environment in Ames, Iowa, and was on the Intergovernmental Panel on Climate Change — with K-State's Chuck Rice — that won the 2007 Nobel Peace Prize. While on campus, Hatfield spoke to agronomy classes and groups. Our students benefit greatly from interacting with K-State alumni.

Horticulture is a major industry and recreational activity in Kansas. To help homeowners, gardeners, and communities "plant the right plants in the right place," K-State's research-based, environmentally friendly information is available in printed and online formats, as well as videos.

Information about our annual Wild4Ag activities is listed on the back cover. I look forward to meeting many of you at these events.

Thank you for your continued interest in our programs.

Acry Resur



Spring 2011

College of Agriculture and the Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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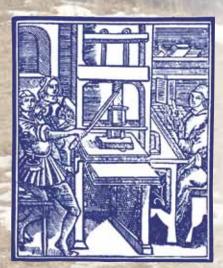
## On the cover

Brian Faris, sheep and meat goat specialist, looks over plans for the new Sheep and Meat Goat Research Center northeast of Bill Snyder Family Stadium.

Photo by Dan Donnert



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Many of you voiced your preference to receive printed copies of the Ag Report. We will continue to print and post issues online.

# We heard you ... the presses are running!

Go to www.ksre.ksu.edu/agreport to view current and past issues or to submit comments, class notes, and address changes.

If your prefer to mail your comments and class notes, send them to: Gloria Holcombe, Department of Communications, 309 Umberger Hall, Manhattan, KS 66506.



## **Researchers Study Antibiotic Resistance**

Kansas State University and North Carolina State University entomologists found a high prevalence of antibiotic resistant bacteria in the intestines of house flies and German cockroaches as well as in pig feces at two commercial swine operations in Kansas and North Carolina.

"Because antibiotics are widely used as growth promoters in U.S. swine operations, the digestive tract bacteria in pigs are often exposed to selective pressure and many become resistant to antibiotics," said K-State researcher Ludek Zurek. "Insects such as house flies and German cockroaches can move freely between animal waste

and food and may play a significant role in the dissemination of antibiotic resistant bacteria within and between animal production farms and residential settings.

"This research will enhance our understanding of the role insects play in the ecology of antibiotic resistant and virulent bacteria and in public health," Zurek said. "Flies and cockroaches may be more than just a nuisance, and insect pest management should be a part of preharvest food safety and security programs."

The research was published in the BioMed Central journal *BMS Microbiology* on Jan. 26, 2011.

## B K-State Master of Agribusiness

**International Tour planned for 2012.** Plans are under way for the fifth Master of Agribusiness international agribusiness tour to France and Italy, with possible stops in Switzerland. The tour is tentatively scheduled for August 1–13, 2012. The trip is open to anyone with an interest in international agribusiness and will be a mix of sightseeing (Paris and Rome) and professional visits to a variety of farming operations and agribusinesses. For more information, contact Mary Bowen at 785-532-4435 or look for updates at <a href="https://www.mab.ksu.edu">www.mab.ksu.edu</a>.

## New Canola Variety Released

K-State has released Riley, a new winter canola variety. Foundation and certified seed will be available for distribution on a widespread basis in fall 2011, according to Mike Stamm, canola breeder for Kansas State and Oklahoma State universities.

Riley has:

- consistently been one of the highest yielding open-pollinated varieties grown in regional 2008-2010 canola variety trials.
- averaged 2.8 percent greater oil content in Kansas trials in comparison to Wichita, a popular winter canola variety.
- a winter survival equivalent to that of competing varieties.

"Overall, Riley appears to have broad adaptation and can yield favorably wherever winter canola is grown," Stamm said. "It represents the first release opportunity from the canola breeding program, demonstrating progress beyond that of Wichita. Riley is disease-tolerant and has an attractive, high-quality fatty acid profile."





## **Add Purple to Your Diet**

When it comes to healthy eating, consider adding some powerful purple foods to your diet.

That's because many purple foods contain anthocyanins — red, blue, and purple natural pigments. Anthocyanins are healthy because they're powerful antioxidants and may help boost the immune system, maintain health, and prevent disease, said J. Scott Smith, K-State food scientist.

Anthocyanins are more prevalent in fruits than vegetables, Smith said, noting the deep red and purple hues of apple skin and grapes. They are especially common in berries, including blueberries, cranberries, raspberries, and blackberries.

Even the extracts from foods that contain anthocyanins are healthy, Smith said. A recent trend in the food industry is to use natural, instead of synthetic, food dyes. Anthocyanins can be extracted from fruits or vegetables and then used as a natural purple or bluehued food dye.



This year marks the 10th anniversary of the Walk Kansas Fitness Challenge, a program that encourages six-member teams to walk 423 miles — the distance across Kansas.

"The concept for the eight-week effort is fairly simple, and that's one reason why it has worked so well," said Sharolyn Jackson, state program coordinator.

She noted that the timing — in the spring when people are anxious to get outside — and low-cost also are plusses.

In 2002, 48 counties established the program with approximately 5,000 participants. By 2008, all 105 Kansas counties were on board. Participant numbers have remained steady at about 19,000 for the past three years.

Walk Kansas attracts people of all ages, and teams often include a friend or relative from another state, country, or continent. Workplace teams are more common now than at the start.

In addition to increased activity, participants are encouraged to improve their eating habits by consuming more fruits and vegetables.

For more information, go to www.walkkansas.org.



Eight Finney County 4-H Youth Development clubs worked together to raise \$8,543 to help send western Kansas World War II veterans to Washington, D.C., to see the war memorials. The 4-H'ers hosted a chili feed, conducted bake sales, and solicited donations for the Garden City Honor Flight. They presented a check to the local American Legion on Jan. 25, 2011.

In April 2011, Garden City will be the first airport in western Kansas to send WW II veterans to the Nation's Capitol. A previous flight was canceled because of a lack of funding. Honor Flight funds the cost of the flight, hotel, meals, and ground transportation for the veterans. Three other flights will originate in Wichita, Salina, and Topeka. It is estimated that 12,000 to 15,000 veterans reside in the state, and 15 to 20 Kansas World War II veterans die each day.

## SIII JHE MINITERIE

## New plan improves burning practices and protects air quality

Blackened pastures
and hazy skies
indicate the arrival
of spring burning in
the Kansas Flint Hills.
Without prescribed
burning, the lush
rolling hills of prairie
would not exist.

"We don't burn just to make the ground black," said Mike Collinge (BS '77 animal sciences), who lives and raises cattle in Greenwood County. "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."

The Flint Hills makes up roughly two thirds of all tallgrass prairie in North America, and preserving it is important for both the environment and the Kansas economy. Clenton Owensby (PhD '69 agronomy), K-State range management specialist, said frequent burning is necessary to maintain a quality tallgrass prairie. Alternatives to burning are not as effective or cost-efficient.

Prescribed burns do more than preserve the natural grass. They also significantly increase profitability for ranchers. Cattle can gain up to 30 additional pounds by grazing pasture burned in late spring, said Owensby. This added weight gain can increase profits in the beef industry by up to \$30 million per year.

"I took Dr. Owensby's class when I was a K-State student," Collinge said.
"I didn't realize then how important range management is for ranchers."

K-State research shows that April is the best time to burn pastures to maximize warm-season grass production and yearling livestock profitability. Unfavorable weather conditions sometimes compress April burning opportunities, resulting in large amounts of acreage being burned in just a few days. Given the right weather conditions, this condensed burning

period can create problems with air pollution levels in urban areas.

"We feel fortunate if we can safely and effectively burn 15 to 20 days during April," stated Collinge.

Kansas City and Wichita exceeded the ozone levels specified by the Environmental Protection Agency several times during the last eight years during short burning periods in the Flint Hills. Exceeding the ozone limit poses health risks for people in the area and puts Kansas at risk of penalties for violating federal air-quality regulations.

The Flint Hills Smoke Management Plan is designed to address those issues. The plan was initiated by the Kansas Department of Health and Environment (KDHE). It represents a collaborative effort among producer groups; municipality officials; state and federal environmental regulators; and K-State Research and Extension agronomists, foresters, specialists, and agents.

The plan aims to balance the need for prescribed fire in the Flint Hills with the need for clean air in downwind communities. The plan does not regulate producers. It entrusts them with choosing burning times wisely so air quality is compromised as little as possible.

Flint HIlls rancher Mike Collinge checks cattle in a pasture near his home.

"The producers don't want to smoke out Kansas City or Wichita," said Jeff Davidson, Greenwood County agent for K-State Research and Extension.

Greenwood and other Flint Hills counties have conducted prescribed burning workshops and other outreach programs to educate ranchers on burning issues, including when *not* to burn. Davidson said producers in his area have responded positively.

Davidson; Collinge; Tom Moxley (BS '77 animal science), Flint Hills rancher and state representative; Carol Blocksome (BS '77, PhD '06 agronomy), K-State agronomist; and Tom Gross, KDHE; conducted a panel discussion during Cattlemen's Day March 4 at K-State. The panel members offered their perspectives on the plan's effects.

"We'll have to work smarter and harder than in the past," Collinge said. "We'll need to prioritize what needs to be done, and we may not get everything done."

Moxley agreed and added that good voluntary compliance is important because it's easier to divert a disaster than to clean it up.

