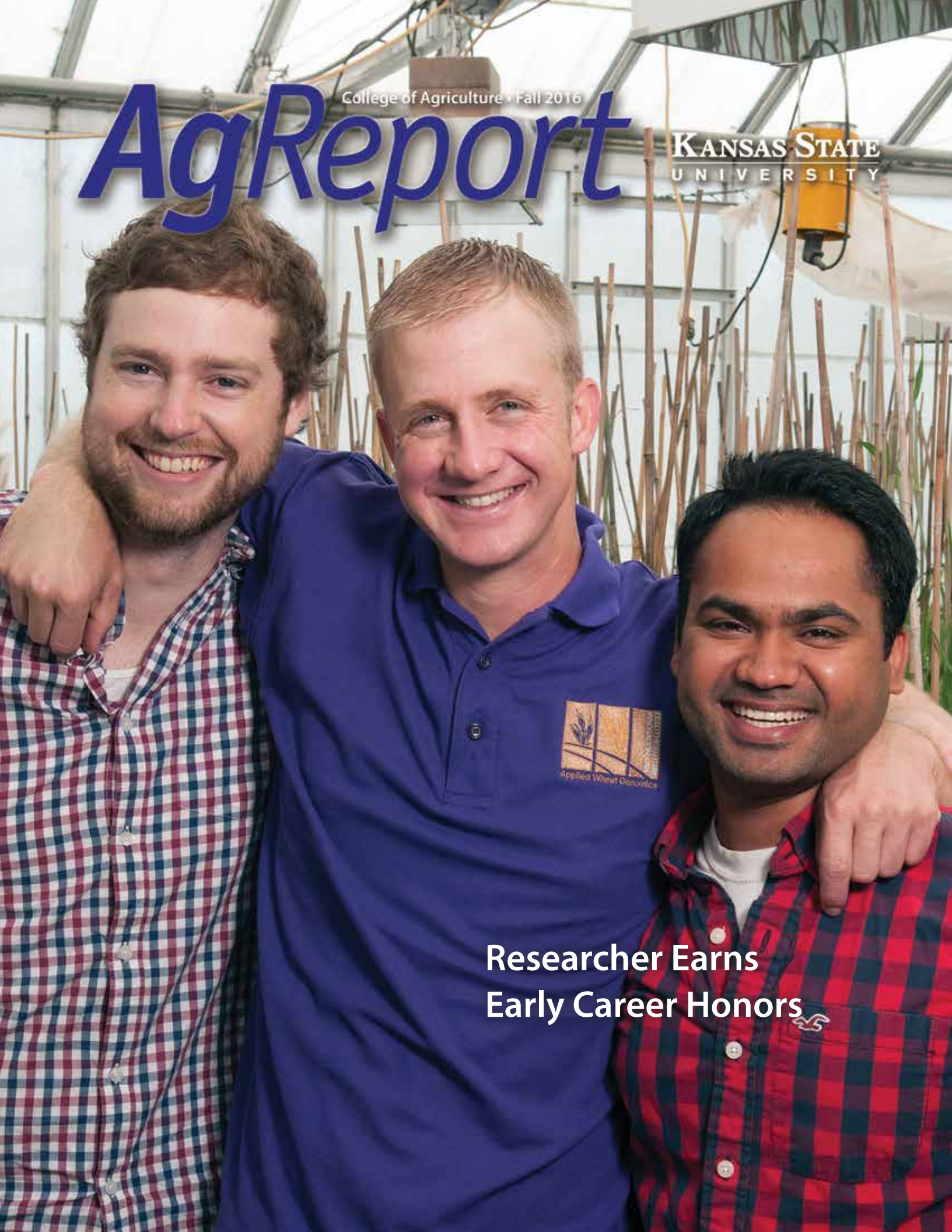
College of Agriculture • Fall 2016

AgReport

KANSAS STATE UNIVERSITY



Researcher Earns Early Career Honors

Reflecting on Recent Progress

Now in my fifth year as dean and director, I paused to review progress across the College of Agriculture and K-State Research and Extension.

Student Success

Of course students immediately come to mind. Our enrollment has stabilized after about 13 years of steady increases. The last four years rank as the four highest enrollments in the college's history, and agriculture student numbers are now about 50 percent higher than 7–8 years ago.

I can site similar statistics for student retention and success. Even with such increased student numbers, job placement remains as high as ever, about 96–97 percent.

As shown elsewhere in this magazine, our students are continually recognized for their success in the classroom, research labs, and as leaders across campus. Our many competition teams allow students to put what they learn in the classroom into practice and help build networks for internships and job opportunities. Our excellent faculty prepare students to meet the challenges of the future.

The quality of our faculty is recognized on campus, across the country, and internationally. They are frequently invited to address, serve on, and chair national committees and organizations. Their expertise and contacts enhance the classroom experience for students.

Research and Extension

We successfully compete for and obtain grants in areas important to Kansas, including developing more drought-resistant crops, preserving the Ogallala Aquifer, and improving water quality.

Our focused research areas also include precision agriculture, beef and dairy cattle production, swine nutrition, food safety and security, local foods, agribusiness and risk management, pest and disease management, and post-harvest grain storage and processing. Collectively, last year, our faculty brought in almost $60 million to support their programs, an astonishing increase of about 250 percent compared to 5 years ago.

Through our statewide network, K-State Research and Extension personnel are sharing our research results directly with Kansans. We constantly look at more efficient ways to communicate with new audiences, while also serving our longtime stakeholders. We recently rolled out a new "4-H Grows Here" campaign to reach more Kansas youth.

Global Efforts

K-State now boasts four Feed the Future Innovation Labs — Collaborative Research in Sorghum and Millet, Applied Wheat Genomics, Reduction of Post-Harvest Loss, and Sustainable Intensification — with more than $100 million in funding from the U.S. Agency for International Development. With four FTF Innovation Labs, K-State stands at the top nationally, second only to the University of California, Davis.

Generous Support

With help from our students, alumni, and friends, our fundraising efforts have grown tremendously. During the last 4–5 years, we have raised $10–15 million per year to support students, faculty, and many other programs, an amount 2–3 times higher than before.

Our third annual Henry C. Gardiner Global Foods System Lecture on October 3 will feature Professor Jay Famiglietti from the University of California, Irvine, who will discuss *Water, Food, and Energy: Interwoven Challenges to Sustainable Resource Management*. The lecture series, free and open to the public, offers diverse views to enrich our students' understanding of important food systems topics.

I'm proud of what we have accomplished and look forward to continued success.

John D. Floros

John D. Floros
Dean and Director

Make a difference by supporting the College of Agriculture.

Visit *www.found.k-state.edu/agriculture*

to find out how you can become part of the college's exciting future.

AgReport

Fall 2016

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

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Contents

On the cover: Jesse Poland (center), assistant professor of plant pathology, recently received the 2016 Early Career Scientist Award from the National Association of Plant Breeders. Trevor Rife (left) and Narinder Singh, two of Poland's Ph.D. students, nominated him for the award. More on page 18. Photo by Dan Donnert

Find more information and view previous issues online.

Department chooses new name

KANSAS STATE UNIVERSITY | Horticulture and Natural Resources

One of the oldest departments on the Kansas State University campus has a new name. In April 2016, the Kansas Board of Regents officially approved changing the Department of Horticulture, Forestry and Recreation Resources to the Department of Horticulture and Natural Resources.

The department was formed in 1871 when the Agriculture Science College was split into the Horticulture Department and the Farm Department. Over the years, the horticulture unit has been merged with a variety of disciplines, including botany, entomology, landscape architecture, and forestry.

Currently, the department offers three undergraduate programs — horticulture, park management and conservation, and wildlife outdoor enterprise management — plus M.S. and Ph.D. degree programs across all disciplines.

"The faculty had discussed a name change for several years and voted in December 2015 to proceed with the Department of Horticulture and Natural Resources," said Candice Shoemaker, department head.

"The Kansas Forest Service continues to be a part of our department," explained Shoemaker.

Draper chosen to lead plant pathology department

Martin Draper, former national program leader for plant pathology/ integrated pest management for USDA/National Institute of Food and Agriculture, recently joined the K-State faculty as head of the Department of Plant Pathology.

A native of Iowa, Draper received his B.S. degree from Iowa State University and M.S. and Ph.D. degrees from North Dakota State University.

He was the plant pathologist and disease-free potato seedstocks manager at the North Dakota State Seed Department then director of the Plant Pest Diagnostic Laboratory and Seed Health Testing Laboratory.

In 1997, Draper became an extension plant pathologist at South Dakota State University. He accepted the position with USDA/NIFA in 2006.

"As I looked at where to go at this stage of my career, K-State was high on the list because of the department's reputation and the strength of the university," Draper said. "I also appreciate how well research and extension work together at K-State."

He said his short-term goals would be to get to know the faculty and learn more about the department.

"Long-term goals will be developed with faculty and producer input," said Draper.

Coming into a department with a strong reputation, he said his main objective is to look at gaps in expertise and to build strong teams.

A 'Fitbit' for plants?

K-State researchers have developed a tool called the Phenocart to capture essential plant health data. It measures plant vital signs such as growth rate and color, the same way a Fitbit wristband monitors human health signals such as blood pressure and physical activity.

In a field experiment with thousands of plots, the Phenocart is a quick and portable way to evaluate plant health. It also can help plant breeders design larger experiments.

"Larger sample size gives you more power," said Jesse Poland, assistant professor of plant pathology. "Measuring phenotypes is very labor-intensive and really limits how big of an experiment we can do."

The new tool allows for faster measurements and accelerates the breeding process. The Phenocart also can be outfitted with different sensors depending on what the scientists want to measure, including a sensor to measure how "green" their plants are, Poland said.

"The measure of vegetation index or 'greenness' is really the easiest and more straightforward way to measure the overall health status of the plant," Poland said.

Read more about Phenocart.

Multicultural Fellowship Program marks 10th year

K-State Research and Extension Multicultural Fellows visited the Riley County office to meet with local agents. From left: Ginny Barnard, family and consumer sciences agent; Amber Brown; Marie Armstrong; Briana Austin; Jennifer Wilson, county director; Gregg Eyestone, horticulture agent; Philecia Biggs; and Raymee Johnson.

For the 10th year, K-State Research and Extension welcomed students who attend 1890 and 1994 land-grant institutions and Hispanic serving institutions to the Manhattan campus for an eight-week summer fellowship.

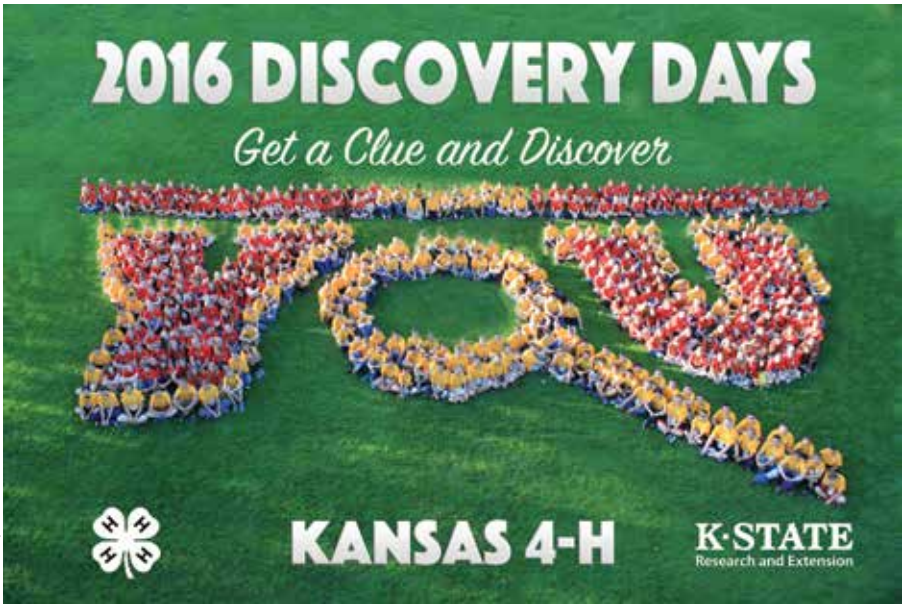
Goals for the program include increasing recruitment and retention of domestic multicultural students, establishing mentor relationships to ease students' concerns about graduate school, and determining the factors that influence decisions to pursue graduate degrees in agricultural sciences.

The program has recruited 48 fellows from 18 institutions. After completion, 33 percent applied to K-State for graduate school, with 50 percent accepted. So far, six have completed K-State graduate degrees.