Blocksome coordinates joint-agency prescribed burning workshops that now incorporate information about smoke management at the regional level.

"Burning CRP, which is done for grass vigor and wildlife habitat purposes, can be done prior to April 1," said Blocksome. "This will reduce the amount of smoke generated during the month of April when burning for livestock production occurs."



"It's a fair plan," stated Gross. "Now if I get a call from another state about their air quality being impacted by burning, I can say there is a plan in place."

Gross said the plan ultimately will give cities leverage to request an exceptional event from the EPA when Flint Hills burning causes cities to exceed ozone limits. If granted, an exceptional event will not count the ozone exceedance against the city, which will help Kansas stay one step further from federal regulation.

The creators of the plan hope it will reduce air pollution in urban areas and the resulting health risk to residents, as well as prevent federal regulation of prescribed burning.

The plan should improve data collection on the number of acres burned per season. Several counties participated in a pilot program to track the number of acres burned in their counties based on burn permits. The data collection process is not standardized across counties, and total acreage burned is estimated by satellite pictures. If the new data collection method is efficient, more counties will be asked to participate in the future.

Several counties also used the Fire Management Practice Checklist to help preplan for the best possible conditions to meet their burn objectives and have the least effect on air quality.

To view the plan and related information, go to www.ksfire.org.

Bethany Sanderson

## What's Happening

## North of Kimball

The sight of huge earth-moving equipment, tall cranes, and pristine new buildings stimulates the interest of residents and visitors. Construction projects in northwest Manhattan, specifically north of Kimball Avenue between Denison and College avenues, are generating interest and lots of questions.

Timing for several of those projects correlates with Manhattan's selection as the site of the National Bio and Agro-Defense Facility (NBAF) — a state-of-the-art biosafety level 3 and 4 facility. It will allow scientists to conduct comprehensive research, develop vaccines and anti-virals, and provide enhanced diagnostic capabilities to protect the United States from emerging and foreign animal diseases.

The new facilities and upgrades to existing structures offer tremendous research opportunities for College of Agriculture faculty, hands-on learning for students, and timely research-based information to share with producers and stakeholders.

## New Home for Sheep and Meat Goats

Brian Faris joined the K-State faculty as a sheep and meat goat specialist in 2008. Since that time, he has been planning for the new Sheep and Meat

Goat Research Center. Those plans will soon become a reality.

"The design has been approved and bids were opened March 1," said Faris. "We hope to start work in April, with a target completion date of December 2011. After the new fences are built, we can expand our new meat goat herd. Construction on the new road is complete. This road will provide access to both the Sheep and Meat Goat Center and the new feed mill in the Grain Science and Industry Complex."

The existing unit is north of Kimball on the west side of Denison Avenue. The KSU Foundation purchased the unit and land south of the new site, which provided partial funding to build a new sheep and meat goat center just north of the existing one. The new facility will include a large classroom and a 5,600-square-foot multipurpose room.

"I'm really excited about being able to bring producers to the new facility for demonstrations and training," Faris said. "It also will provide another muchneeded classroom. The unit will have an animal treatment room where we can work with colleagues from the College of Veterinary Medicine on embryo transfer and artificial insemination."

Kalen Poe, who is pursuing a master's degree in animal science, manages the sheep and meat goat center and its four student workers.

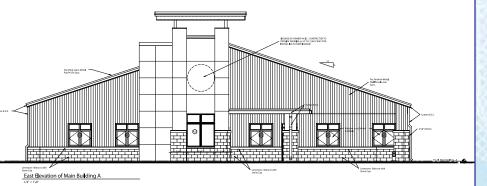
"I took the job in August 2010 with great anticipation, knowing that I would be involved in planning the new facility," said Poe. "It will allow us to not only improve our own program but expose students to all facets of sheep and meat goat production. Popular trends in both industries will be introduced and should prove to be highly beneficial to students."

## University Research Center Completed

To accommodate NBAF construction, some of the animal holding pens behind the Veterinary Medicine Complex were relocated to Denison Avenue, north of the sheep and meat goat center.

That site is the Large Animal Research Center (LARC), a university-wide research and teaching facility under the direction of Ron Trewyn, vice president for research, and Jerry Jaax, associate vice president for research compliance and university veterinarian. Research on university-owned animals that meet all the requirements set by the Institutional Animal Care and Use Committee can be conducted at the center.

**Large Animal Research Center** 



**Sheep and Meat Goat Research Center** 

Courtesy of Brian Faris



Denver Marlow (BS '74 animal science, DVM '78) has accepted the position of assistant vice president and director of the comparative medicine group. He oversees the LARC.

"The Large Animal Research Center is a core university resource for scientists who work with large animals in any of the colleges," said Marlow. "In addition to research facilities, the center has an onsite caretaker building where students can stay while providing care for animals on weekends and evenings."

## **Progress on Equine Center**

In October 2007, K-State broke ground on the Equine Education Center. Phase I — which includes site excavation and grading, utility installation, and construction of driveways, parking areas, and an outdoor arena — has been completed. The 150-foot by 300-foot outdoor arena has bucking chutes, roping chutes, and holding pens. There is an additional smaller multipurpose arena and round pen. Seating for 2,000 spectators will be installed soon. The K-State Rodeo Club hosted an event at the facility in fall 2010.

Future phases will include the Livestock Marketing and Learning Center, which will serve as the home for K-State's annual Legacy Sale on the first Friday of March. Students gain experience by managing all aspects of the event.

Producers and industry leaders have donated funds to name the center in memory of Col. Stanley E. Stout for his lifelong support of K-State and the livestock industry.

## **Livestock Marketing and Learning Center**



Courtesy of Emilie Fink

The center will be north of Kimball directly across from the Purebred Beef Teaching Unit. National Bio and Agro-Defense Facility construction doesn't require relocating the unit.

The new facilities and upgrades to existing structures offer tremendous research opportunities for College of Agriculture faculty, hands-on learning for students, and timely research-based information to share with producers and stakeholders.

Other facilities planned for the equine center will include classrooms, labs, stables, and indoor arenas to be used by K-State's Horse Judging Team, NCAA Women's Equestrian Team, and Rodeo Club and as support for equine courses.

The entrance to the Equine Education Center is directly across the



**Horse Teaching and Research Unit** 

street from the entrance to the Sheep and Meat Goat Research Center. The long-term plan to "dress up Denison" calls for the equine and the sheep and meat goat units to have limestone entrances similar to the one built for the Large Animal Research Center.

## **Indoor Stalls Beneficial**

In 2008, a new stall barn was completed at the Horse Teaching and Research Unit on north College Avenue. The barn increased the indoor stall capacity from two to 12.

"The new barn is used extensively during the spring and summer to house mares and foals during the foaling and breeding seasons, including mares that students work with in their equine reproduction and foaling classes," said associate professor Joann Kouba, who coordinates the horse unit. "It also allows us to house additional privately owned stallions during the breeding season. In the fall and winter, the barn is used for horses with injuries or that need to be confined, as well as some young horses that are in training."

Funds for the project came from the Livestock and Meat Industry Council. The LMIC was formed — after a 1966 tornado ravaged several barns and sheds — to raise money and give industry support for the rebuilding of facilities, future research projects, and other needs of the Department of Animal Sciences and Industry.

**Equine Education Center** 



## **Beef Research Facility Updates**

The Beef Cattle Research Center, located on the east side of College Avenue across from the horse unit, has been significantly updated. A state-of-the-art system with 20 sorting pens, a pen scale, a load-out and receiving area, and a central processing barn with a restraining chute equipped with electronic data-capture capabilities was completed in 2010.

"The new system is similar to those used in commercial feedlots," said Jim Drouillard, K-State beef nutritionist who manages the unit. "The current design allows for cattle to flow smoothly through the system without prodding, thus minimizing stress to cattle and people. It also improves our ability to teach students sound cattle-handling skills, which has implications for safety, animal well-being, and beef quality. We have about 10 graduate students and 15 to 20 undergraduates working at the facility at any given time."

In addition to the new cattle processing facility, the unit's grain processing facility (constructed in 1968) is being upgraded for steam flaking feed grains.

"Steam flaking is an important process used by many feedlots in the Central and Southern Plains to improve nutritional value of cereal grains," stated Drouillard. "Flaking has been a key component of our feedlot research program. It will also serve as a tool for teaching this important process to

undergraduate and graduate students interested in feedlot cattle production. The new facility will become the central focus of a new short course on grain processing, which will enable K-State to better serve the needs of the feedlot industry by providing basic hands-on instruction to feedlot mill operators."

## We've Got Milk

Patrons at Call Hall's Dairy Bar and students who dine at K-State residence halls enjoy fresh ice cream, milk, and cheese. They may not know those products come from the 230 cows milked three times a day at the Dairy Teaching and Research Unit north of campus. In November 2010, the unit's milking parlor was remodeled to improve efficiency.

"We updated the weigh jars," said professor John Smith, who supervises the unit. "Instead of the glass jars that showed the milk level and then manually recording the data, the new system electronically captures the data and sends it a computer. This gives our students the opportunity to use industry-level equipment."

Only 10 percent of the 2,400 gallons of milk produced daily goes to the dairy bar and the residence halls. The rest is sold to the Dairy Farmers of America to cover expenses. The unit employs 25 students who are involved in all facets of the operation — research, feeding, milking, caring for calves, and manure management.

## **Information for Swine Producers**

K-State's applied swine nutrition program is internationally known for working closely with producers. Projects at the Swine Teaching and Research Unit generate timely information for swine producers in Kansas and beyond.

The unit's growing and finishing barn was built in 2009 for the finishing pigs produced at the farm. It's equipped with a computerized feeding system to train students on the latest swine feeding technology and improve research quality. Five to seven undergraduate students work at the unit, and 12 graduate students conduct swine nutrition research with sows, nursery, and finishing pigs.

"The unit is a very active swine farm with continuous applied research and teaching," said swine specialist Joel DeRouchey. "The swine science class — 25 per semester — uses the farm each week for laboratory activities and experiences. We also have a second nursery pig facility located just outside of the swine farm that houses pigs from a separate farm where research is conducted as well."

## **Make Room for Game Birds**

With 300,000 acres of public land and more than 1 million acres of private land open to hunters, Kansas offers an abundance of hunting opportunities. The game bird recreational industry is considered one of the top three sources of tourism in Kansas.

**Swine Teaching and Research Unit** 



In fall 2010, K-State's Department of Horticulture, Forestry and Recreation Resources created a Wildlife and Outdoor Enterprise Management Program to train professional operational managers for hunting/ shooting preserves and resorts, game bird production companies, fishing resorts, and outdoor experience companies.

To collaborate with the new program, one of the poultry houses at the Tom Avery Poultry Research Unit on north Marlatt Avenue is being remodeled to accommodate game birds. The unit was named for Professor Tom Avery, head of the Poultry Department from 1954 to 1964. The renovation is partially funded through the Agricultural Experiment Station and industry support.

"Game birds require different facilities compared to poultry," said Scott Beyer, K-State's poultry specialist. "Wild birds need flight exercise."

Beyer will be teaching a course on game bird management in fall 2011. He says that many aspects of poultry management — such as hatching eggs, vaccines, and disease susceptibility apply to working with game birds.

"The second stage will include a large outdoor flight pen for pheasants," Beyer said. "If industry support can be secured, we hope to build additional outdoor pens for research purposes to test nutrition requirements, flight space, breeding methods, etc., to reduce producer costs."

## **Meeting Expanded Energy Needs**

The addition of the National Bio and Agro-Defense Facility — and the anticipated growth it will bring — will increase electrical needs in northwest Manhattan. The college granted a 10acre easement north of Purcell Road for a substation to serve the area.

"We will still be able to use 95 percent of the area to pasture horses," stated Russ Gottlob, who manages the Equine Education Center and the area where the substation will be located. "Westar Energy will put in an access road to the substation that we can use to feed our animals."

## **Research to Combat Heat** Stress and Drought

The Department of Agronomy has built some unusual structures on the agronomy farm north of Bill Snyder Family Stadium. The structures were designed to evaluate how heat stress and drought affect development of both winter crops (wheat and canola) and summer crops (sorghum, corn, and sovbeans).

K-State researchers study these stressors to determine which crop varieties will perform best in Kansas. To simulate heat stress, agronomists built steel-framed heat tents covered with polyethylene plastic.

"A solar-powered flap at the top of the structure can be automatically opened or closed at pre-determined temperature settings," said crop

physiologist Vara Prasad, who supervises the project. "These tents are movable and can be placed on any crop. The environment (solar radiation, air temperature, relative humidity, soil temperature, and soil moisture) is continually monitored at 10-minute intervals."

To simulate drought on crops, rainout shelters were built using commercial arched structures mounted to a rail and wheel system driven by an electric motor.

"The automated control system is activated by a rain gauge and starts moving the structure," explained Prasad. "It stops moving when it reaches the switch at the end of the rail. It remains there until 30 minutes after the rain ends, then reverses direction and moves back to the park position to await the next rain event."

Prasad explained that similar systems exist at international research institutes, but few universities have them. Students helped construct both systems and are involved in the research.

"These facilities will help us impose heat and drought stress on crops grown under field conditions," Prasad stated. "They will help us not only screen genotypes for identifying tolerant lines, but also help understand the mechanisms associated with tolerance. Our goal is to develop drought- and heat-tolerant genotypes that will help improve grain crop productivity in current and future climates."





Marsha Landis (2)

**Heat stress tents** 

**Rain-out shelters** 



## New Feed Mill in the Works

As part of the Department of Grain Science and Industry centennial celebration in October 2010, the College of Agriculture broke ground on the O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center. Construction should start this summer with completion expected by December 2012.

The facility will be a joint project between the departments of Grain Science and Industry and Animal Sciences and Industry. The facility will replace the existing feed mill on the corner of Kimball and Denison and the 1950s feed technology mill in Shellenberger Hall.

The \$13.5 million structure will house an automatic 5-ton-per-hour feed mill, a liquid feed research facility, and a biosafety level 2 teaching/research feed mill. Scientists will be able to safely work with low virulence pathogens, such as *Salmonella* in feeds. It also will have classrooms, laboratories, and office space. Upon completion, feed science faculty and lab classes could be relocated to the complex.

The feed mill and bio-refinery is the fourth building in the Grain Science and Industry Complex. The others include the International Grains Program (IGP) Conference Center, the Bioprocessing and Industrial Value-

Added Program building, and the Hal Ross Flour Mill. Future projects include adding a Milling Science and Education Wing to the flour mill and a Bakery Cereal and Bakery Sciences and Technology Building.

## Wheat Research Under One Roof

In addition to the K-State projects at the complex, the Kansas Wheat Commission (KWC) plans to build the Kansas Wheat Innovation Center (KWIC) between IGP and the Kansas Crop Improvement Association building. The 35,000-square-foot complex with offices, labs, and greenhouses will house KWC, the Kansas Association of Wheat Growers (KAWG), the Kansas Wheat Alliance, and possibly the Kansas Foundation for Ag in the Classroom. The center also will provide lab, office, and greenhouse space to other tenants, including Heartland Plant Innovations Inc.

HPI is a public-private collaboration of agricultural producers, public research institutions, and plant science technology companies. KAWG owns 51 percent of the company. HPI's goal is to provide profitable innovations for wheat, sorghum, and the native

plants of Kansas. Its initial focus will be providing research services to support plant breeders. One of the main tools offered by HPI is the production of doubled haploid (DH) lines of wheat, which can be used by breeders to dramatically shorten the time required to develop new wheat varieties.

"DH breeding has been used extensively with corn, but wheat presents challenges that have limited the use of DH technology until now," explained Forrest Chumley, president of HPI. "This process should provide wheat producers with more new varieties in as little as half the time of traditional methods."

Chumley has a strong research background in private industry and previously served as associate director for research and technology transfer in K-State Research and Extension.

"The new programs and facilities greatly enhance our existing projects at animal research units and the North Agronomy Farm," stated interim dean and director Gary Pierzynski. "We greatly appreciate the support from alumni, friends, and industry partners."

## Hal Ross Flour Mill with proposed addition





**Kansas Wheat Innovation Center** 

Courtesy of Forrest Chumley



O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center

## **DIVERSITY EFFORTS REWARDED**



Two College of Agriculture administrators were recognized for their efforts to enhance diversity. Zelia Wiley received the Commerce Bank Presidential Faculty and Staff Award for Distinguished Service to Historically Underrepresented Students, and Steven Graham earned the 2011 Wallace Kidd Memorial Diversity Award. Wiley is the assistant dean for diversity, and Graham is assistant to the dean of the College of Agriculture and director of K-State Research and Extension.

When Zelia Wiley was hired by the College of Agriculture in 2003 to lead its new Diversity Programs Office, one of her top assignments was to increase multicultural enrollment. According to figures from K-State's Office of Planning and Analysis, the college's Hispanic enrollment has increased by 466 percent from 2003 to 2010, while the African American enrollment increased 178 percent.

But Wiley said her job doesn't stop with recruiting. She also helps students find success as they transition from high school to college and into the workplace.

Sixty high-school students from Dodge City and Garden City visited campus in February. Six of the future K-Staters showed off their new K-State Proud T-shirts.

Steven Graham and Zelia Wiley display their awards.

"We're not recruiting them to meet any quota," Wiley said. "I truly believe I'm grooming them to take my place in academia or grooming them to go into the corporate world. I want them to become a whole person and be productive when they leave K-State. I want them to be truly prepared to work in a multicultural world."

To help students, the college formed a chapter of Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) in 2003. Wiley advises the group and served as national president in 2007.

The K-State MANRRS students nominated Steven Graham (MS'81 grain science) for the biennial Wallace Kidd Award.

"The MANRRS students unanimously agreed that Steven Graham has truly been a champion for diversity within the College of Agriculture," said Caleb Wurth, MANRRS president. "Mr. Graham exemplifies a culture of inclusion and acceptance of diverse people and minds in the College of Agriculture."

Graham spent nearly four years in West Africa with the Peace Corps helping farmers and the Government of Benin develop its agricultural endeavors. He was an administrator for the Kansas Wheat Commission for 15 years before accepting his current position at K-State in 1995. He also served as interim director for the Kansas Center for Agricultural Resources and the Environment and the Kansas Water Resources Institute from August 2009 to October 2010.

Wallace Kidd (BS '50) was the first African American entomology graduate and a strong advocate for multicultural students, the college, and the university. The award was established in 2005, and the Wallace Kidd Family Scholarship was set up in 2000. His grandson Mitchell Kidd, a junior in sociology, was at the award presentation.