This year, five students — Amber Brown and Raymee Johnson, Fort Valley State University; Marie Armstrong, Prairie View A&M University; and Briana Austin and Philecia Biggs, North Carolina Agricultural and Technical State University — worked closely with K-State faculty on research projects related to their chosen fields.

The students, their projects, and mentors: **Amber Brown**, *Determining the monetary value of soil carbon in the Great Plains region*, Charles Rice, university distinguished professor of agronomy, and 2011 multicultural fellow Tiffany Carter (M.S.'14 grain science), agronomy graduate student;
Raymee Johnson, *Case studies regarding agricultural economics*, Keith Harris, assistant professor, and Yacob Zereyesusm, research assistant professor, agricultural economics;
Marie Armstrong, *Parent-child interactions: Interrelations of qualitative and quantitative analysis in the context of smartphone screen time*, Bradford Wiles, assistant professor, family studies and human services;
Briana Austin, *Standard operating procedure for validating temperature in piglets*, Lindsey Hulbert, assistant professor, animal sciences and industry, and Gabi Hernandez, California Polytechnic State University;
Philecia Biggs, *The effects of time and temperature on the firmness of nonfat dairy milk*, Karen Schmidt, professor, and Karolina Sanchez Alan, intern, animal sciences and industry.

Each student presented her research findings on July 28.



Courtesy Kansas 4-H

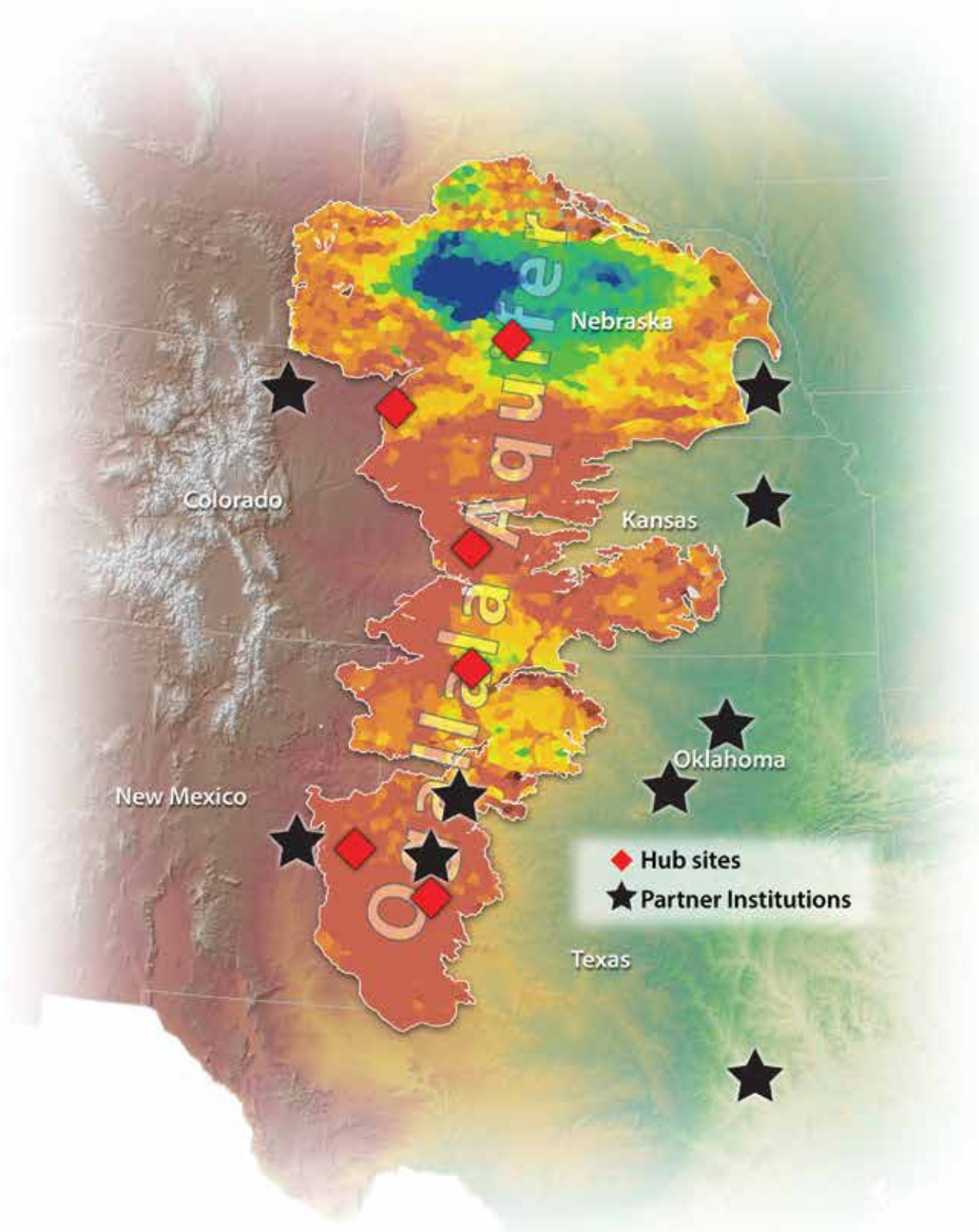
Get a Clue and Discover You was the theme for the 92nd Discovery Days (May 31–June 3) that brought 506 youth and adults to the K-State Manhattan campus.

The Kansas 4-H event offered more than 60 classes covering topics from Beef Quality Assurance to Choosing and Evaluating Photography and Junk Drawer Robotics to How Wheat Varieties Are Developed.

The varied classes often spark an interest that evolves into a career.

K-State alumna Tess Brensing said she first became intrigued with food science at Discovery Days. She completed degrees in food science and industry (B.S.'09, M.S.'11) and now is a technical products manager for ADM Milling.

On June 2, more than $70,000 in college scholarships for the 2016–17 academic year were awarded to 67 4-H members at the Emerald Circle Banquet.



Research Brings Expertise Together

A multidisciplinary coalition of experts from Colorado State University, Kansas State University, six other institutions, and the Agricultural Research Service are working together to optimize groundwater usage in the Ogallala Aquifer region.

The aquifer serves as the main source of agricultural and public water for western Kansas and parts of seven other Great Plains states. Because water from the Ogallala Aquifer region, or OAR, supports 30 percent of total crop and animal production in the U.S., the rapid decline of the aquifer level creates a problem for all of Kansas, the Great Plains, and the nation.

To address the issue, the U.S. Department of Agriculture/National Institute of Food and Agriculture funded $10 million over four years for a Coordinated Agriculture Project grant for innovative research and extension activities.

The group will study how agriculture within the region can adapt to declining water levels and improve water use efficiency, said K-State team coordinator Chuck Rice, university distinguished professor of soil science and Mary L. Vanier university professor.

In addition to leading the K-State team, Rice will study the impact of soil management practices as producers change to limited irrigation, alternative crops, or dryland systems.

Irrigation options

Because more than 90 percent of the water pumped from the Ogallala Aquifer is used for irrigated agriculture, the K-State team includes three irrigation experts — Danny Rogers (B.S.'76, M.S.'77), professor and extension irrigation specialist; Jonathan Aguilar (Ph.D.'09), water resources engineer; and Isaya Kisekka, irrigation engineer.

They will develop and identify the best irrigation technologies, cropping system management practices, and decision-support tools to improve water use efficiency. Aguilar and Kisekka are both based at the Southwest Research-Extension centers near Garden City and Tribune, where the Kansas test sites are located.

"This project will support many of the research and extension needs identified by the governor's Water Vision process," said team member Dan Devlin, director of the Kansas Center for Agricultural Resources and the Environment. "It is also an indication of the nationally recognized water resources expertise of K-State faculty."

Adapting to change

"One of our primary goals within this project is to take a broad, in-depth look at how agricultural producers, landowners, and other stakeholders can become more adaptive and resilient to changing water and climatic conditions in the Ogallala Aquifer region as a whole, and western Kansas in particular," Rice said.

"The Ogallala Aquifer is critical to the state of Kansas and the region's agricultural economy."

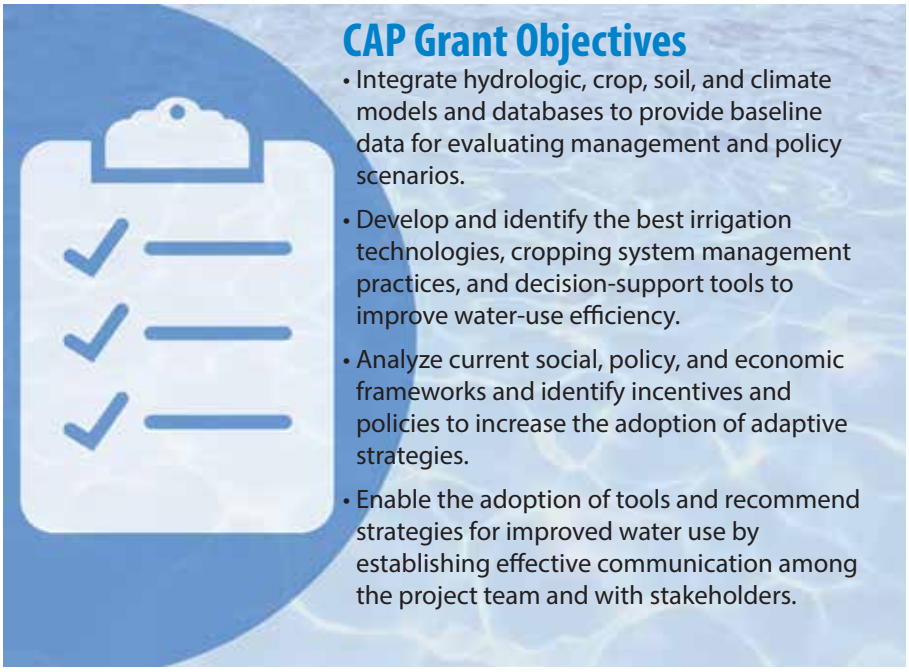
State climatologist Xiamao Lin will contribute to climate data and projections. Vara Prasad — university distinguished professor and director of the U. S. Agency for International Development Feed the Future Sustainable Intensification Lab — will look at how different crops respond to changes in water availability and management practices to optimize crop yields under declining water resources.

Sociologist Matthew Sanderson and agricultural economist Bill Golden will identify social and economic barriers to adoption and evaluate the impacts of various best management practices (BMPs) on water use. They also will explore the impact of groundwater conservation policies and BMPs on aquifer levels and regional economies.

In addition to lead institutions Colorado State University and Kansas State University, others involved in this project include the University of Nebraska, Lincoln; Oklahoma State University; New Mexico State University; Texas Tech University; West Texas A&M University; Texas A&M AgriLife; and the USDA/Agricultural Research Service.

"The Ogallala Aquifer is critical to the state of Kansas and the region's agricultural economy," said John Floros, dean of the College of Agriculture and director of K-State Research and Extension.

"USDA/NIFA recognizes the importance of the Ogallala to the nation's agriculture and has chosen this team of experts to lead efforts to prolong the use of the aquifer for future generations."



Celebrating 50 Years of Distance Education

For half a century, Kansas State University Global Campus has helped make a K-State education more accessible to adult learners worldwide. Advancements in educational technologies and collaborative partnerships on campus and beyond have brought K-State courses, degrees, and professional development to both individuals and industry.

K-State Global Campus began at the roots of the university land-grant mission of extension programming with a commitment to make research-based information available beyond the university campus.

To provide credit opportunities for working adults and professional development through conferences and noncredit programs, K-State formed the Department of Continuing Education.

It separated from extension in 1966 and became the Division of Continuing Education. In 2014, the division was renamed K-State Global Campus to better reflect its global reach and breadth of educational options.

"The K-State Research and Extension initiative often helps get something started, which later develops into a successful stand-alone program," said Daryl Buchholz, associate director of extension and applied research. "K-State Global Campus continues advancing the initiative."

Today, K-State Global Campus has students in all 50 states and international connections and partnerships with 20 countries. More than 70 distance programs include bachelor's, master's, and doctoral degrees; graduate and undergraduate certificates; and minor programs.

The College of Agriculture and K-State Research and Extension have maintained close ties with K-State Global Campus. Here are a few highlights of their collaborative efforts.

Food science shares golden anniversary

About the same time that K-State Global Campus was getting started, faculty in the Department of Animal Sciences and Industry developed a food science graduate degree followed by an undergraduate degree in 1972.

To serve the specific needs of U.S. Department of Agriculture food technologists, the distance education food science undergraduate certificate program was initiated in 1986. The program now offers a B.S. in food science and industry, an M.S. in food science, undergraduate certificate in food science, and graduate certificate in food safety and defense.