The Diversity Programs Office and MANRRS chapter are involved with various events throughout the year such as K-State Celebrates, K-State recruitment trips, the National MANNRS Conference, Cargill's Backpack to Briefcase Student Experience, Elanco Animal Health Student Leaders Science Retreat, Professional Agricultural Workers Conference, Association of Research Directors meeting, and several others.

"The K-State chapter hosted the 2011 National MANRRS Conference in Kansas City, Mo., March 30–April 2," said Wurth. "It was a great opportunity to represent Kansas State University among elite universities from all over the nation."



# Honoring Our Past, Envisioning Our Future

The Department of
Grain Science and
Industry chose its
centennial year to
honor its past and
look to the future. And
they proved that there
is plenty to be proud
of and a lot to look
forward to.

During 2010, the department of sponsored a Centennial Lecture Series, which brought six experts in the grain, feed, milling, and baking industries to campus.

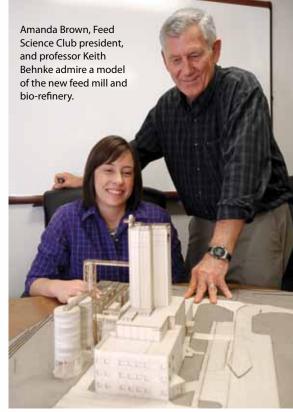
"Our big event was the centennial celebration on October 1 and 2," said Dirk Maier, department head. "It was a tremendous opportunity to share our successes and hopes for the future with alumni, faculty, students, and industry partners."

The event kicked off with a golf tournament at Colbert Hills. The next day featured an open house, tours, research forums, and recognition of those who have made extraordinary contributions to research and global outreach over the past century.

Maier noted that students were involved in many aspects of the centennial celebration. Undergraduate students hosted visitors and tours and provided valet service at the evening event. The baking students made a bread display and cookies for each guest's goodie bag to go with the pancake mix prepared by the milling students, and coupons for horse feed from the feed science students. Graduate students presented their research posters.

During the festivities, nine former department faculty were recognized:

Okky Chung (MS '65, PhD '73) is known for her work in basic and applied research. Between 1987 and 2005, she and her staff evaluated more than



95 percent of U.S. hard winter wheat cultivars.

Charles Deyoe (BS '55) served as department head from 1977 to 1992, as director of the Food and Feed Grain Institute and the International Grains Program, which was established in 1978.

Karl Finney (BS '36, MS '37) was known for his work in chemical and physical properties of Kansas hard wheats.





Dirk Maier, head of the Department of Grain Science and Industry; Joel Newman, CEO of the American Feed Industry Association; Carol and James Brown (BS '59 feed science and management), owner of Key Feeds; Kirk Schulz, K-State president; Ron Kruse (BS '62 feed science and management), CEO of Western Milling; April Mason, provost and senior vice president; Gary Pierzynski, interim dean of the College of Agriculture and interim director of K-State Research and Extension; and Ken Odde, head of the Department of Animal Sciences and Industry; participated in the groundbreaking ceremonies for the O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center.

William Hoover served as head of the department from 1966 to 1976 and later led the American Institute of Baking.

Carl Hoseney (BS'57, MS'60, PhD, '68) was well known for his scientific work and publications. He mentored many graduate students who later made contributions to the field.

Robert Schoeff was the first to document grain elevator explosions and is credited with raising awareness of the safety factors involved, which led to a dramatic decrease in explosions.

Paul Seib specialized in carbohydrates and is known for his patented work on stable forms of vitamin C. K-State recognized him with its first Intellectual Career Achievement Award in 2004.

John Shellenberger served as head of the department from 1944 to 1966 and presided over the construction of a new building, later named in his honor.

Arlin Ward (BS '42, MS '51 was instrumental in developing the International Grains Program and conceived the "short course" program model used today to educate international agricultural professionals.

The groundbreaking for the new \$13.5 million O.H. Kruse Feed Mill and Bio-Refinery Teaching and Research Center highlighted the centennial celebration. One of the shovels used in the ceremony was also used at the groundbreaking of the feed technology building in the 1950s.

The Feed Science Club commissioned a model of the new mill, which professor Keith Behnke took to the International Poultry Expo/ International Feed Expo in Atlanta.

Centennial mementos, as well as historic documents and photos, were part of an exhibit in K-State's Hale

Grain science memorabilia on display in K-State's Hale Library.



Ron Kruse (left) and his son Kevin hold the shovel originally used for the Feed Technology Building. The new feed mill is named for Ron's father, O.H. Kruse.

Library. Some of those items are now on display at the International Grains Program building.

"Thank you to the students, alumni, faculty, and industry supporters who helped us celebrate our first 100 years," added Maier. "We appreciate your support and look forward to future collaborations."

## Horticulture Programs Promote Healthy Yards and Communities.



It's been a long winter. Homeowners are anxious to get outside and work in their yards, and K-State Research and Extension has new tools to help them.

"During the last four years, we have consolidated our horticulture programs into two areas: ornamentals/landscape and fruits/vegetables," said Alan Stevens, director

of the K-State Research and Extension Center-Olathe. "The Kansas Healthy Yards and Communities program explains how to maintain your home landscape in an environmentally friendly way while improving the appearance and health of the plants."

The concept for the new program started in Douglas County.

"It really came from the community," said Jennifer Smith, Douglas County horticulture agent. "We had residents who were familiar with the Florida Yards and Neighborhoods program and wanted to do something similar. Creating a local program allowed us to concentrate on the most important issues for our area and provide more climate- and plant-specific recommendations.

"The program is really a way for people to see how everything is tied together in the lawn and landscape. Too often, we focus on one component, or we don't think about what we could do better until a plant has a problem. We see the insect or disease and want to treat it, when we should be thinking about the effects of compacted, nutrient deficient soil. Besides the soil, over and under watering, improper fertilization,

and too much or too little mulch can affect the health of our plants."

Kansas Healthy Yards and Communities went through two years of program development and industry input, followed by pilot testing in Douglas and Johnson counties.

KANSAS

GARDEN

GUIDE

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Horticulture agents from across the state worked with specialists and researchers to pull information together.

## **Program Has Practical Uses**

Master Gardener Donna Black, Lawrence, speaks highly of the program.

"The Kansas Healthy Yards and Communities program has been a big benefit to us personally and within our Master Gardener program," Black stated. "I feel it has helped us as an organization convey a great deal of information to the general public in a very organized, nonthreatening way. I think it makes it easier to reach the goal of maintaining a healthy yard and community.

"When we began planning our first Spring Fair last year, we realized that

the areas covered in the program were a perfect fit with our goal of providing education to the community. We used the 10 categories from the program and prepared educational displays and materials. It became a very effective and easy-to-use tool for organizing our activity," Black said.

K-State Research and Extension professionals train volunteer Master Gardeners in all aspects of horticulture. After 40 to 50 hours of instruction, the volunteers donate an equivalent number of service hours. During 2010, Master Gardeners volunteered 90,671 hours, an average of 83 hours per volunteere.

## Healthy Yards on the Web

The program's website (www. kansasgreenyards.org) is packed with "how-to" videos, hints, photos, and fact sheets to help

homeowners make environmentally friendly decisions. Deb Pryor, K-State Research and Extension video producer, is the driving force behind the videos. She and videographers Steve Ballou and Randall Kowalik have produced more than 100 videos — with a new one featured each week.

Pryor has videotaped agents and specialists, master gardeners, and other experts from across the state on a wide variety of topics — such as starting plants from seed, caring for



houseplants, gardening tips, pruning, and lawn care.

"Deb is always available to travel and go where needed," said Stevens, horticulture specialist. "She edits the videos and helps the agents and researchers be comfortable in front of the camera. We now have a fantastic collection."

Much of the video and fact sheet information comes from K-State horticulturists who have done extensive research to determine "the right plant in the right place." More than 15,000 annuals have been grown at facilities across the state, with 800 new varieties added each year. The results generate a list of Prairie Star annual flowers that are best adapted to the challenging Kansas climate.

The site also offers a self assessment to gauge a landscape's "green" quotient. It allows homeowners to assess what they're doing right, what they can improve, and how to make step-by-step changes.

## **Garden Guide Now in Color**

Longtime gardeners are familiar with the K-State Research and Extension Garden Guide and its popular vegetable garden calendar. The revised full-color



version retained favored features and added updated charts and tables with current recommendations, as well as tips on container gardening, composting, integrated pest management, and water conservation.

Nearly 3,000 copies of the guide have been sold, and it has been downloaded from the Web more than 9,000 times.

A Garden Kansas website with more information about fruits and vegetables is in the works.

## **Show Pride with Plants**

To share the success of the Prairie Star annual flowers, Stevens has partnered with Kansas PRIDE to help communities prepare gardens, plant appropriate flowers, and properly care for the plants.

"Flowers instill pride in communities," Stevens said. "With flowers downtown and in front yards, people like the town they live in a whole lot more."

To encourage homeowners to plant flowers in their front yards, K-State Research and Extension offices and PRIDE groups distribute bright door hangers to thank neighbors for making "Our Community — A More Colorful Place."



## Student Accolades



Jordy Nelson wasn't the only K-Stater on the field at the Super Bowl. Casey Dallas, senior in horticulture from Salina, was selected for the Toro Super Bowl Sports Turf Training Program. He worked alongside Ed Mangan, NFL field director, and the Super Bowl grounds crew at Cowboys Stadium in Arlington, Texas, on turf maintenance, logo painting, field preparation for media day, and halftime preparation and clean-up.



Student Body President Danny Unruh participated in a panel discussion with Supreme Court Justice Sonia Sotomayor, which was part of K-State's Landon Lecture series on Jan. 27, 2011. "Meeting a Supreme Court Justice was a truly surreal and exciting experience," said Unruh. "I was very proud and humbled to be a part of the forum panel, but then again, that is what K-State is about: putting students first. Justice Sotomayor was kind, intelligent, warm, and incredibly personable." Unruh is a senior majoring in food science and industry and political science.



William Trieb, sophomore in food science and industry from Wamego, was the College of Agriculture Student of the Month for September. He also was Tin Man in the Wizard of Oz production at the Columbian Theatre in Wamego.



October: Karl Dawn Hobbs, senior in animal sciences and industry and agricultural education from Beloit, is active in the Agricultural Education Club, Collegiate Cattlewomen, Ag Ambassadors, and the Livestock Judging Team.

November: Jessica Briggs, junior in food science and industry from Manhattan, is a member of Phi Kappa Phi Honor Society, Food Science Club, and the University Honors Program. She serves as a student leader and helps with recruitment within her department and for the university.

December: Nicole Allen, senior in animal sciences and industry, with minors in business and leadership from Tonganoxie, serves as treasurer of Alpha Zeta Agriculture Honor Society. She teaches K-State Enhanced University Experiences Courses as well as working in the Department of Computer Science.

January: Brooke Schultz, senior in horticulture from Trousdale, is an Ag Ambassador, member of Pi Alpha Xi Horticulture Honor Society, Kappa Kappa Gamma Sorority, and attended the PLANET horticulture contest with the K-State Horticulture Club.

February: Brock Burnick, freshman in agricultural economics and pre-law from Mulberry, is a member of the Ag Education Club, Ag Econ/Ag Business Club, Pre-Law Club, and FFA. He also has completed the KSU CAT Program and is a Board of Regents Scholar.

## **Scholarship Winner**

Leah Rutledge, junior from
Lawrence, was awarded the Ann
Lane Mavromatis Scholarship at
the American Horticultural Therapy
Association's Annual Conference.
K-State students have won this award
nine out of the last 10 years. She was
selected for her academic achievements
and extensive voluntary service activities
in Manhattan, Lawrence, New Orleans,
and Wyoming. She interned at the
Epcot Center at Disney World in
Orlando, Fla.

## **New Judging Team Formed**

At their first competition, the Animal Welfare Judging team finished third overall in the graduate division at the 2010 Animal Welfare Judging Contest in East Lansing, Mich. Six graduate students participated in the competition: Brandi Buzzard, Hyatt Frobose, Jon Bergstrom, Miguel Barrios, Mandy Myers, and Kristen Sterneker. Buzzard was fifth high individual. Assistant professor Lily Edwards coaches the team.

## **Graduate Students Excel**

Wendy Johnson of Emporia and Carl Doud of Belton, Mo., entomology doctoral students, each won first place in oral paper competitions at the Entomology Society of America national conference. Doctoral student Hong Geun Kim of South Korea earned second place in the poster competition. Monika Brijwani of India, a master's student in grain science, earned first place for her presentation.

## **Livestock Team Takes Second**

The K-State Livestock Judging Team took home Reserve National Champion honors from the North American International Livestock Exposition. The team placed first in performance classes, second in reasons, second in sheep, second in hogs, and fifth in cattle. In individual overall, Seth Keas placed first and Cassie Silveira placed fifth. Jara Settles earned an All American Award from the Intercollegiate Livestock Judging Team Coaches Association. Associate professor Scott Schaake and graduate students Hyatt Frobose and Randell Von Krosigk coach the team.

## K-State Crops Team Retains National Title

The Crops Judging Team captured the national championship for the second year in a row, and its ninth title in 12 years. They won both the Kansas City Board of Trade and Chicago CME Group Collegiate Crops contests.

Participants identify 200 different plant or seed samples of crops and weeds, grade eight samples of grain according to Federal Grain Inspection Service standards, and analyze 10 seed samples to determine whether they contain impurities, and if so, what contaminants exist.

Jason Unruh was the high individual overall in Chicago, where he placed first in both plant and seed identification and grain grading and fourth is seed analysis. He made a perfect score in grain grading. At Kansas City, he was the third high individual overall, third in plant and seed identification, fourth in grain grading, and sixth in seed analysis.



The K-State 2010 Collegiate Crops Team and alternates (I to r) are: Jessica Zimmerman, Alta Vista; coach Kevin Donnelly, Manhattan; Nathan Stensaas, Concordia; assistant coach Kelly Yunghans, Leavenworth; Ben Meyer, Linn; Levi Larkins, Belvue; Jason Unruh, Peabody; Scott Henry, Goff; and Lauren Lang, Overbrook.



About 20 members of the Horticulture Club worked into the night preparing roses to sell on Valentine's Day. Their hard work paid off. They sold all 450 roses they had ordered. The proceeds will help fund travel to PLANET, a competitive gathering of more than 50 collegiate horticulture teams. K-State will host PLANET in 2012. The club also funds fun activities for the members, such as cookouts and at least one recreation team.



## Horse Judging Team Sweeps World Competition

The K-State Horse Judging Team won the 2010 American Quarter Horse Association World Show horse judging competition. Team members (I to r): James Lattimer, human nutrition doctoral student, coach; Robert Enoch; Jenna Bertoli; Cassie Silveira; Meg Drake; Maria Stevens; Jara Settles; Kristi Wright-Burton, animal science master's MS student, coach; Teresa Slough, faculty adviser. They placed high team halter, high team performance, and high team reasons.

For information on judging teams in the Department of Animal Sciences and Industry, go to http://www.asi.ksu.edu/p.aspx?tabid=37.



Animal science graduate students (I to r) Chad Paulk, Jeremiah Nemechek, and Chris Rude participated in the Polar Plunge at Tuttle Creek River Pond on February 12. They raised \$292 for the Special Olympics.



Nicole Rosencutter, left, (BS, animal sciences and industry), Topeka, sang the national anthem; Nichole Ely (BS, agricultural communications and journalism/animal sciences and industry), Inman, delivered the reflections address; and Tyler Axman (BS, food science and industry), Olmitz, presented the graduate address at the College of Agriculture fall commencement ceremony.



## Nate and Kate Continue Leadership Tradition

K-State students elected Nathan Spriggs, junior in agricultural economics from Manhattan, student body president, and Katrene Bormann, senior in agricultural communications and journalism from Louisburg, as vice president for 2011–2012.

They campaigned on a three-part platform: to make campus entertainment events more affordable for students, to install "Safety Information Centers" inside buildings on campus, and to include students in the university's process of updating classrooms with new technology.

Spriggs and Bormann — better known as Nate and Kate — visited nearly 100 campus organizations to reach out to students.

Five of the last seven K-State student body presidents were College of Agriculture students.

## Food for Thought

A group of students and alumni are bringing prominent speakers to campus and using technology to close the information gap between consumers and producers.

"When I was in graduate school, Dr. Thomson (director of the Beef Cattle Institute) and I had a conversation about how many people across campus have a passion for agriculture but rarely interact," said K-State alumna Chelsea Good. "We decided to get leaders from different groups — undergraduate and graduate, agriculture and veterinary students — together for a conversation that led to Food for Thought, a group of students and young alumni aiming to tell agriculture's story."

Good graduated in 2008 with bachelor's degrees in agricultural communications and journalism, political science, and journalism and mass communications. She completed a master's degree in communication studies in 2010. She is now pursuing a law degree at Washburn University.

"For me it's especially important to be doing this because the average consumer is two generations removed from the farm," Good explained. "At the same time, people want to know more about their food and how it is produced than ever before. There are definitely people out there trying to fill the information gap with misinformation. If we don't tell our story someone else will.

"Interacting with my nonagricultural law school classmates has reinforced for me how much disconnect there really is and how easy it is to reach out to people and educate them about food production."

The group is using the Upson Lecture Series named after Dan Upson, professor emeritus of veterinary medicine, to reach those audiences. Upson was the inaugural speaker, followed by animal behaviorist Temple Grandin, whose struggle with autism was recently made into an award-winning TV movie.

Thomson, faculty adviser for the group, has made more than 300 presentations on animal welfare. He was pleased with the turnout for Grandin's lecture.

"We had 650 people in Forum Hall, 850 in the ballroom, and 200 to 300 in the commons area watching a live feed," Thomson said. "There were so many people watching on the Web that we froze up the server. It was a special event."

"I think the lecture series is a great tool for making the connection between consumers and agriculture," said Tera Rooney, first year veterinary medicine student. "Temple Grandin drew a wide audience. Instead of preaching to the choir we were able to reach out and connect with our target audience — people who aren't involved in agriculture. Many interested in autism, who don't know much about agriculture, left her presentation with a greater understanding of livestock and meat production."

Food for Thought members, including Rooney and Good, contribute to the group's blog (http://bloggingfoodforthought.blogspot.com), Facebook page, or Twitter account http://twitter.com/fftgroup.