"The industry repeatedly comes to us to have their employees involved in the program, and most companies pay for those students' tuition and fees," said Curtis Kastner, director of the Food Science Institute, or FSI.

Kastner explained that the program has grown about sevenfold since FSI was formed in 2001. He anticipates continued growth to provide qualified applicants for open industry positions.

For more information about the institute, visit *foodsci.k-state.edu.*

MAB — First of its kind

In 1996, the Department of Agricultural Economics initiated the Master of Agribusiness — the first agribusiness graduate program in the nation to be offered via distance education.

Current students and alumni reside in 40 states and 30 foreign countries and represent every segment of the food chain. Students complete the program in two and a half years while working full-time, often moving frequently.

The program has won numerous honors, including awards from the American Distance Education Consortium and the University Continuing Education Association/ Peterson's Award for most innovative distance education program and best new for-credit education program.

For more information about the MAB program, go to *mab.k-state.edu.*

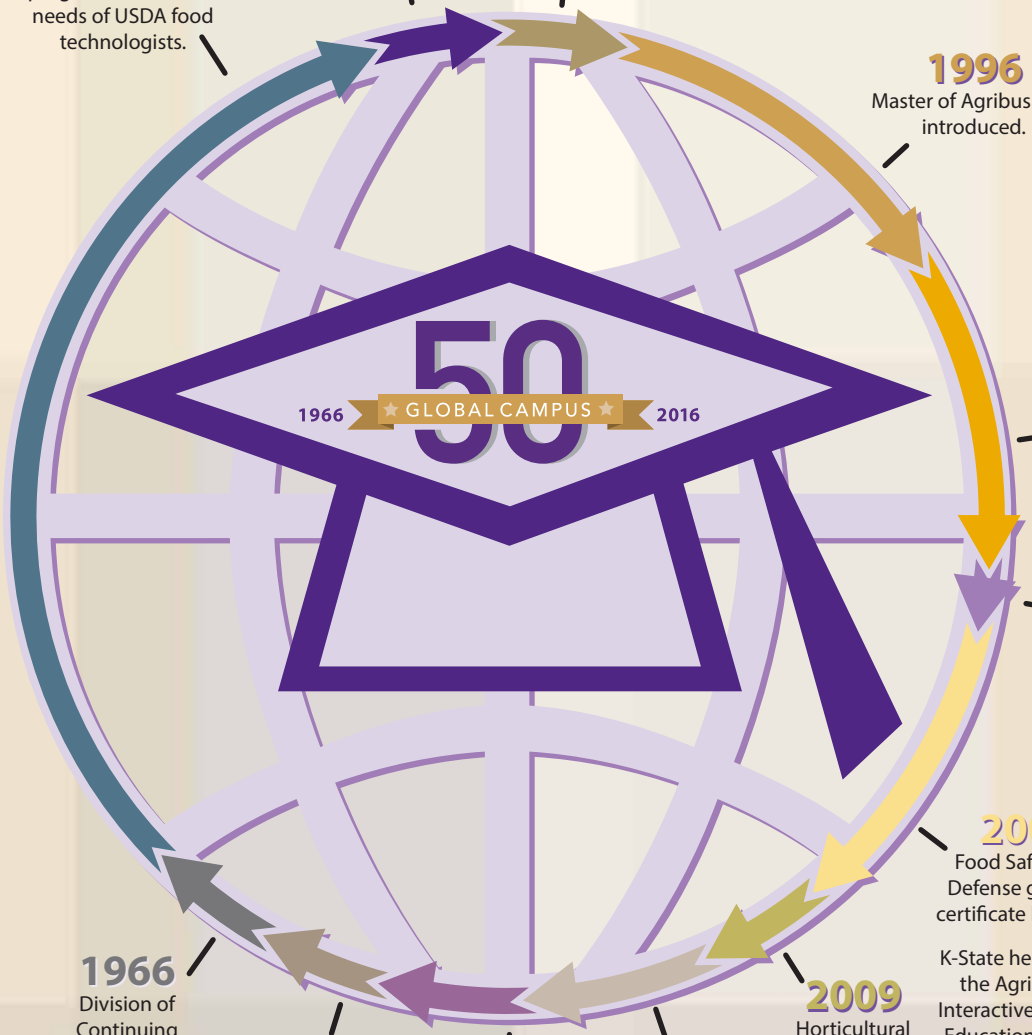
Sharing resources

Through the Interactive Distance Education Alliance, a consortium of universities share teaching resources. For example, K-State and six universities across the United States teach online classes through AG*IDEA for the master's degree in agricultural education and communication.

Looking to the future

Delivering education to professionals in Kansas continues to change and evolve. K-State Global Campus forges ahead into the next 50 years determined to bring new educational options and delivery methods to place-bound students and professionals, no matter their location.

For more information, go to *global.k-state.edu/ag*.



1966
Division of Continuing Education formally established by Kansas Board of Regents.

1986
Food Science distance education courses marked the beginning of the food science undergraduate certificate program to serve the needs of USDA food technologists.

1988
DCE began to relocate to 1615 Anderson, formerly located in the Wareham building and the third floor of Umberger Hall.

1990
Animal Sciences and Industry bachelor's degree program established.

1996
Master of Agribusiness introduced.

2001
Great Plains Interactive Distance Education Alliance (IDEA) youth development graduate program prepares youth development workers.

2002
Food Science master's degree first offered.

2007
Food Safety and Defense graduate certificate launched.

K-State helped form the Agriculture Interactive Distance Education Alliance (AG*IDEA), a consortium of 23 institutions.

2009
Horticultural Therapy graduate certificate launched.

2012
Servicemembers Opportunity Colleges Army Degree (SOCAD) agreement is signed to help soldiers complete a bachelor's degree in food science and industry.

2012
Master's degree in Agricultural Education and Communication offered through AG*IDEA.

2014
College of Agriculture Scholarship for Distance Education Students established.

Renamed Global Campus

Learning in the Pits

Why would college students travel across the country to spend hours in a soil pit? They are aspiring soil scientists applying what they learned in the classroom at a national competition.

Twenty-three teams qualified at their regional events to compete at the 2016 National Collegiate Soil Judging Contest in Manhattan last April.

As the host institution, Kansas State University could not compete at the event. K-State last hosted the contest in 1968. They were national champions in 2008 and 2009.

Mickey Ransom, professor and coach of the K-State Soils Judging Team, oversaw the contest. He, graduate student Michelle Scarpace, and Kim Kerschen, instructor and academic coordinator, spent more than a year preparing for the contest. Kerschen (B.S.'12, M.S.'14), was a member of the 2009 K-State national championship soil judging team.

Ransom explained how the contest works. Participants compete as teams and individually. Being in the 4- to 5-foot pits allows students to see exposed layers or horizons of soil. They identify soil properties and rate whether the soil would be good for various uses such as urban development or rangeland. Students compare soil colors to charts and determine soil properties, including sand, silt, and clay.

All the judges were from the U.S. Department of Agriculture/Natural Resources Conservation Service. Agronomy faculty and graduate students served as pit monitors during the contest. They were in charge of rotations and made sure everyone complied with the rules.

"The contest reinforces what's learned in the classroom," Ransom said. "It has practical application that transfers well for a variety of good jobs."

Coach's perspective

"Mickey Ransom and his team planned, prepared, and delivered a well-organized contest that provided learning opportunities for the students and coaches alike," said Jim Thompson, coach from West Virginia University.

Thompson said a comprehensive website and frequent communication helped prepare the coaches and students for the contest.

The Virginia Tech team discusses a practice pit at the Rannells Flint Hills Prairie near Manhattan. The contest involved 17 practice pits at five locations.

A student from Virginia Polytechnic Institute and State University completes a description of soil properties at a practice pit on Rannells Flint Hills Prairie.

Agronomy Department Hosts National Contest

In addition to educational practice sites, activities such as a tour of the Konza Prairie Biological Station and social events helped the students learn about the local soils and land use, which broadened their understanding and deepened their appreciation for soils and soil science, added Thompson.

Student roles

Members of K-State's Wheat State Agronomy Club helped with whatever needed to be done — digging practice pits, checking practice sites before the event, greeting teams, preparing awards, or doing set up and take down for events. They also hosted an ice cream social with lots of Call Hall ice cream.

DeAnn Presley, associate professor of environmental soil science and management, and Peter Tomlinson, assistant professor and extension specialist of environmental quality, monitor a soil pit.

Mickey Ransom (right), professor and soils judging team coach, explains contest procedures to John Galbraith, who coaches the Virginia Polytechnic Institute and State University team.

"Since I have been a collegiate judger for three years, I have gotten to know several students from other schools," said Erin Bush, senior in agronomy from Indiana. "Soil judging is a great opportunity to make connections with students across the country, especially when they have the same goals and passions as myself."

K-State students Logan Evers, Morgan Witt, and Bush "competed" in the alternate pits. Typically, there are no alternate pits, so only four people from each team can compete.

"Dr. Ransom made sure every student could be part of the competition, even if the scores didn't count. I loved that," Bush said.

Bush has participated in three regional and two national collegiate contests, a North American Colleges and Teachers of Agriculture competition in Minnesota plus the international contest in Hungary last September, where she took fourth place.

"Soil judging in 8th grade got me to where I am today," said Bush. "Who knew I would end up soil judging on a college level three states away from my Indiana home? It also has given me opportunities to look for good jobs and has guided me to pursue a graduate degree, which I will begin in January 2017 under Dr. Ransom."

Jim Thompson, West Virginia State University coach, summarized the event by saying, "The selfless dedication of Mickey Ransom and his team to soil judging and the clear commitment from the K-State Department of Agronomy to this event made it both enjoyable and memorable."

Kansas Forest Service training invaluable for firefighters

Preparation Pays Off

When Kansas Forest Service fire staff began its annual Hazardous Fuels Mitigation Project training in Hutchinson, the team had no idea they would soon be fighting the Anderson Creek Fire, one of the largest fires in Kansas history.

Rodney Redinger, training specialist; Ross Hauck, fire program coordinator; Jason Hartman, fire protection specialist; and Eric Ward, excess property manager, were training 86 people — both Hutchinson Community College students and experienced firefighters — to reduce fuels on public lands adjacent to property that could be harmed in a wildfire.

The plan changed when a wildfire broke out in Woods County, Oklahoma. Warm, dry air and extremely high winds pushed the Anderson Creek fire into Comanche and Barber counties in Kansas.

Christopher "Chip" Redmond, K-State incident meteorologist, noticed the fire on radar and alerted the training team. The next day, Comanche County requested their assistance to manage the wildfire. By afternoon, equipment and volunteers were packed and headed to coordinate with the Oklahoma response team.

Redinger served as incident commander. He described his job as "rigidly flexible," adapting to needs while keeping the chain of command intact.

The first job was to assess the situation. In addition to coordinating nearly 500 people and monitoring the fire and structures in its path, volunteers needed food and a place to sleep between shifts, trucks required fuel, and livestock needed feed. Medicine Lodge in Barber County had just completed a new facility that worked perfectly as an emergency operation center.

Volunteers arrived from 100 of the 105 counties, most with equipment and no expectation of being reimbursed. Kyle Jacobs (B.S.'13 agricultural education), who teaches at South Barber High School, was among the volunteer firefighters.

"Kansas Forest Service resources helped tremendously," Jacobs said. "The extra staff and equipment that they were able to bring in helped out beyond belief."

Jacobs has attended various trainings like the mitigation training in Hutchinson. He said, "My father, Jim, is a volunteer firefighter and retired teacher, and I wanted to be like him. There have been several times that we have been right there side by side fighting together."

The Anderson Creek fire consumed 367,620 acres, countless miles of fencing, herds of livestock, and several structures. Amazingly, there were no serious human injuries.

The team evaluated the event to see if they need to adjust their training. They hope they won't get a call, but they want to be ready.

The Kansas Forest Service team worked closely with the Army National Guard, the Adjutant General's group, the Kansas Department of Emergency Management, and local volunteers. As a thank you to the community for their kindness and hard work, the team planted an Oklahoma redbud at a church in Medicine Lodge.

Learn more about the Kansas Forest Service at *kansasforests.org*.

Courtesy of Kansas Forest Service

Kansas Forest Service Incident Response Crew 1, Squad Bravo: (seated, l to r) Crew Boss Trainee Ryan Schmidt, Iowa, and Aaron "AJ" Mattson, Hutchinson Community College. (Standing, l to r) Susan Buckley, K-State agronomy graduate research assistant; Jeremy Cox, HCC; Nicholas Snavely, HCC; Crew Boss Adam Robinson, Johnson County; Michael "Mick" Piszczek, HCC; and "Taps" Simon, Holton.