"More and more people are getting their information from the Internet," commented Rooney. "It's an easy way to connect with consumers in urban centers far from Kansas. We use these guidelines: to confront myths about agriculture with sound science and information, to acknowledge shortcomings but not apologize for the industry, to seek collaboration and consensus, and to strive for industry improvement."

"The FFT group's goal is to raise enough funds to bring in a speaker each semester," Thomson said. "These are not tomorrow's leaders; they're today's leaders. I find the resources and turn them loose."



Food for Thought members met with Temple Grandin after her Upson Lecture. Front row from left: Brandi Buzzard, Grandin, Tawnya Roenbaugh, Chelsea Good, Tera Rooney, and Kiley Stinson.

Back row: Hyatt Frobose, Professor Dan Thomson, Darrel Rezac, Miles Theurer, and Garrett Stewart.

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## Faculty Notes

## **Agricultural Economics**

Officials from K-State and Universiti Sains Malaysia (USM) signed a memorandum of understanding agreement on Nov. 15, 2010, to bring K-State's award-winning master of agribusiness (MAB) to Southeast Asia. Professor Allen Featherstone represented K-State at the ceremony. USM was chosen as a partner university for the MAB program because of its growing reputation in the Asian business industry.

Bryan Schurle, professor, was named College of Ag Faculty for the Fall Semester. He teaches courses on finance, linear programming, econometrics, and principles of agricultural economics. His research includes risk issues and the relationship between size of operation and risk.

## **Agronomy**

**Jim Shroyer**, professor and crops production specialist, has been named a Fellow by the Crop Science Society of America. He is the originator and driving force behind the Kids' Field Day at the K-State Agronomy Farm. He also launched a Web-based resource at www.ksre.ksu.edu/wheatpage/ that includes Adopt-a-Wheat-Field. Guihua Bai, adjunct professor and research molecular geneticist with USDA/ARS, was named a Fellow by the American Society of Agronomy. His research focuses on hard winter wheat molecular breeding and wheat resistance to biotic and abiotic stresses. The Soil Science Society of America (SSSA) honored Gerard Kluitenberg with the Don and Betty Kirkham Soil Physics Award. Kluitenberg's research focuses on the development of thermal sensors for measuring soil physical properties and quantifying water flow in soils.

Associate Professor **Jianming Yu** earned the ASA, CSSA, and SSSA Early Career Professional Award. In addition, the CSSA recognized Yu with the Young Crop Scientist Award.

Charles "Chuck" Rice, university distinguished professor of soil microbiology, has been selected as one of the Top 150 scientists in Kansas. This is part of the "Science in Kansas: 150 Years and Counting" project of the Ad Astra Kansas Initiative in celebration of the Kansas Sesquicentennial. P.V. Vara Prasad, associate professor, and Gary Pierzynski, interim dean of the College of Agricutlure and interim director of K-State Research and Extension, traveled to West Africa. Prasad is the lead investigator for a team with projects in Burkina Faso, Niger, Mali, and Ghana. They worked with in-country cooperators to plan and implement experiments, with a goal of improving yields, ecosystems, and profitability.

## **Animal Sciences and Industry**

Fadi Aramouni, professor of food science, received one of 12 outstanding faculty awards from K-State's chapter of Mortar Board, a national honor society.

**Dave Nichols**, professor and teaching coordinator, was named College of Ag Faculty for the Fall Semester. Mike Tokach, swine nutritionist, was honored as Professor of the Week during the November 6 football game against the University of Texas. Joel DeRouchey, professor, earned the Young Alumni Award from South Dakota State University. He is a member of the K-State Research and Extension applied swine research team and works with state and regional manure-management teams. As a primary or co-investigator, he has received \$1.3 million for applied swine research, \$1.4 million for environmental research and education, \$2.1 million in gifts and gifts in-kind, and has been

## **Communications**

issued one patent.

The department hosted the north central region American Association for Agricultural Education meeting in October 2010. Associate professor **Steve Harbstreit** was elected regional vice president.

## Working Together and Lovin' It

Six family and consumer sciences agents in southwestern Kansas bring collaboration to new levels. Last year, they contacted more than 8,000 Kansans and provided 37,500 hours of education. They also have procured more than \$750,000 in grants. From left: Nancy Honig, Stevens County; Kristin Penner, Haskell County; Christine McPheter, Meade County; Kathy Bloom, Seward County; Crystal Bashford, Morton County; and Mary Sullivan, Grant County.





Eric Atkinson (I to r), K-State Radio Network, and Gary Pierzynski, interim dean of the College of Agriculture and interim director of K-State Research and Extension, present the Communicator of the Year Award to Ward Upham (MS '82 horticulture). Upham, an extension associate in the Department of Horticulture, Forestry and Recreation Resources, coordinates the state Master Gardener program, publishes a weekly Horticulture Newsletter, and runs the Horticulture Response Center. The annual award recognizes a K-State Research and Extension employee who excels at effective communication.

## **Entomology**

David Margolies, is serving as interim department head. Tom Phillips has returned to a faculty position to concentrate on his research. Professor C. Michael Smith, received the Entomological Society of America's Recognition Award, an honor sponsored by Syngenta Crop Protection. His research group has identified numerous genes in barley and wheat plants resistant to the pest aphid Diuraphis noxia, and established that transcriptomes — or total cell RNA of resistant plants are expressed more rapidly and at higher levels than those of susceptible plants.

## **Grain Science and Industry**

Quenten Allen (BS '06 milling science and management) has joined the faculty as milling operations manager for the Hal Ross and Shellenberger flour mills. He previously worked for Kraft Foods-Nabisco as a business unit manager in Fair Lawn, N.J., and as a production supervisor in Toledo, Ohio.

## **Plant Pathology**

named an up-and-comer in virology by the American Phytopathological Society. As part of the award, she presented at the Schroth Faces of the Future Early Career Professionals Symposium on her current research and research priorities for the future. Bikram Gill, university distinguished professor, has four articles listed in the Journal of Heredity's top 100 most cited papers. For more than 90 years, the journal has established and maintained a tradition of scholarly excellence in the publication of genetics research. Gill is working with a team on Hessian flywheat interaction. The project, funded by USDA-NIFA, seeks to develop the physical map for wheat chromosome 6D that will be used to clone the Hessian fly resistance gene H13, which was first identified and mapped at K-State in the 1980s.

Anna Whitfield, assistant professor, was

## In Memorium

Leroy Miller, 93, Wamego, died Aug. 20, 2010. He and his wife Roberta were Master Farmer-Master Farm Homemaker honorees in 1994.

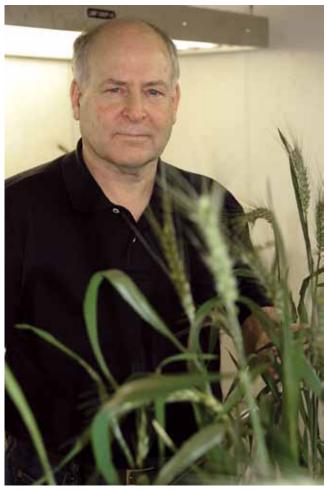
Col. Richard "Dick" L. Jepsen, 85, Manhattan, died Aug. 26, 2010. He was appointed Sheridan County agricultural agent in 1953. In 1961, he was recalled into military service for one year. He returned to Sheridan County until 1963 when he was appointed extension specialist, rural civil defense, in Manhattan. He was appointed extension specialist, farm and home safety, in 1975 and project director, agricultural safety and health center, in 1980. He retired in 1985 as professor emeritus.

## Clifford Randolph "Randy" Biswell,

83, professor emeritus, died Nov. 2, 2010. He began working for the Kansas Forest Service in Manhattan as a district extension forester in 1957. He moved to Hutchinson in 1961, then to Columbus to direct nut crop production. He returned to Manhattan as assistant state extension forester in 1966. He became fire control leader in 1985 and remained in that position until he retired in 1987.

Freda "Kayann" Heinly, 80, Manhattan, died Dec. 26, 2010. She was an associate county home economics agent in Rice County from 1957 to 1968, when she moved to Riley County as the county extension home economist. She retired in 1987.

## **Plant Pathologist Earns Multiple Honors**



Plant pathologist Frank White was honored for his outstanding research and for mentoring graduate students. He was named a Fellow of the American Phytopathological Society, and K-State presented him with one of the 2010 Commerce Bank Distinguished Graduate Faculty awards.

The Commerce Bank award includes a \$2,500 honorarium and is supported by the William T. Kemper Foundation and the Commerce Bancshares Foundation. The other recipient was Susan Brown, professor of biology, whose research is partially funded by K-State Research and Extension.

"I commend the university and Commerce Bank for placing important emphasis on graduate training," White said. "I rely a great deal on the dedicated efforts of many excellent graduate students for progress in our research and consider the award as much a testament to their efforts as mine."

White is an international authority on the molecular basis of plant disease and resistance. He and colleagues have characterized a family of virulence factors that alter the function of plant genes and condition plants for either susceptibility or resistance to disease. The factors represent a new class of proteins that can be injected into host cells where they directly interact with the genetic material of the host and mediate drastic changes in gene regulation.

The research adds a new dimension to the understanding of how microbial processes affect the processes of the organisms with

which they interact. The knowledge of the factors and the host genes that are targeted has application to the design of durable resistance in crop plants as well as providing insight to diseases in plants ranging from wheat to oranges. The research also has implications for human and animal health and biotechnology.

White and postdoctoral fellow Ginny Antony coauthored an article in a recent issue of *Nature* with researchers at three other institutions. The project involves identifying a family of sugar transporters called SWEETS that transport glucose between plant cells.

White and Antony also had an article in the December issue of the journal *The Plant Cell*. They collaborated with researchers from Iowa State University to investigate a second susceptibility gene and its role in the spread of disease.

## **Devlin Named Director of KCARE**



Dan Devlin became director of the Kansas Center for Agricultural Resources and the Environment (KCARE) and Kansas Water Resources Institute in November.

As a K-State Research and Extension specialist for water quality, he developed and delivered educational programs to farm and nonfarm audiences. He has studied pesticide surface water and groundwater movement and developed best management practices for pesticides, particularly atrazine herbicide, for Kansas and the Midwest.

KCARE has projects that delve into air quality, soil conservation and quality, and water quality and quantity. Researchers have focused particularly on the best ways to conserve water drawn from the Ogallala Aquifer, Devlin said.

The center is committed to making sure that research findings are passed along to agricultural producers and others who are interested in learning about producing food while also taking care of the environment, added Devlin.

He recently was named a Fellow of the American Society of Agronomy and received the organization's Agronomic Extension Education Award.

## **Kansas 4-H Leader Selected**



Barbara (Voigt) Stone, a former 4-H member and career advocate for youth development, has been selected as assistant director for Kansas 4-H Youth Development.

For Stone (BS '76 horticulture), the move to Manhattan brings her closer to the 5th generation family farm in Davenport, Neb., where she grew up.

She earned a master's degree in horticultural science at the University of Nebraska, and began a career that combined her expertise in horticulture with youth development education. She later completed a doctorate in post secondary and technological education at Oregon State University.

Stone admits to being passionate about youth development and the land-grant mission.

"The land-grant mission, educating the people, is appealing because it offers accessible, research-based educational opportunities to improve the quality of life," said Stone.

Her career has included assignments in Nebraska, Oregon, Texas, North Carolina, and the National 4-H Headquarters in Maryland.

Stone said she was attracted to the leadership role in Kansas because the state's 4-H programs have a strong legacy — and a compelling future.

The goal, she said, is to nurture timely and effective educational opportunities for Kansas youth as our society and culture evolve.

## Kirkham Recognized by K-State and Crop Society



Professor Mary Beth Kirkham, left, and graduate student Kalai Pidaran check soybean seedlings to see if they are ready to transplant to pots of soil in the greenhouse.

Crop physiologist Mary Beth Kirkham likes to keep a low profile, but this year she had to accept some well-deserved recognition. She received K-State's 2010–11 Iman Outstanding Faculty Award for Research and the Crop Science Research Award from the Crop Science Society of America.

P.V. Vara Prasad, director of K-State's Great Plains Sorghum Improvement and Utilization Center, nominated Kirkham for the Iman award. He wrote, "Dr. Kirkham is one of the very few scientists around the globe who is in the forefront of sciences in multiple disciplines."

Kirkham is an authority in plant water relations. She has written two textbooks, *Principles of Soil and Plant Water Relations*, which she uses in her class, and *Elevated Carbon Dioxide: Impacts on Soil and Plant Water Relations*, which was released in March 2011.

She has been conducting research at K-State on drought resistance in corn, sorghum, and wheat for 31 years. She was the first scientist to document water-potential gradient in tall and semi-dwarf wheat cultivars. Kirkham noted that Kansas may be known for its wheat, but Kansas is the No. 1 U.S. producer of sorghum. She and Kalai Pidaran, agronomy master's student, are growing early- and medium-maturing sorghum in the greenhouse to see how they differ under drought conditions.

Kirkham also studies how crops can absorb heavy metals — such as cadmium, zinc, and lead — from contaminated soil and pass those metals on to the people and animals that eat the plants.

The annual \$5,000 Iman awards are sponsored by the K-State Alumni Association and are made possible through a gift from Dr. Ron and Rae Iman.

## Class Notes

## 1951

Professor emeritus **Miles McKee** (BS, MS '53 animal science) joined the "Wall of Honor" at the 2010 Kansas State Fair. He was nominated by **Pat Koons** (BS '64 animal science).

## 1963

**Dale Rodman** (BS feed science and management) has been appointed Kansas Secretary of Agriculture.

## 1967

**Melvin Thompson** (BS agricultural economics) has served as Kansas agricultural assistant to U.S. Sen. Pat Roberts since 1997.

## 1970

Jerry McReynolds (BS agricultural economics), Woodston, became president of the National Association of Wheat Growers in March 2010.

## 1977

Harry Everett "Spud" Whitney III (BS animal science) presents horse clinics across the United States, Canada, and Australia. He was featured in *America's Horse* magazine and a That's Rural Profile www.kansasprofile.com.

## 1979

Sam Brownback (BS agricultural economics) was elected governor of Kansas in November 2010.

Dwight Jurey (BS agricultural

economics) kept daily notes on farming systems research in Eastern Equatoria, Southern Sudan, while working toward his master's degree from Cornell University in the early 1980s. His blog is posted at dwights-journey.blogspot.com.

## 1981

Lynn Rundle (BS agricultural education, MS '82 adult and occupational education) started 21st Century Grain Processing in 1997 with a group of 375 Kansas farmers. Rundle sold the business to Viterra in August 2010 and left the company after being CEO for 13 years. He was the College of Agriculture Outstanding Young Alumnus in 1999.

## 1984

Kendall McFall (BS milling science and management) and Vaughn Studer (BS '91 animal science) formed Engrain LLC in partnership with McShares Inc.

## 1995

Anne Hazlett (BS agricultural communications) is now chief counsel for Sen. Pat Roberts. She worked as legal counsel to the U.S. House and U.S. Senate agriculture committees during the development of the 2002 and 2008 farm bills.

## 1996

Mike Seyfert (BS agricultural economics) earned a master's degree in public administration from The George Washington University. He is legislative director to Sen. Pat Roberts.

## 1998

Jason Ellis (BS agricultural journalism and animal science) has accepted a position as assistant professor in the Department of Communications.

## 2002

Jennette Becker Rogers (BS '02 agribusiness) and Nick Rogers (BS '04 MIS) announced the birth of their second son, Weston Nicholas, Jan. 8, 2010. Nick is a supply manager at Siemens Wind Power in Hutchinson. Jennette left the USDA Farm Service Agency to stay at home with their sons. Doug Reser (BS '02 agricultural education), who teaches at Rossville High School, was featured on the Channel 7 news on Nov. 29, 2010, as Teacher of the Month.

## 2003

Will Feldkamp (BS '03 agribusiness) is a Kansas Farm Management Association agricultural economist in Beloit.

## **Shannon (Hartenstein) Krueger** (BS agricultural communications

(BS agricultural communications and journalism, MS '06 journalism and mass communications) is the communications coordinator for the K-State Department of Agricultural Economics.

Aaron Traffas (BS '03 animal science), Manhattan, married Diane Poe (BS '04 family studies) on Sept. 25, 2010. He is vice president of technology for Purple Wave. She is a quality improvement specialist for TFI Family Services.

## 2005

Jason Graves (BS horticulture) is the K-State Research and Extension Central Kansas District horticulture agent, serving residents of Saline and Ottawa counties. He is based in Saline County.

## 2006

Ryan Flickner (BS agronomy) is a senior agriculture policy advisor to U.S. Senator Pat Roberts.

Corey Fortin (BS agribusiness and animal science) completed an MS in agricultural economics at the University of Arkansas. He recently took a job as an agricultural development officer with the United States Agency for International Development (USAID). He will be helping implement the U.S. agricultural development strategy in Nairobi, Kenya, for the next two years. Scott Sutton (BS animal science) and his wife, Sara (Doll) Sutton (BS '07 agricultural economics), Weir, announced the birth of their identical twin girls - McKinley and Marley -Jan. 8, 2011.

## 2010

Dalton Henry (BS agricultural communications and journalism) was appointed to the Advisory Committee on Beginning Farmers and Ranchers by the U.S. Secretary of Agriculture.

Wayne Stoskopf (BS agribusiness) is

Wayne Stoskopf (BS agribusiness) is a staff assistant for Rep. Lynn Jenkins, and advises Jenkins on agricultural policy.

Henry and Stoskopf served as K-State student body president and vice president in 2009–2010.

**Tyler York** (BS horticulture) was the field director in southwestern Kansas for Jerrry Moran's senate campaign and now works for the senator as a staff assistant.

## In Memorium

Virgil Bayles (BS '53, MS '54 entomology), 89, Dallas, died Feb. 3, 2011. He served in the U.S. Navy as medic for 11 years. After graduation, he established Bayles Pest Control in New Orleans. He sold the business in 1997.

Bob Dickinson (BS '56 animal science), 76, Gorham, died Sept. 15, 2010. In 1981, he was recognized as the Beef Improvement Federation Seedstock Producer of the Year and in 1996 was honored by the Livestock and Meat Industry Council as Stockman of the Year.