K-State wins first national title in contest's 53-year history.

Meat Animal Evaluation Team Crowned National Champions

Courtesy of Department of Animal Sciences and Industry

Members of the National Champion Meat Animal Evaluation Team (seated, l to r) are: Barrett Simon, Leon; Payton Stoppel, Russell; Samantha Trehal, Kiowa, Colorado; Allison Schulz, Iron Ridge, Wisconsin; Grace Hammer, Wallace; Lauren Prill, Wichita; Joelle Sylvester, Wamego; and Michael Cropp, Damascus, Maryland. Back row (standing, l to r) are: Chris Mullinix, coach; Austin Langemeier, assistant coach, Manhattan; Blake Foraker, Burton; Zach Godde, Galesburg, Michigan; Rob Johnson, Niantic, Illinois; Ted Creech, Lloydminster, Alberta; Joseph Limbach, Eugene, Missouri; Austin Deppe, Maquoketa, Iowa; Tanner Aherin, Phillipsburg; Cody Knight, Shawnee; Riley Lafrentz, Bienfait, Saskatchewan; Ken Odde, animal sciences and industry department head; and Travis O'Quinn, coach.

The Kansas State University Meat Animal Evaluation Team made history by winning the national championship at the 2016 Meat Animal Evaluation Contest in Lincoln, Nebraska.

It was K-State's first national title in the contest's 53-year history, with eight team members placing in the top 10 overall.

"We're proud of our students," said Ken Odde, professor and head of the department. "K-State has a strong tradition of judging team success, and it's exciting to have the accolades continue with the 2016 national champion meat animal evaluation title."

The event, previously known as the AKSARBEN contest, now rotates between host institutions across the country. The competition includes live market animal carcass predictions and pricing, breeding animal evaluation, and a meats judging competition. It serves as a capstone judging experience, because it incorporates concepts that apply directly to industry.

K-State earned top honors in five divisions: Market Animal, Meats, Breeding, Beef, and Sheep and was reserve champion team in the Swine Division.

Team members with individual placings:

Barrett Simon, High Individual Overall, 1st in Market Animal, Breeding, Beef, and Sheep;
Blake Foraker, 1st in Meats; 2nd Overall, 2nd in Sheep and Market Animal; 3rd in Swine;
Rob Johnson, 4th Overall, 2nd in Meats and Beef;
Joseph Limbach, 5th Overall, 3rd in Breeding and Sheep;
Lauren Prill, 6th Overall;
Riley Lafrentz, 8th Overall;
Allison Schulz, 9th Overall;
Tanner Aherin, 10th Overall; and
Austin Deppe, 3rd in Market Animal.

Travis O'Quinn, assistant professor, Chris Mullinix (B.S. '96), instructor, and Austin Langemeier, graduate student, coach the team.

The Department of Animal Sciences and Industry prepares students for careers in the animal and food industries. The curriculum includes the study of nutrition, reproduction, genetics, behavior, meat science, food science with production, management, and agribusiness skills.

The College of Agriculture offers
38 organizations
and
21 competition teams
More than
500 students
gain leadership experience annually with an officer or leadership role.

Sorghum's Popularity Keeps on Growing

From flowing fields in Kansas, to barren, starved villages in Africa, sorghum is gradually strengthening its foothold in the world's agricultural economy.

Also known as milo, sorghum is recognized by the bronze, beaded heads of the mature crop seen in Kansas fields each fall. The farther west one travels in Kansas, the more sorghum you're likely to see, because it is ideal in areas where water is sparse.

"Sorghum is a very hardy, water-sipping crop, making it very fitting for our harsh, unpredictable weather," said Pat Damman, director of the Kansas Grain Sorghum Commission. "It also is gaining in popularity because of our growing export market; China has really made the world look at grain sorghum."

Damman (B.S.'96 agricultural education, M.S.'97 secondary education) farms near Clifton.

Kansas: No. 1 in production

Kansas farmers grow more of the crop than any other state. In 2014, Kansas ranked first in grain sorghum production in the United States with 200 million bushels grown, or more than 40 percent of the country's total production.

"We rely on the drought tolerance of sorghum," said Matt Splitter (B.S. '08 agricultural communications and

journalism), who planted 750 acres to sorghum this year on his farm near Lyons. "With sorghum, we are able to raise high yields even when we have long periods of drought and heat."

Sorghum's role in feeding people

The use of sorghum for human consumption is being developed further in countries where malnutrition and hunger are prevalent.

In the Mara Region of Tanzania, one of the most starved areas of the world, K-State grain scientist Sajid Alavi is part of a research team working to improve child nutrition and health by providing a sorghum-soybean porridge blend to children younger than 5.

Earlier this year, 2,000 children ages six months to five years and their mothers traveled periodically to a central distribution point to receive the porridge blend.

While the results of the five-month study are yet to be finalized, Alavi said the early indications are that children were more healthy and had average growth rates.

"This whole project was started by our own sorghum farmers in Kansas and nationwide through the checkoff program and the Kansas Grain Sorghum Commission," Alavi said.

Research key to sorghum's popularity

In 2013, the U.S. Agency for International Development (USAID) awarded K-State $13.7 million to establish the Innovation Lab for Collaborative Research on Sorghum and Millet, known as SMIL.

The project, administered through the U.S. government's Feed the Future initiative, focuses on advancing the science of sorghum and pearl millet in semiarid regions of the world.

Geoffrey Morris, an assistant professor of agronomy, develops genetic tools that sorghum breeders use to develop new varieties. One project, supported by the Kansas Grain Sorghum Commission, is developing climate-resilient sorghum for Kansas farmers.

"We look for genetic differences that help plants cope with climate stresses, like limited availability of water and chilling stress early in the season," Morris said.

"Chilling tolerant sorghum would allow Kansas farmers to plant earlier and capture more of the moisture from early-season rains. It could increase yield by extending the growing season, which would give Kansas farmers more options for their rotations by having a sorghum season that matches the corn season."

> "What I love about what Kansas State University does is that they solve problems that are real and applicable to what I do in the field."

Splitter noted that he and his fellow sorghum growers regularly deal with threats to the crop from insects, fungal disease, and weeds. Recently, the destructive sugarcane aphid has caused anxiety in sorghum fields. He appreciates the security that research offers his business.

"What I love about what Kansas State University does is that they solve problems that are real and applicable to what I do in the field," Splitter said. "When the research is being done 80 miles from my farm, 50 miles from my farm, or sometimes right on my farm, it's more likely to help what's going on here."

"Historically sorghum hasn't had the research investments that a crop like corn has had, but that means that research investments now can have a huge effect on accelerating sorghum breeding," Morris said.

New agreement forged

In April 2016, the United Sorghum Checkoff Program, Kansas Grain Sorghum Commission, and Kansas State University entered into a cooperative agreement to increase grain sorghum productivity and expand markets by 2025.

Coordinated efforts for the program will operate through K-State's Center for Sorghum Improvement; however, results will affect sorghum producers throughout the country.

"After more than a year of planning and orchestrating, the Collaborative Sorghum Investment Program is now a reality," said Florentino Lopez, sorghum checkoff executive director.

"This program will serve as a platform aimed at reaching the sorghum checkoff's mission of investing checkoff dollars to increase producer profitability and enhance the sorghum industry. This program helps by aligning many resources to meet the needs of sorghum farmers throughout the U.S."

It will help develop marketplaces, attributes, qualities, and other factors capable of increasing demand to 1.25 million bushels of sorghum by 2025. This will include the expansion of international markets, domestic food use, livestock feeding, ethanol production, specialty products, and more.

Support for this program will total $4.8 million, consisting of a $2 million investment from the Kansas Grain Sorghum Commission and $2 million from the United Sorghum Checkoff Program, both made in annual payments of $200,000 for 10 years. K-State will invest $800,000 to hire a managing director and provide capital for center activities and research funding.

"We look forward to implementing this agreement to the benefit of the entire sorghum industry," said John Floros, dean of the College of Agriculture and director of K-State Research and Extension. "We are pleased to leverage our resources with this new program."

From left: Terry Houser, associate professor of meat science; Dave Nichols, professor of animal sciences; Irina Sheshukova, instructor of floral design; Ron Pope, instructor of animal sciences; and Cathie Lavis, associate professor of landscape management.

Beyond the Classroom

Everyone understands what educators do in the classroom — they teach. Few realize the preparation that goes into those classes and all the other tasks that go along with being a teacher.

Faculty members are always learning new technologies to enhance their classroom techniques, and they stay abreast of what is happening in their areas of expertise.

They advise individual students plus club meetings and activities; write various publications for the public or textbooks; conduct research and/or have extension responsibilities; lead study-abroad trips; present at national conferences; coach judging teams; and participate on department, college, university, and national committees.

In addition to faculty duties, they play vital roles in community activities, churches, and local organizations.

Each semester, college student organizations nominate outstanding faculty. Ag Council representatives review the applications and choose the winners.

Here's a brief look at the busy lives of the 2016 advisor of the year and faculty of the fall 2015 and spring 2016 semesters.

Advisor of the year

Dave Nichols (M.S. '79, Ph.D. '81) serves as professor and teaching coordinator for the Department of Animal Sciences and Industry.

Nichols teaches Principles of Animal Science, Beef Systems Management, a course on artificial insemination, and Livestock Sales Management, which involves the annual bull sale in March.

He advises approximately 65 students and serves as advisor for the Little American Royal Showmanship Contest and has been highly involved in 4-H and youth activities.

Nichols has judged cattle shows in Texas and Kentucky, the American Royal, and numerous state fairs.

He has made various presentations, including at the 33rd World Charolais Congress in Porto Alegre, Brazil. He has also led study-abroad trips to Costa Rica, China, and Brazil.

In addition to university and judging responsibilities, Nichols owns and operates A and D Ranch, which brings a "producer's perspective" into the classroom.

Ingram's magazine included Nichols on its 2015 list of "50 Kansans You Should Know."

Fall semester faculty

Terry Houser, associate professor of meat science, teaches five classes and coaches the K-State Meats Judging Team. He advises more than 60 animal sciences and food science and industry undergraduate students, as well as four graduate students.

He conducts research on value-added meat products, including bacon and further processed meat products from beef, pork, and goat. He also looks at the impact of ethanol coproducts on fresh beef and pork quality as well as how to control injection-site abscess formation in meat animal livestock species.

He encourages students to become involved in competition teams, internships, and campus activities to help broaden their horizons.

"I teach/coach/advise many students who are on the K-State Meats Judging Team and encourage them to further their academic careers," Houser said. "I believe that hands-on learning is the most important activity. We also should challenge and encourage our students to be the best they can be in their professional and personal lives."

Instructor Irina Sheshukova brings her passion and expertise to the classroom. She teaches Concepts of Floral Design, which uses flowers and related products with an emphasis on floral design fundamentals. The popular class draws students from various K-State departments.

She teaches three sections of the course, each with one two-hour lab and two recitation sessions. The class fills quickly and usually has a waiting list. Students have requested an advanced floral design course.

"This course provides a unique opportunity for students to not only learn the subject and take part in the labs but also to take their custom-made designs home and bring happiness to their loved ones or donate them to charities," Sheshukova said.

"In the beginning of the semester, most students arrive not having any experience in the floral industry. Seeing them grow week after week and mature in their abilities to work with the flowers and create beautiful arrangements for their final projects is a very rewarding experience for me."

Spring semester faculty

Cathie Lavis (M.S. '93, Ph.D. '05), associate professor of landscape management, teaches or co-teaches seven horticulture classes. Some are taught only in fall or spring semester, because they incorporate actual work in the field. For example, students in her irrigation class installed a system at the Stanley E. Stout Center.

"It is that commitment beyond the classroom that greatly enriches the K-State experience."

She advises about 35 students, the Horticulture Club, and co-coaches the landscape contracting competition team. She recently started a horticulture ambassador program to connect current students with prospective students and their parents.

Lavis also has an extension appointment. "My commitments to agriculture are guided by my work in extension," Lavis said. "My mission is to educate people on better irrigation water practices that will help sustain our most valuable resource — water. My courses all center around sustainable practices."

In 2013, she and arboriculture students fulfilled the requirements to declare K-State a Tree Campus USA. To maintain the annual designation, they plant trees and post informational signs by mature trees to educate the entire campus community about the importance of campus trees.