Fred C. Germann (BS '49 animal science), 89, Junction City, died Sept. 17, 2010. He owned Humboldt Haven Farms and bred Duroc hogs. He was a founding member of the Livestock and Meat Industry Council and was named its 1989 Stockman of the Year. His portrait hangs in the Kansas Cowboy Hall of Fame in Dodge City. He is the only person to serve as president of both the Kansas Livestock Association and the Kansas Pork Producers Council.

Loys Guest (BS '49 animal science, MS '57 education), 86, Manhattan, died August, 20, 2010. He received his teaching certificate from Washburn University. He taught in Riverside, Calif.; Topeka; and Eugene Field and Lee elementary schools in Manhattan.

Carl Jacob Knauss, Jr. (BS '52, MS '53 agronomy), 81, Kent, Ohio, died Sept. 9, 2010. He worked at Lehigh University in Bethlehem, Pa., for 11 years, then joined Kent State University's Rheology and Coating Research Chemistry Laboratory. He retired as associate director.

William V. "Bill" Van Skike (BS '50 animal science), 87, Great Bend, died Nov. 29, 2010. He worked for the Kansas Cooperative Extension Service as an agent in Republic, Clay, Finney, and Barton counties from 1950 until his retirement in 1989. His son, Keith, is a K-State Research and Extension agent in Twin Creeks District.

## K-State Beef Conference Speakers



These experts presented at the 2010 K-State Beef Conference (I to r): Greg Henderson (BS '80 agricultural journalism, MS '87 journalism and mass communication), Vance Publishing; Kenny Knight, Knight Feedlot; Justin Waggoner (BS '00, MS '01 animal science), K-State Research and Extension beef systems specialist; Kevin Dhuyvetter (PhD '99 agricultural economics), K-State professor of agricultural economics; Tom Brink (BS '83, MS '85 animal science, BS '87 agricultural economics), Five Rivers Cattle Feeding; Mark Harmon, Joplin Regional Stockyards; Paul Branch, Superior Livestock; Rich Porter (BS '72 chemical engineering, '04 master of agribusiness), Porter Farms; and Sam Hands (BS '70 animal science), Triangle H Cattle Co. The 2011 Beef Conference will be August 16.

## Hands Chosen as Distinguished Animal Sciences Alumnus

Sam Hands (pictured above, far right) was named the 2011 Distinguished Alumnus by the Department of Animal Sciences and Industry for his achievements in agriculture and industry leadership. While on campus to receive the award, he gave three presentations to classes and visited with department faculty and leaders in the College of Agriculture.

Hands has served as president of the Livestock Marketing Information Center, Finney County Farm Bureau, and Beef Empire Days. He has received the Beef Improvement Federation's Commercial Producer of the Year, Certified Angus Beef's Feedlot Performance Champion, and Block and Bridle Stockman of the Year.





## Entomology Department Honors International Leader

When Kanayo Nwanze learned that he would be traveling from his native Nigeria to attend graduate school in the United States, he decided to research Manhattan. There was no Internet, no Google search to show him what to expect. He did find some books with references to Manhattan and its huge skyscrapers. Much to his surprise, there were no skyscrapers — only huge snow drifts— when he arrived in Manhattan, Kan., in January 1972.

Kanayo Nwanze shared stories of his student experiences in October 2010 when he returned to K-State to accept the Distinguished Alumnus Award from the Department of Entomology.

He completed a master's degree in 1973 and a doctorate in 1975, both in entomology at K-State. Since then, Nwanze has compiled more than 30 years of experience across three continents in poverty reduction through agriculture, rural development, and research.

Nwanze now lives in Rome, Italy, where he serves as president of the International Fund for Agricultural Development (IFAD), a specialized agency of the United Nations. In recognition of his leadership on food security issues, he was asked to chair the World Economic Forum's Global Agenda Council on Food Security in 2010.

Before his position at IFAD, Nwanze was director-general of the Africa Rice Center for a decade. He was instrumental in introducing and promoting New Rice for Africa, a highyield, drought- and pest-resistant rice variety developed specifically for Africa.

Nwanze also has held senior positions at a number of research centers affiliated with the Consultative Group on International Agricultural Research (CGIAR) in Africa and Asia, and he was instrumental in establishing the Alliance of CGIAR Centers.

During his visit to campus, Nwanze met with faculty — especially those involved with international agricultural programs — and entomology students.

Nwanze also got a chance to see how the K-State campus has changed. He toured the U.S. Department of Agriculture/Agricultural Research Service Center for Grain and Animal Health Research, the Biosecurity Research Institute, the Bio-Processing and Industrial Value-Added Program building, and the Insect Zoo.

Opposite page: Distinguished alumnus Kanayo Nwanze holds a walking stick during his tour of the K-State Insect Zoo with entomology professor Tom Phillips.

At right: Kanayo Nwanze visits with his former professors Robert Mills, left, and Ted Hopkins.

He presented a seminar on the "Role of Agricultural Research in International Food Security" for K-State students and faculty. During the seminar, Nwanze attributed much of his success to his K-State education.

As a young man, I thought the greatest joy would be to get my diploma, buy a new car, and get married. I learned that the greatest joy in life is giving happiness to someone else.

"Professors Hopkins and Mills helped shape my life," said Nwanze as he nodded to Ted Hopkins (PhD '60 entomology) and Robert Mills (BS '49 zoology, PhD '64 entomology), who were seated in the audience.

"Kanayo was a really bright student and a good person," Hopkins said. "It's good to see how he has used and continues to use the training he received. I'm proud of his accomplishments."

Associate professor Tim Dalton specializes in international agriculture development. He encouraged his students to attend Nwanze's seminar. Andrea Granger, one of Dalton's students, offered her response.

"Often research is done without considering cultural variables," said Granger, an agricultural economics graduate student. "However impressive the findings may be, if the researcher didn't take time to study the people and culture of the region, the research is useless. I feel this is important advice for any young researcher to make an impact in the area he or she is studying and make a true difference.

"Dr. Nwanze said he believes that research should be geared to bring joy to another person. It was refreshing to be reminded that research — no matter how mundane it can be at times — can alleviate burdens and provide happiness to another."

"As a young man, I thought the greatest joy would be to get my diploma, buy a new car, and get married," said Nwanze. "I learned that the greatest joy in life is giving happiness to someone else."





## Alumni Fellow Shares Experience

Jerry Hatfield, director of USDA's Laboratory for Agriculture and the Environment and a member of the Intergovernmental Panel on Climate Change process that received the 2007 Nobel Peace Prize, was selected as the 2011 College of Agriculture Alumni Fellow.

Hatfield, a Wamego native, earned his bachelor's degree from K-State in 1971 and a master's degree from the University of Kentucky in 1972, both in agronomy. He completed his doctorate at Iowa State University in 1975 in agricultural climatology and statistics.

He served on the faculty of the University of California-Davis as a biometeorologist from 1975 to 1983, then joined the USDA/Agricultural Research Service in Lubbock, Texas, as the research leader of the Plant Stress and Water Conservation Research Unit. In 1989, he was appointed laboratory director of the National Soil Tilth Laboratory in Ames, Iowa, which was renamed the Laboratory for Agriculture and the Environment in 2009.

The college has previously honored Hatfield with the Distinguished Service Award in 2002 and as the Gamma Sigma Delta Outstanding Alumnus in 2005.

He continues to serve on the IPCC special committee to evaluate the impact of extreme events on ecosystems.

Hatfield spent two days on campus lecturing to classes and meeting with students in the Wheat State Agronomy Club. Several agronomy club members also heard Hatfield lecture to professor Mickey Ransom's Soil Genesis and Classification class.

"Dr. Hatfield has a very good way of relating and getting life lessons across," said Amy Vu, senior from Overland Park. "He makes me proud to be a K-Stater. I think it's easy for him to relate where we are now. It gives me, and I'm sure the students around me, hope for our future — not just for our future jobs — but also for the future of agriculture."

Matti Kuykendall, junior from Osage City, said, "Being exposed to people who have accomplished so much in their careers just reinforces that K-State is a great place to receive an education. It makes all the time and money spent on classes worthwhile. I think it's great that the Alumni Fellows are able to reach out to students and guest lecture while they are in Manhattan. It spices up the day-to-day lecture routine with a glimpse at our potential."

During his lecture "Soil Formation: The Impact of Modern Practices," Hatfield shared a case study with students. He also offered examples of how producers he works with are using various methods to improve the soil and crop yields.

"Being able to hear about new industry topics and issues was great," said John Jones, sophomore from Rio, Wis. "He gave us, as future professionals, great insight on the importance of soil management. It was very interesting to listen to all of the applicable knowledge he has on climatic impacts on production agriculture."

To hear an interview with Jerry Hatfield, go to http://www.ksre.ksu.edu/hatfield.



Alumni Fellow Jerry Hatfield lectures to agronomy students in professor Mickey Ransom's class.

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Yes, I will attend Wild4Ag Weekend in I	Manhattan
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## Saturday, May 7

☐ Awards Reception

Number \_\_\_\_\_\_ No charge

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Number \_\_\_\_\_x \$25 =

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☐ Enclosed is a check made payable to the KSU Foundation

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College of Agriculture Alumni Association Kansas State University 117 Waters Hall Manhattan, KS 66506-4015 or contact Sandy Klein 785-532-5121 or sandy@ksu.edu. Reservations are due April 30, 2011.



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