Lavis has led five student study-abroad trips and is planning one for 2017.

Instructor Ron Pope (Ph.D. '00) is faculty coordinator for the animal sciences and industry farm shop, which provides equipment and support for the research projects at the department livestock units. He also provides tours of the units, which include school field trips plus local and international visitors. This past year, he gave 46 tours to about 740 children and 289 adults.

He said, "I think it is very important to give these visitors a positive experience with animal agriculture."

Pope teaches the Animal Sciences and Industry Laboratory, plus he advises about 40 students and the Block and Bridle chapter. He came to K-State in 1977 as a research assistant at the Beef Research Unit supervising student employees. He considers many former employees as close friends, and some of their children have been in his class or among his advisees.

He noted the varied animal agriculture backgrounds of students, which can be both a challenge and a rewarding experience.

"I think it is important to work with each student as an individual," Pope said. "I try to be available for the students as much as possible. The college commencement ceremony is a highlight of the year for me, and I'm proud to see the students receive their degrees."

Don Boggs, associate dean of academic programs, speaks highly of college faculty.

"I have always been impressed with the excellence in teaching and the commitment of our faculty to our K-State students," said Boggs. "But the amount of time and energy our K-State ag faculty spend outside of the classroom is truly astounding. It is that commitment beyond the classroom that greatly enriches the K-State experience."

Student Highlights

Emily Harris, bachelor's candidate in agribusiness, Abilene, gave the reflections speech at the college spring commencement. **Kurt Lockwood**, bachelor's candidate in agricultural economics, Caney, gave the student address. **Faith Rasmussen**, bachelor's candidate in food science and industry, Salina, sang the National Anthem.

Bakery science and management students **Harrison Helmick**, senior, and **Ian Joliffe**, junior, earned first place in the Product Development Competition with their Blueberry Oatmeal Focaccia. The American Society of Baking sponsored the event.

Melissa Riley, animal sciences and industry, is one of four students chosen nationwide as a 2016 Integrative Organismal Systems Physiology Fellow. The student spent the summer in the laboratory of Bruce Schultz, K-State professor of anatomy and physiology and American Physiological Society member.

Satyra Jenkins, May 2016 bachelor's graduate in food science and industry, College Station, Texas,was inducted into Alpha Sigma Lambda, the oldest and largest chapter-based honor society for full- and part-time undergraduate adult students.

Mortar Board Senior Honor Society selected **Jacob Wilson**, food science and industry, Merriam; **Ellissa Heim**, food science and industry, Hoxie; and **Conner White**, horticulture, Wichita, as members for the 2016–2017 school year.

Jessica Davis, junior in milling science and management from Illinois, was awarded a scholarship from Mennel Milling Company. It covers $10,000 of out-of-state tuition and $1,000 for travel costs. The scholarship is awarded to one student from Ohio, Michigan, Illinois, Indiana, or Virginia.

Four K-State teams competed at the regional North Central Weed Science Society Collegiate Weed Contest July 28 at Purdue University.

One of the three graduate teams took first, and the undergraduate team took second in their respective divisions.

Agronomy professors **Anita Dille**, **Kevin Donnelly**, and **Dallas Peterson** coach the teams.

The following students are new members of K-State's Phi Kappa Phi chapter established in 1915: **Anna R. Hickert**, Hays, **Brandi Feehan**, Louisburg, and **Rachel E. Sahrbeck**, San Diego, California, all juniors in animal sciences and industry; **Henry L. Ott**, Madison, master's student in agricultural economics; **Ronald Sullivan**, Paola, senior in agribusiness; **Jill M. Seiler**, Valley Center, junior in agricultural communications and journalism; **Giovani Preza Fontes,** Brazil, master's student in agronomy; and **Stephen M. Losey**, Mauldin, South Carolina, and **Zainab Ali Al-jbory**, Iraq, doctoral students in entomology.

More than 25 horticulture students competed in the National Collegiate Landscape Competition at Mississippi State University. They placed eighth out of 63 schools and brought home a check for $500 for winning the Career Development Series. Team coaches are associate professors Cathie Lavis and Greg Davis.

Top five placings and their events:

Alan Rourke — Irrigation Design, National Champion

Alan Rourke and **Justin Malone** — Irrigation Assembly, 2nd

Conner White — Business Management, 2nd

Eric Grant — 3D Exterior Design, 3rd

Brooke Evans and **Karen Schneck** — Employment Development, 4th

Alan Rourke and **Jonathan Jessen** — Irrigation Troubleshooting, 5th

Students of the month

September — **Gage Nichols**, sophomore in animal sciences and industry with a minor in feed science, Russell

October and Student of the Year Scholarship — **Emily Beneda**, senior in food science, Wilson

November — **Lindy Bilberry**, junior in agricultural economics, Garden City

December — **Karly Frederick**, junior in agricultural economics, Alden

January — **Conner White**, senior in horticulture, Wichita

February — **Rachel Sahrbeck**, junior in animal sciences and industry, Springfield, Pennsylvania.

March — **Jeffrey Albers**, senior in agronomy, Oakley

April — **Melissa Poet**, junior majoring in agricultural education with a minor in agronomy, Flagler, Colorado

Graduate students

Corey Carpenter, Red Bluff, California, and **Lori Thomas** (M.S.'16 animal science), St. Louis, Missouri, each received a $2,500 scholarship from Feed Energy for the 2016–2017 academic year. Both are pursuing doctorates and are members of the applied swine nutrition team.

Alma G. Laney, plant pathology postdoctoral research associate, received a two-year $150,000 postdoctoral fellowship to lead a study on the genetics of barley yellow dwarf viruses, which cause barley yellow dwarf. This disease affects wheat and other grains worldwide. In 2012, the disease caused a 2.3 percent yield loss in Kansas, valued at an estimated $78 million.

MaryAnn Matney (B.S.'14 agricultural economics) received the Outstanding Master's Student Award and **Kelsey Phelps** earned the Outstanding Doctoral Student Award supported by the Larry Corah Graduate Student Enhancement Fund in the Department of Animal Sciences and Industry. Terry Houser advises Matney, and John Gonzalez advises Phelps.

Campus Involvement Rewarded

Courtesy of Division of Communications and Marketing (2)

Professor emeritus Barry Flinchbaugh (center) visits with graduating seniors (l-r) Garrett Kays, Nathan Laudan, Abby Works, and Kurt Lockwood after the awards ceremony.

Five College of Agriculture seniors — Garrett Kays, Nathan Laudan, Kurt Lockwood, Mayra Perez-Fajardo, and Abby Works — were among 16 students recognized as 2016 Dean of Student Life Outstanding Graduating Seniors. Each student received a plaque with his or her photo taken in a favorite place on campus.

Garrett Kays, agricultural economics, Weir, was involved with the Student Governing Association, Blue Key, Alpha Gamma Rho, and the Office of Governmental Relations.

"Through leadership positions on campus, I learned the importance of caring and investing in your co-workers, friends, and family," said Kays. "It was also very rewarding to share my experiences with freshman and sophomore students and help them achieve their own goals."

Nathan Laudan, Paola, majored in agricultural communications and journalism/food science and industry with minors in international agriculture, agricultural economics, and journalism and mass communications. His many activities included K-State Student Ambassador; Blue Key, Quest, and other honor organizations; Student Alumni Board; and *Agriculturist* magazine editorial board.

He advises future leaders to "find and build yourself an advisory board," which he describes as multiple people with greater life experiences in areas you want to succeed. "Without them as support, buildup, and sometimes reality check, no way in heck could I have accomplished half of what I have done here at K-State," said Laudan.

Kurt Lockwood, agricultural economics with a minor in political science, Caney, was very involved with Student Senate, Kansas FFA, Blue Key, Ag Ambassadors, and the Catalyst Student Development Program.

"Never be afraid to take advantage of opportunities and invest in people around you," Lockwood said. "People will forget the title before your name, but they won't forget the energy you invest."

Mayra Perez-Fajardo, bakery science and management with a minor in Spanish, Laredo, Texas, was a McNair Scholar, Developing Scholar, Spanish and Education Supportive Services peer ambassador, and a member of Minorities in Agriculture, Natural Resources, and Related Sciences.

She enjoyed being able to mentor other students and help them succeed. She said her leadership experiences made her aware of how to troubleshoot issues when they arise, and that communication is key.

Abby Works, food science and industry, Iola, was involved with various aspects of the Student Governing Association, Student Alumni board, Student Foundation, K-State Proud, and several honor groups.

Her advice for future leaders would be, "Say yes to experiences outside your comfort zone. These types of opportunities and situations might change your life. Go ahead and give it a shot. It will be worth it."

Pat Bosco (left), vice president for student life and dean of students, presents a personalized plaque to graduating senior Mayra Perez-Fajardo.

Pair Receives Prestigious Awards

Poland wins early career award

In less than six years as a research geneticist, Jesse Poland has accumulated an impressive list of accolades including being named director of the U.S. Agency for International Development Feed the Future Innovation Lab for Applied Wheat Genomics. He recently received the National Association of Plant Breeders' 2016 Early Career Scientist Award.

"This is a very nice recognition, and even better that two of my students made the nomination, which was the biggest honor," said Poland, assistant professor of plant pathology.

"I think there is a real need for well-trained students going into plant breeding around the world to work on developing new high-yielding varieties and meeting the challenge of food security in the coming decades."

Poland (B.S. '03 agronomy, M.S. '04 plant pathology) has contributed to the study of plant breeding through teaching and advising students, and communicating his research through publications and face-to-face interactions.

Two of Poland's most significant achievements are the development and refinement of genotyping-by-sequencing, a novel method for genetic characterization of wheat and other species, and the development of portable high-throughput phenotyping platforms, which help breeders and researchers maximize available data to make more accurate selections.

Poland also contributed to the development of the first physical sequence of barley, as well as the draft sequence of hexaploid wheat under international sequencing consortiums.

His nomination package was submitted by Trevor Rife, Torrington, Wyoming, and Narinder Singh, Ludhiana, India, both doctoral students in genetics.

"Jesse's desire to teach, share knowledge, and stimulate our critical thinking are the best characteristics an adviser can have, and he also encompasses all the qualities that comprise an exceptional scientist," Rife said.

Prasad named university distinguished professor

Courtesy of Division of Communications and Marketing

Agronomist Vara Prasad has been named a 2016 Kansas State University Distinguished Professor, a lifetime title and the highest honor the university bestows on its faculty members. He will receive a personalized plaque and medallion at the university's fall 2016 commencement ceremonies.

Prasad serves as director of the university's Feed the Future Sustainable Intensification Innovation Lab, which is funded by the U.S. Agency for International Development, or USAID.

His research focuses on understanding responses of food grain crops to climate change factors and developing crop, water, and soil management strategies for efficient use of inputs and to improve crop yields.

Prasad joined the university in 2005. He has received $62 million in grant funding to support research, education, and extension activities from local, national, and international agencies.

He has published more than 140 peer-reviewed journal articles and book chapters and his research has been cited 4,400 times. Prasad has mentored and trained more than 100 research scholars and graduate students.

Invited to Washington summit

Jesse Poland, Vara Prasad, and Jagger Harvey — director of the Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss — participated in the White House Summit on Global Development on July 20. President Barack Obama invited them to speak because they lead three of the four Feed the Future programs at K-State that provide solutions to world hunger and nutrition.

During the summit, Obama signed the Global Food Security Act of 2016, which authorizes a law to allocate more than $7 billion to initiatives that focus on agriculture, small-scale food producers, and nutrition for women and children. It has bipartisan support and is recognized as a crucial investment in global stability and prosperity.

"There is a youth bulge in most of the developing countries in Africa and Asia," Prasad said, noting that youth make up 50 to 70 percent of the population in many countries. "Their energy should be focused on helping build communities, and developmental activities focused on agriculture, health, and small business."

Grain Science Recognition

On April 21, the Department of Grain Science and Industry recognized these individuals.

Outstanding service awards

As a student, **Bob Kice** (B.S. '70 business administration) worked in the campus feed mill. After graduation, he returned to his hometown of Wichita, where he worked at Kice Industries in industrial air systems design and equipment sales.

He continued at Kice until retirement in 2013. At that time, he was concentrating on international sales and relationships.

Kice worked with K-State to supply equipment for the Hall Ross Flour Mill and the mill within the O.H. Kruse Feed Technology Innovation Center used for training students. He also served on the Feed Science Advisory Board.

For 20 years, **Kevin Peterson** has been with Salina Vortex Corporation as a marketing director, sales manager, and director of business development.

His department involvement began through his friendship with Fred Fairchild. They arranged for the Vortex Mobile Display Unit to visit campus annually. Peterson conducted the presentations for many years.

Peterson championed a sizable valving contribution on behalf of Salina Vortex for the Hal Ross Flour Mill. Vortex also contributed valves for the O.H. Kruse Feed Technology Innovation Center.

Vortex hosts student tours at their Salina manufacturing facility and funds student travel to technical conferences.

As president of the American White Wheat Producers Association **Kent Symns** (B.S.'69 animal sciences and industry) oversaw the successful conversion of the company from an open cooperative to a defined-member cooperative. Later, its name was officially changed to Farmer Direct Foods, based in Atchison.

His responsibilities included identifying, analyzing, and pursuing value-added opportunities for cooperative members as well as promoting and marketing their value-added products. He retired from Farmer Direct Foods in August 2015 but continues to promote Kansas-grown hard white wheat.

Farmer Direct Foods has provided flour milled from its New Cambria milling operation for the bakery program and summer internships for students.

Outstanding alumni awards

Fred Fairchild (B.S. '63 architectural engineering; M.S.'64 milling technology) spent 30 years in the design, construction, operation and management of grain manufacturing facilities before joining the department.

At K-State he taught classes, served as department teaching coordinator, and was recognized as a Teacher Fellow by the North American Colleges and Teachers of Agriculture.

He managed the development, design, and construction of the new Grain Science Complex and was instrumental in securing major equipment and donations for the new mills and the Buhler Instructor position in the department.

Additionally, he prepared five online courses for the Grain Elevator and Processing Society. He retired in 2013 but continues to write for the industry press and facilitate GEAPS courses.

Brian Fatula (B.S.'96 bakery science and management) serves as senior vice president of research and development for Hostess Brands.

After graduation, he joined Interstate Brands Corporation as a research and development technician. He later was national account manager for DSM Food Specialties; innovation team manager for bakery/fats and oils for Danisco; and vice president, bakery and snack enzyme business, DSM Food Specialties USA, Inc.

Fatula serves as president of the American Society of Bakers K-State/Florida State alumni group, which holds an annual breakfast for current students and alumni.

Keith Pike (B.S. '77 chemical science/feed science and management, M.S.'78 grain science) attended several 4-H events on campus during high school that sold him on K-State.

His interest in agriculture led him to the department and a degree in feed science.

Pike started with the Ralston Purina Company in 1978 and worked in various roles with the Purina team in process research and engineering over the past 37 years. He now is with the Land O' Lakes supply chain team as director of feed engineering.

All photos courtesy of Department of Grain Science and Industry

Department Notes

Agricultural Economics

Aleksan Shanoyan, assistant professor, received the Undergraduate Teaching Award for 10 or less years of experience from the Western Agricultural Economics Association.

G. Art Barnaby, professor, and **Barry Flinchbaugh,** professor emeritus, were selected for Farm Credit's Fresh Perspectives Top 100 Honorees for their passion in guiding agricultural interests through the complex global market. Flinchbaugh earned the additional honor of being in the Top 10.

Agronomy

See *Learning in the Pits* pages 8–9, *Sorghum's Popularity Keeps on Growing* pages 12-13, and *GSD awards presented* page 21.

Animal Sciences and Industry

Karen Blakeslee, extension associate and coordinator of the Rapid Response Center, earned the 2016 President's Award of Excellence for Unclassified Professionals in the Leadership Category.

Elizabeth Boyle, professor and extension specialist, has been named an American Meat Science Association Fellow. She also received the 2016 AMSA Signal Service Award.

Barry Bradford, professor of dairy nutrition, was appointed to a three-year term on the Board of Directors of the Foundation for Food and Agriculture Research. FFAR, established by the 2014 Farm Bill, builds unique partnerships to fund innovative research in food and agriculture. He also received the Outstanding Young Teacher Award at the Midwest American Society of Animal Science meeting.

Larry Corah, professor emeritus and retired vice president of Certified Angus Beef, LLC, received the 2016 Livestock Publications Council Headliner Award.

Melvin Hunt, professor emeritus, was recognized at the Reciprocal Meat Conference as an American Meat Science Association Mentor.

Evan Titgemeyer, professor of ruminant nutrition, received the 2016 American Society of Animal Science Fellow Award in the Research Category at the ASAS annual meeting

Biological and Agricultural Engineering

Danny Rogers (B.S.'76 agricultural engineering, M.S.'77 civil engineering), professor and irrigation specialist, earned the 2016 GB Gunlogson Countryside Engineering Award.

Three K-State faculty are among 16 professors named fellows of the American Society of Agricultural and Biological Engineers at its July international meeting — **Gary Clark,** senior associate dean in the College of Engineering; **Joe Harner,** department head; and **Xiuzhi Susan Sun,** university distinguished professor of grain science and industry.

Communications and Agricultural Education

Awards presented at the Association for Communication Excellence annual meeting: **Lauri Baker**, associate professor, Award of Excellence, Research; **Gloria Holcombe**, editor, Award of Excellence, Publishing and Graphic Design; **Cassie Wandersee**, master's student, Outstanding Thesis Proposal; **Jennifer Ray** (M.S.'15) Outstanding Thesis; **Jeremy D'Angelo**, master's student, and **Jason Ellis**, associate professor, Outstanding Research Poster; **Gloria Holcombe**, **Megan Macy**, marketing specialist, **Bob Holcombe**, graphic designer, **Brad Beckman**, videographer, **Katie Allen**, former communications specialist, and **Don Donnert,** photographer, Bronze Award for the K-State Research and Extension annual report. **Donna Sheffield** serves as ACE development officer; and **Baker** was elected research director.

Lauri Baker also received the North American Colleges and Teachers of Agriculture Educator Award at the NACTA conference.

Steve Harbstreit, associate professor of agricultural education, received the Kansas Association for Career and Technical Education Lifetime Achievement Award.

Entomology

Professor **C. Michael "Mike" Smith** received a Lifetime Achievement Award from the International Plant Resistance to Insects working group for his notable contributions to the fields of plant resistance and entomology.

Grain Science and Industry

Wilbur Endowed Professor **Subramanyam Bhadriraju**'s work on controlling stored grain pests was cited twice in the *The Leaflet* by the Plant Biosecurity Cooperative Research Centre in Australia.

Horticulture and Natural Resources

Adam Ahlers, assistant professor of wildlife and outdoor management, was one of 10 individuals selected from North America to participate in the 2016 The Wildlife Society Leadership Institute.

More than 150 researchers and urban food systems experts attended the 2016 Urban Food Systems Symposium, June 22–25, at K-State Olathe. The event looked at the current and future state of food production and food security in large cities.

K-State Research and Extension

Gregg Hadley, assistant director for agriculture, natural resources and community development, earned the National Epsilon Sigma Phi Administrative Leadership Award for the North Central Region.

Trudy Rice, community development specialist, received the Distinguished National Service Award from the National Association of Community Development Extension Professionals at the organization's annual meeting. She was chosen president-elect and also received the National Epsilon Sigma Phi Distinguished Service Award for the North Central Region.

GSD awards presented

Gamma Sigma Delta, agricultural honor society, recognized students, faculty, and an alumnus at its annual spring reception on April 15.

Undergraduate Research: **Jessica Bramhall** and **Erin Bush**, both seniors in agronomy

Masters Teaching: **Michelle Scarpace**, master's student in agronomy
Doctoral Teaching: **Rodrigo Pedrozo**, doctoral student in plant pathology
Doctoral Research: **Sridevi Nakka**, agronomy

Distinguished Faculty: **Gary Pierzynski**, university distinguished professor of agronomy and department head

Early Career: **Peter Tomlinson**, assistant professor of agronomy and extension specialist for environmental quality

Excellence in Extension: **DeAnn Presley** (M.S.'02, Ph.D.'07 agronomy), associate professor of environmental soil science and management

Outstanding Research: **Praveen Vadlani**, Lortscher Endowed Associate Professor of grain science and industry

Teaching: **Kevin Donnelly** (B.S.'72, M.S.'74 agronomy), professor of crop science

Distinguished Alumnus: **Fernando Garcia** (M.S.'89, Ph.D.'92 agronomy), regional director of the International Plant Nutrition Institute, Buenos Aires

BRI Research Fellows announced

The Biosecurity Research Institute recognized 13 researchers as inaugural members of the Marty Vanier and Bob Krause BRI Research Fellows Program, including **William Bockus** and **James Stack**, professors of plant pathology; **Randall Phebus**, professor of animal sciences and industry; and **Barbara Valent**, university distinguished professor of plant pathology.

"Researchers at BRI are already studying prominent pathogens proposed for NBAF (National Bio and Agro-defense Facility), and they're making progress on vaccines against diseases that threaten animal and human health," said Peter Dorhout, vice president for research.

Celebrating 665 years of service

Twenty-three College of Agriculture/K-State Research and Extension retirees were recognized April 19 at the K-State Alumni Center. These individuals had a combined 665 years of service, an average of 28 years. Thank you for your dedication and service. The names, most recent title and unit, and number of years:

Philip Barnes, associate professor, Biological and Agricultural Engineering, 35; **Robert Bauernfeind**, professor and extension specialist, Entomology, 37; **Elizabeth "Libby" Curry**, family and consumer sciences specialist, Northwest Area, 41; **Martha Flanagan**, family and consumer sciences agent, Cherokee County, 20; **Diann Gerstner**, family and consumer sciences/4-H Youth Development agent, Thomas County, 10; **Mary Meck Higgins**, human nutrition specialist and registered dietitian, Food, Nutrition, Dietetics and, Health, 30; **Lynette Hoffman**, accountant, Agriculture Dean's Office, 37; **Susan Jackson**, family and consumer sciences agent, Harvey County, 26; **Rhonda Janke**, associate professor, Horticulture and Natural Resources, 21; **Greg LeValley**, printing coordinator, Communications and Agricultural Education, 38; **James Marsden**, professor, Animal Sciences and Industry, 21; **Peggy Shaw McBee**, Wildlife Outdoor Enterprise Management program director, Horticulture and Natural Resources, 15; **Jan McMahon**, Expanded Food and Nutrition Education Program agent, Sedgwick County, 32; **Jim Mengarelli**, 4-H Youth Development agent, Wildcat District, 30; **Linda Mirt**, family and consumer sciences/4-H Youth Development agent, Sumner County, 40; **James "Pat" Murphy**, professor, Biological and Agricultural Engineering, 45; **John Reese**, professor, Entomology, 33; **Vernon Schaffer**, agronomist and farm manager, Agronomy, 29; **Richard Umscheid**, business manager, Grain Science and Industry, 12; **John Unruh**, professor, Animal Sciences and Industry, 27; **Charisse West**, administrative assistant, Agriculture Dean's Office, 24; **Teresa Weixelman**, programmer for K-MAR-105 Association, Agricultural Economics, 45; and **Nancy Zimmerli-Cates**, publishing coordinator, Communications and Agricultural Education, 17.

In memoriam

Wayne Geyer, 82, Manhattan, died July 7, 2016. He joined the faculty in 1966 as an assistant professor of horticulture. He retired in 2014 as a professor with more than 47 years of service.

Leniel "Len" Harbers, 81, Manhattan, died April 18, 2016. He was a professor of animal sciences from 1964 until retirement. He participated in numerous foreign assignments and served as temporary assistant dean of the Graduate School in the late '80s.

Arliss Honstead, 101, Manhattan, died July 23, 2016. From 1947 to 1974, she was a home demonstration agent in Doniphan, Jackson, and Cowley counties; assistant state 4-H club leader; extension specialist in 4-H club work; and extension specialist, 4-H and Youth.

Vernon Carl Larson, 93, Manhattan, died on April 23, 2016. He was director of international agriculture programs and established formal relationships between K-State and universities and institutes in Paraguay, Costa Rica, Honduras, Mexico, France, China, and Botswana. He helped form the Association of U.S. University Directors of International Agriculture Programs and the Mid-America International Agriculture Consortium.

Jim Morrill, 85, Manhattan, died July 27, 2016. He was a professor of animal sciences for 33 years. After retiring, he did consulting work in the U.S. and numerous foreign countries, including 40 trips to Mexico and 24 to Honduras.

Joseph G. Ponte Jr., 90, Manhattan, died April 21, 2016. After 17 years with the ITT Continental Baking Company, he joined the Department of Grain Science and Industry, where he taught classes, conducted research, and was involved with extension and consulting in Egypt, China, and other countries.

Class Notes

'70s

John N. Butts (B.S. '70 poultry science, M.S. '73 food science), Land O'Frost Inc.'s vice president of research, received the NSF International Inc. Lifetime Achievement Award at the 2016 Food Safety Summit.

The National Cattlemen's Beef Association named **Kendal Frazier** (B.S. '73 agricultural economics) its new chief executive officer. **Tracy Brunner** (B.S. '78 agribusiness, MAB '02) serves as NCBA president.

Ray Bartholomew (B.S. '77 agricultural economics) received the 4-H Distinguished Service Award for his work with the Kansas 4-H Shooting Sports Program.

'80s

Bob Goodband (M.S. '86, Ph.D. '89 animal sciences) was selected as the 2016 Animal Science Distinguished Alumnus by the Pennsylvania State University Department of Animal Science, where he received his B.S.

'90s

Kouassi Kouakou (M.S. '90, food science, Ph.D. '95 grain science) was granted U.S. Patent D 730,618 S, a design patent for a unique pasta/noodle, while working as a senior research scientist for the Campbell Soup Company. He now is director of technical services/R&D for Philadelphia Macaroni Company. A native of the Ivory Coast, he has worked in the U.S. since graduation.

Jerold Schlegel (B.S. '91 milling science and management) is director of manufacturing quality at MillerCoors, with responsibility for 10 North American breweries. Previous positions include senior director at Kerry Ingredients developing and implementing the Global Quality Management System, as well as chief food safety officer for Otis Spunkmeyer and several leadership positions throughout the Pepsi/Gatorade and Quaker Oats divisions. He and wife Julie will celebrate their 15th wedding anniversary this fall.

DeLoss Jahnke (B.S. '94 agricultural journalism), Illinois Farm Bureau, was recognized in the American Farm Bureau Federation annual communications competition. He earned Best Audio Feature for a story on a farm family that has exhibited for 75 years at the Illinois State Fair and Best Audio Program for being anchor/editor of the team that contributes to *RFD Today* talk show on RFDRN and on *FarmWeekNow.com*.

Angie Stump Denton (B.S. '95 agricultural journalism) joined the Department of Animal Sciences and Industry as communications coordinator.

Casey Niemann (B.S. '96 agribusiness), president and founder of AgriSync, a mobile application that connects farmers to advisors in a live video session to more efficiently resolve equipment problems, was featured in an Iowa Farm Bureau article.

Linda Albers Sleichter (B.S. '99 agricultural journalism/animal sciences) and **Jay Sleichter** (B.S. '99 animal science, B.S. '03 elementary education) and their five children were featured in the June 20 edition of Kansas Living.

'00s

Jill Arensdorf (B.S. '00 agricultural economics, Ph.D. '09 curriculum and instruction) received the K-State 2016 Richard E. Mistler Outstanding Blue Key Alumni award. She is chair of the leadership studies department at Fort Hays State University.

Shane Tiffany (B.S. 01 animal sciences), co-owner of Tiffany Cattle Company near Herington, was named Huck Boyd National Institute for Rural Development 2016 Leader of the Year in the Value-Added Agriculture Category.

Gaea Hock (B.S. '03 agricultural education, M.S. '06 curriculum and instruction) is an assistant professor of agricultural education in the Department of Communications and Agricultural Education.

Bob Kohman (B.S. '06 agricultural education) is executive extension agricultural economist for Kansas Farm Management Association, North Central, in Abilene.

Michelle Beran (B.S. '03 agricultural communications and journalism) joined the K-State Research and Extension, Midway District as the 4-H Youth Development agent.

Derrick Mein (B.S. '08 animal sciences) won the FITASC world championship sporting clay competition in Italy and was a member of the gold medal USA team in July 2016.

Mindy Young (B.S. animal sciences/agricultural communications and journalism) and husband **Matt** (B.S. '06, M.S. '07 agricultural economics), agricultural and natural resources agent for K-State Research and Extension – Brown County, announced the birth of their daughter, Maci, March 28, 2016.

'10s

Dalton Henry (B.S. '10 agricultural communications and journalism) was promoted to vice president of policy for U.S. Wheat Associates. He joined USW in March 2015 after five years with Kansas Wheat as director of governmental affairs.

Joseph Hubbard (B.S. '11 animal sciences), manager of the Sheep and Meat Goat Center for the Department of Animal Sciences and Industry, and wife Shelby announced the birth of Adeline Jo on May 29, 2016.

Jenni Wright (B.S. '11 animal sciences), fourth-year veterinary student, is one of two nationwide winners of a $75,000 Coyote Rock Ranch Veterinary Scholarship, which is administered by the American Quarter Horse Foundation.

Leah Scott (B.S. '13 horticulture), and husband Ryan announced the birth of their daughter, Robin Michele, on April 4, 2016.

Katie Rohling (B.S.'14 agricultural communications and journalism, M.S.'16 agricultural education and communications) joined K-State Research and Extension – Wildcat District as a 4-H Youth Development agent.

Hannah Anderson (B.S.'15 agricultural education) joined K-State Research and Extension–Harvey County, as a 4-H Youth Development agent.

Taylor Bivins (B.S.'16 wildlife and outdoor enterprise management) and Kyle Alsop won the 2016 Carhartt Bassmaster College Series National Championship, finishing the tournament with 36 lbs., 4 oz. — the only team to bring in more than 10 pounds a day. Both are members of the K-State collegiate team. Three K-State teams qualified for the event.

State FFA honors

Four alumni earned Honorary State FFA degrees at the 88th Kansas FFA State Convention on the Manhattan campus. **Jason Ellis** (B.S.'98 animal science/agricultural journalism), associate professor of agricultural education, coordinates the Ag Communications Career Development Event (CDE). Ellis also helps the Kansas National FFA Officer candidates improve writing and written communication skills.

Bill Disberger (B.S.'00 animal science/agricultural education, M.S. '03 secondary education), K-State admissions representative, worked with transfer students and coordinated the Veterinary Science CDE.

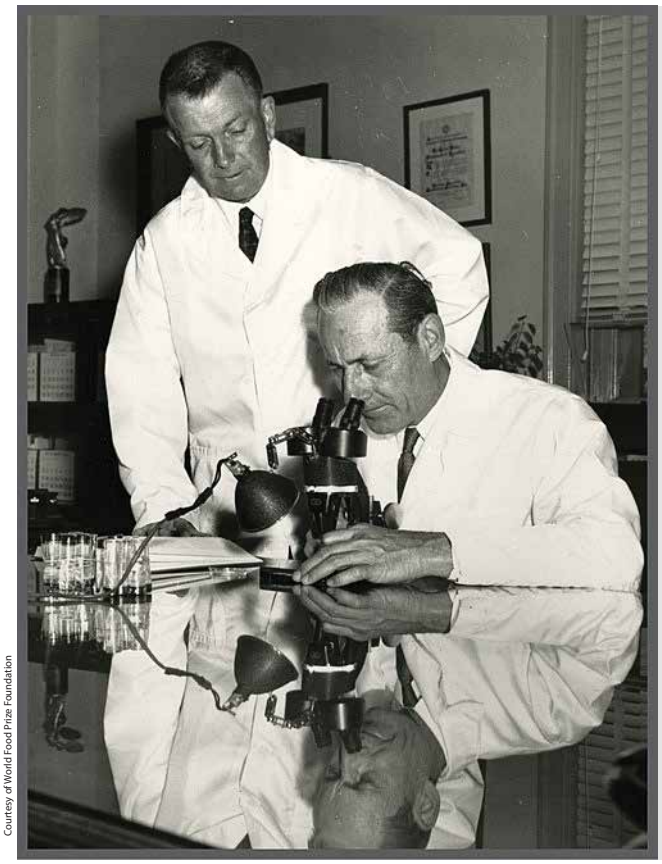
David Lehman (B.S.'89 agricultural economics) is an instructor in the Department of Marketing and coaches the K-State National Agri-Marketing Association competition team. He coordinates the Agricultural Sales CDE.

Bill Johnston (B.S.'83 agricultural education) has taught agricultural education for many years and serves as president of the Kansas Association of Agricultural Educators.

In memoriam

Philip "Phil" Finley (B.S.'51 agricultural education, M.S.'59 adult and occupational education), 86, Colby, died April 17, 2016. He was a teacher, principal, county agricultural agent, rural development extension specialist, area extension director. He served as the Adjutant General of Kansas under Gov. Mike Hayden and retired from the Kansas National Guard at the rank of Major General.

Ronald F. Scranton (B.S.'68, M.S.'69 horticulture), 70, Larned, died June 15, 2016. He owned and operated the Larned Greenhouse, Flower Shop and Nursery from 1972 to 2010.



Courtesy of World Food Prize Foundation

Sexy research saves billions

Raymond C. Bushland's research on the sex life of the screwworm fly may sound frivolous, but it laid the novel groundwork to eradicate one costly pest, manage many others, and now may help combat the Zika virus.

Bushland (Ph.D.'53 entomology), standing, along with his friend and colleague Edward F. Knipling developed the "sterile insect technique," that spurred an international effort to eliminate the screwworm fly. After determining that female screwworm flies only mate once, they experimented with x-rays and radioactive cobalt to sterilize male flies. By releasing enough sterile males to overwhelm the fertile males, they believed the sterile flies could be used to exterminate the pest.

They successfully tested their theory first on screwworm flies on the island of Curacao, and the program was upscaled and used to eradicate the screwworm fly from the United States. The principle has been used to manage other pests globally, including the Zika-virus vector *Aedes aegypti*.

Knipling and Bushland earned the 1992 World Food Prize for their innovative research. They posthumously received the 2016 Golden Goose Award, which honors scientists whose federally funded work may have been considered unusual or frivolous but greatly benefited society.

Bushland also received several awards from the U.S. livestock industry for saving U.S. and Mexico livestock producers billions of dollars.

Submit class notes, comments, and address changes at *www.ksu.edu/agreport*.

College as Family

Although their experiences at Kansas State University and career paths vary, each of the award winners at the annual Wild for Ag awards reception used the term family to describe his or her relationship with the College of Agriculture.

Robert "Bob" Broeckelman

On April 29, the Agricultural Alumni Board recognized Robert Broeckelman, Distinguished Alumnus; Anne Hazlett, Outstanding Young Alumna; and Shannon Washburn, David J. Mugler Outstanding Teacher.

Distinguished Alumnus

Robert "Bob" Broeckelman was not able to attend the reception because of a family commitment in Atlanta, Georgia. He sent an acceptance letter, read by John Coen, board vice president.

"I am truly honored and deeply humbled by this honor," wrote Broeckelman. "It means so much because KSU helped shape my life."

He closed with "K-State is a family, and I'm proud to be part of it."

As a student, Broeckelman served as rush chairman for Alpha Gamma Rho chapter. He earned a bachelor's degree in agricultural education in 1970 and a master's degree in adult and occupational education in 1972.

He taught vocational agriculture for five years in Norton. From 1977 to 1981, he served as executive secretary for Kansas FFA and Young Farmer organizations.

For the next six years, he managed employment and trainee development for Farm Credit Bank of Wichita. Broeckelman completed a doctorate at K-State in 1988 and was promoted to director of Human Resource Services for Kansas, Oklahoma, Colorado, and New Mexico.

From 1994 to 2007, he directed the employment and training area for USAgBank throughout nine states. In 2008, he was promoted to vice president of recruiting and selection for FCC Services Inc.

He retired from Farm Credit in 2014, but continues working as director of business development for Dale Carnegie Training.

He and his wife created the Dr. Bob and Bunny Broeckelman Agricultural Education Scholarship to support Kansas' agricultural education students.

Broeckelman spoke at the College of Agriculture commencement on May 14.

Outstanding Young Alumna

Anne Hazlett said she remembers visiting K-State and meeting her new "family" 700 miles from her Indiana home.

"My family still jokes about Calvin Drake, professor of animal sciences, taking the time to drive us around campus and Manhattan," Hazlett said. "I'm thankful for the knowledge, mentoring, and networking opportunities I received at K-State."

She now serves as Republican chief counsel to the U.S. Senate Committee on Agriculture, Nutrition and Forestry under Chairman Pat Roberts of Kansas. In this capacity, she is responsible for assisting members of Congress and their staff in developing legislative policy and drafting legislation pertaining to issues affecting production agriculture and rural America.

Previously, Hazlett was director of agriculture for Indiana, where she managed the State Department of Agriculture and advised Gov. Mitch Daniels on agriculture and rural policy. She also served as chief of staff to Indiana Lt. Gov. Becky Skillman.

Hazlett worked as legal counsel to the U.S. House and Senate Agriculture committees during development of the 2002, 2008, and 2014 farm bills. She also worked for several farm organizations, including the Indiana and California Farm Bureaus.

She graduated magna cum laude in 1995 with a bachelor's degree in agricultural journalism. While at K-State, she was active in Agriculture Ambassadors, Block and Bridle, Agricultural Communicators of Tomorrow, and the Rodeo Club. In addition to her Wildcat education, Hazlett holds a law degree from Indiana University and a master's degree in agricultural law from the University of Arkansas.

David J. Mugler Outstanding Teaching Award

As he accepted the teaching award, Shannon Washburn reflected on the importance of the personal connection he had with Associate Dean Dave Mugler.

"I was a teaching assistant for Dr. Mugler's Ag Orientation class," said Washburn. "I had 10 minutes every Tuesday walking with him to class. What a valuable time to learn from him. He was a wonderful example of how to balance work and family."

Washburn became assistant dean in June 2015. He previously served seven years as a professor and associate professor in the Department of Communications and Agricultural Education. In addition to teaching and advising, he traveled internationally for educational seminars for agriculture teachers and research projects funded by the U.S. Agency for International Development and the National Science Foundation. He also helped K-State Research and Extension agents improve their presentation skills and served on the Agricultural Alumni Board.

From 2002 to 2008, Washburn taught at the University of Florida, Gainesville, where he coordinated a statewide Agriscience Teacher Professional Development Continuum and various 4-H and FFA youth career development opportunities. He also led international faculty development programs for Haitian and Egyptian faculty.

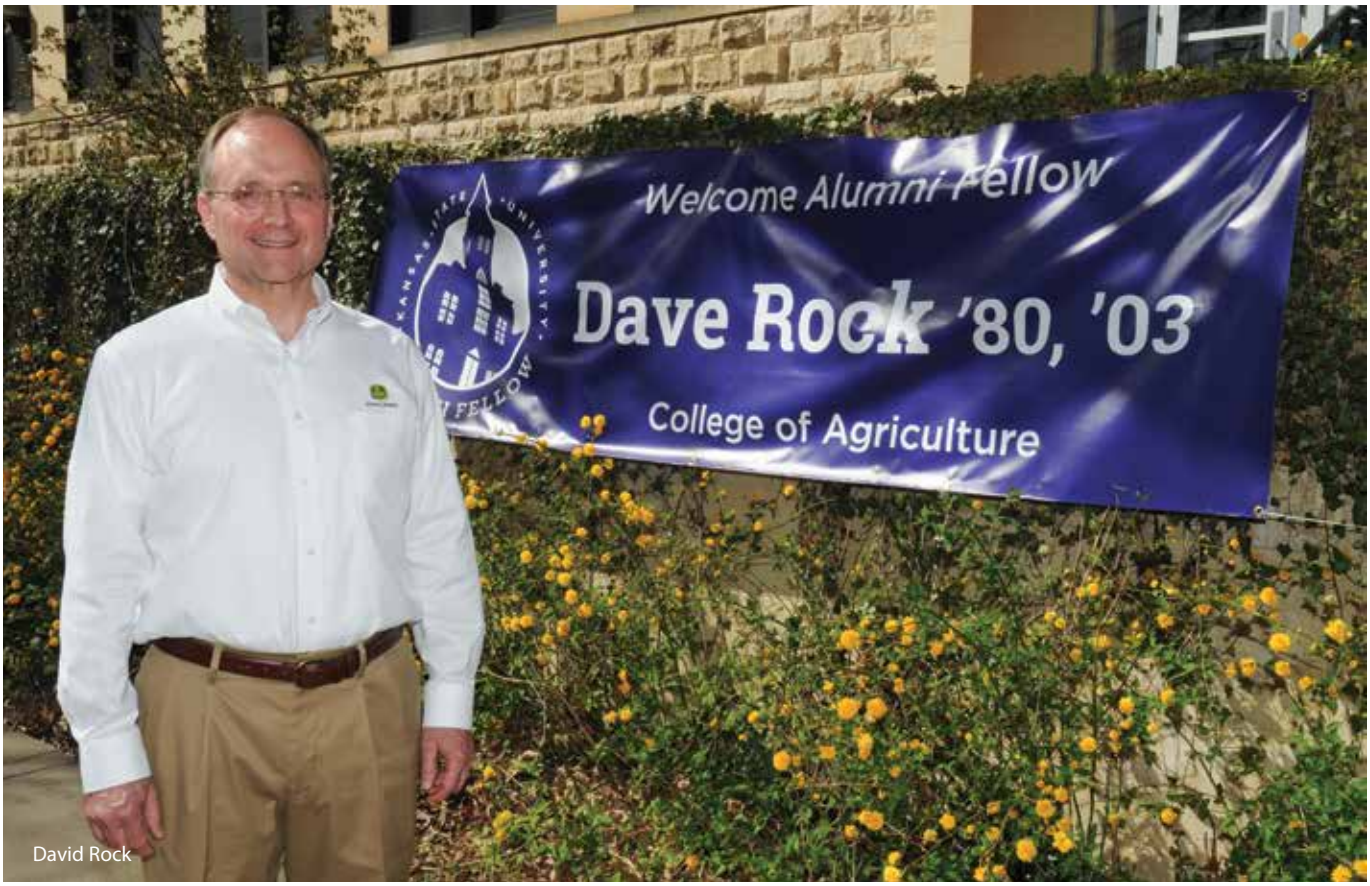
He was a graduate assistant at the University of Missouri, Columbia, for two years while working toward a doctorate in agricultural education. He was an instructor in K-State's Department of Secondary Education and earned a master's degree in 2000.

Washburn taught classes and advised the Hugoton FFA for three years after completing his bachelor's degree in agricultural education in 1995.

His ability to connect with students and his breadth of experience in teaching, advising, and international experience makes Shannon Washburn a worthy recipient of the David J. Mugler Teaching Award.

Sage Advice

Alumni share life lessons with students



David Rock

Choosing a career path can be daunting. Advice from those who have successfully made those tough choices often inspires students. For that reason, Kansas State University annually recognizes an Alumni Fellow from each college and invites him or her to campus to discuss current business and industry trends and meet with students and faculty.

The College of Agriculture selected David Rock, manager of channel development for the United States and Canada for John Deere.

Steve Goll, director of research and development/processed meats business units at Tyson Foods Inc., was honored by the Graduate School. Both spoke to multiple classes during their two days on the Manhattan campus.

Five words

Rock, a native of rural Hope in Dickinson County, earned a bachelor's degree in agricultural mechanization in 1980, which included a variety of business and economics classes. He completed a master of agribusiness in 2003. He also serves on the Dean and Director's Advisory Council.

As he spoke to classes, he emphasized five words. The first two — unexpected and patience — describe his 37-year career at John Deere.

During his career with John Deere, Rock had held 18 different positions in seven states, done project work in several foreign countries, and was transitioning to a new job as region operations manager.

Having so many different opportunities and experiences is not what he "expected" when he joined the company.

He asked the students if they wanted a job or a career. "I wanted a career not a job, which is where patience comes in," Rock said.

By patiently working a variety of jobs, he learned about John Deere and gained valuable experience. He also realized that the company's values and goals matched his desire to work with production agriculture and concentrate on the needs of John Deere dealers and customers for productive and effective mechanization.

The remaining three words of advice for success were differentiation, reputation, and margin.

"Differentiate yourself and stand out from the crowd," Rock said.

He encouraged students to develop a worldview by getting to know students and faculty from around the world.

To build a good reputation, he recommended developing expertise, being consistent, having a "get-it-done" attitude, valuing integrity, showing initiative, and being known as a problem solver.

Steve Goll

His final word was margin, which he described as having the capacity to do more, to take on more responsibility.

"Leave your thumbprint on things, don't accept things as they are," Rock said.

Products and patents

Steve Goll completed a bachelor's degree in animal science and a master's degree in meat and animal science at the University of Nebraska–Lincoln before coming to K-State for his doctorate. As a doctoral candidate, he taught classes and managed laboratories.

After completing his Ph.D. in 1988, Goll joined Oscar Mayer/ Kraft Foods as associate director of research and development. He holds six patents related to the development of Lunchables and Claussen Pickles. He also led strategic planning for the areas of Technology, Operations, and Procurement for the Meat and Pizza divisions.

In 2004, he joined Tyson Foods in Springdale, Arkansas, where he is responsible for all development and culinary activities for processed meat projects including new products, quality improvements, brand maintenance, and optimization.

Throughout his career, Goll has been active in the American Meat Science Association and was recently elected president of the organization.

While on campus, Goll presented a seminar then visited with students about his career choices.

He explained that Lunchables — a prepackaged lunch often including Oscar Mayer meat, crackers, and Kraft cheese — were developed to help busy moms. The company later realized that busy moms also enjoyed eating them and developed an adult version.

"It can take 18 to 24 months to develop a product from concept to shelf," Goll explained.

Because Goll holds several patents, students were curious about intellectual property rights. They also asked about transitioning from school to industry and how to combine research interests with management.

Goll encouraged them "not to be afraid to pursue opportunities and establish mentor relationships."

"Steve Goll was an excellent speaker," said Macy Sherwin, senior in food science and industry from Lenexa. "As a student, it is encouraging to know that although life may throw 'crucible' experiences your way, it is possible to not only survive, but thrive.

"By having alumni return and share about their success in industry, it allows students to see that our dreams are attainable. The question and answer segment of the lecture was invaluable, and I really appreciated Steve's honest feedback."

Paying It Forward

Curt (B.S.'73 animal sciences and industry) and Sheryl Frasier (B.S.'73 elementary education) reflected on their memorable undergraduate years at Kansas State University and looked for ways they could impact future K-Staters.

They chose to name the KSU Foundation as owner and beneficiary of their life insurance policies, designating future support for K-State students to study overseas and for the Alumni Association to create the Alumni Excellence Award to honor exceptional K-State alumni.

"The award will recognize alumni whose careers, service, and achievements exemplify the spirit, values, and excellence of the university," Curt said. "We have so many alumni who deserve this type of recognition."

The couple wanted to invest in studying abroad after witnessing the effect that experience had on their children.

"They gained such special insight. It impacted who they are today and how they will be able to help others who are less fortunate than themselves," Curt said. "Studying abroad also allows the passion K-Staters have for others to be felt outside of our state and nation.

"As alumni and friends, we have many opportunities during our lifetimes and through our estate plans to assure others can benefit from what K-State offers. It is a special place which can impact so many."

Advancing global foods leadership with secondary major

Frontier Farm Credit has donated $100,000 to help launch a new universitywide secondary major in global food systems leadership. The gift also helps celebrate the centennial of the Farm Credit System.

"Frontier Farm Credit and Kansas State University each have a long history of serving agriculture," said Parry Briggs (B.S.'05 agricultural economics), regional vice president in Frontier Farm Credit's Manhattan office. "This gift recognizes our shared interest in agriculture and improving global food systems for future generations."

Any student with a primary major in any discipline is eligible to participate in the secondary major. The program offers five different tracks: economics and entrepreneurship, food production and processing, policy, sustainability of natural resources, and community engagement.

"This program will provide students from a variety of backgrounds with a better awareness of food and agriculture," said John Floros, dean of the College of Agriculture and director of K-State Research and Extension.

"It will also provide them with the knowledge and experiences that will make them excellent prospects for employers or graduate schools. We appreciate Frontier Farm Credit's continued generous support of K-State faculty, students, facilities and now, programs."

The Innovation and Inspiration Campaign supports K-State's goal to become a top 50 public research university by 2025. The College of Agriculture's $100 million target will fund these priorities:

Student success — $40,000,000
- General undergraduate and graduate scholarships help students pursue a quality education.
- Study abroad experiences prepare students to work for companies with a global focus.
- Diversity in the student body and workforce generates ideas to meet future challenges.
- Extracurricular support provides hands-on experience, such as judging teams and presentations at national meetings.

Faculty development — $23,000,000
- Endowed professorships and chairs allow the college to attract and retain outstanding faculty.
- Research supports agriculture, the state's largest industry, to meet the challenge of feeding more people without additional resources.
- Faculty need quality resources and professional development opportunities to excel in their discipline and help students.

Facility enhancement — $12,000,000
- New buildings with advanced technology are essential for training future scientists and leaders.
- Renovations improve safety and usability of aging buildings and labs.

Excellence funds — $18,000,000
Provide deans and department heads with flexibility to pursue opportunities or address emerging needs for students and faculty.

Programmatic support — $7,000,000
Address additional funding needs to maintain essential existing programs.

Contact: Kim Schirer, 800-432-1578
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