

AgReport

College of Agriculture

Spring 2019

KANSAS STATE
UNIVERSITY



Professor brings real-world topics into the classroom



From the Dean and Director

As another academic year comes to a close and we send more graduates into the agricultural sector to lead, innovate and build a sustainable future, my first thought is how grateful I am to be part of such a fine institution and what I, with admitted bias, consider its crown jewel — the College of Agriculture.

The faculty, students and staff are what make this one of the top ag schools in the nation, to be sure, but when our graduates look back at their time on campus, years in the future, I'm certain they will think of their own personal landmarks as well. Some may look back to classrooms where our star faculty members helped them achieve a "lightbulb moment," for others it may be labs where they confirmed hypotheses, greenhouses and pens where they applied what they learned, or the Call Hall Dairy Bar for obvious reasons.

Building for the Future

Over the last few years, the college sought to build new, state-of-the-art facilities, the largest of which would have been a new building in the current parking lot north of Waters and Cardwell halls. That building effort was known at the time as the FASTER project — Food and Agricultural Sciences Teaching Extension and Research.

We have been compelled to rethink the FASTER plan as the issue of deferred maintenance of a couple of our key buildings forced us to examine alternatives.

A recently completed architectural and engineering study of existing conditions in Shellenberger Hall and the Feed Tech Building confirmed that the condition of the mechanical, electrical, plumbing and fire protection systems indicated it will not be feasible to renovate either building.

The study recommended both structures should be demolished and replaced with a modern teaching and research facility suitable for the college's current and future needs. As of the writing of this letter, we are awaiting an assessment of the feasibility to renovate Waters Hall.

Deferred maintenance in the nation's land-grant schools of agriculture was the subject of a national report made available in 2015. That report suggested the nationwide problem is on the order of \$8.4 billion in deferred maintenance across the land-grant system.

Locally, K-State tracks the condition of its buildings and published a color-coded map to categorize the levels of need in a campus master plan document in 2012. According to the building condition values at that time, Shellenberger Hall and Waters Hall were among the buildings in the worst condition in the College of Agriculture.

The demolition and construction of a new complex replacing Shellenberger Hall and Feed Tech and renovation of Waters Hall will be a large undertaking. We are hopeful that we can leverage private fundraising with state and federal support to make the project a reality in the coming few years.

Meanwhile, we're also working on plans to upgrade our on-campus dairy facility (see page 8), and the Agronomy Education Center is on track to open on Aug. 1.

Faculty Updates

In October, I was pleased to appoint Marty Draper the interim associate dean of research and graduate programs and interim director of research. Marty has been the department head of plant pathology for nearly three years and has a wealth of experience in research and extension from nearly 20 years in North and South Dakota. He also led national efforts in plant pathology and integrated pest management for a decade at the USDA's National Institute of Food and Agriculture in Washington, D.C.

Jeanette Thurston will start in June as our new director of the Food Science Institute (see page 22).

The search for a permanent head of the Department of Animal Sciences and Industry is ongoing, and interviews took place in early April 2019. Our plan is for the permanent head for the Department of Agronomy to be the next leadership search. However, we are going to pause the agronomy search and other academic head searches until the permanent dean search and hiring are completed.

As I said, this college is top-shelf because of its people, and I'm excited to see what the future holds as we fill these positions and move boldly into the future.

J. Ernest "Ernie" Minton

Interim Dean and Director

AgReport

Spring 2019

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

J. Ernest "Ernie" Minton

Interim Dean of the College of Agriculture
and Interim Director of
K-State Research and Extension
785-532-7137; eminton@ksu.edu

Don Boggs

Associate Dean of Agriculture
Academic Programs

Martin Draper

Interim Associate Dean of Research and
Graduate Programs and Interim Director
of Research

Nina Lilja

Associate Dean for International
Agricultural Programs

Gregg Hadley

Director for Extension

Sandy Klein

Assistant Dean of Agriculture
Academic Programs

Shannon Washburn

Assistant Dean of Agriculture
Academic Programs

Zelia Wiley

Assistant Dean for Diversity Programs

Susan Metzger

Senior Executive Administrator

The AgReport is published in spring and fall
by the Department of Communications and
Agricultural Education.

Editors: Gloria Holcombe and Jason Hackett
jhackett@ksu.edu

Writers: Pat Melgares, Mary Lou Peter,
Jason Hackett, Randall Kowalik, Angela
Denton, Marisa Larson, Kathy Gehl and
Gloria Holcombe.

Photographers: Dan Donnert and
contributors

Designer: Phylcia Mau

If you prefer to read the AgReport online and not
receive a printed copy, please send an email to
jhackett@ksu.edu.

www.ag.k-state.edu

www.ksre.k-state.edu

Kansas State University is committed to nondiscrimination on the basis of race, color, ethnic
or national origin, sex, sexual orientation, gender identity, religion, age, ancestry, disability,
genetic information, military status, veteran status, or other non-merit reasons, in admissions,
educational programs or activities and employment, including employment of disabled
veterans and veterans of the Vietnam Era, as required by applicable laws and regulations.
Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title
VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504
of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans With
Disabilities Act Amendments Act of 2008, has been delegated to the Director of Institutional
Equity, Kansas State University, 103 Edwards Hall, Manhattan, KS 66506-4801, (Phone) 785-532-
6220; (TTY) 785-532-4807. Revised August 14, 2014.

Contents

- 2 News briefs
- 4 Test-driving a career
- 7 Planetary perspective
- 8 Supporting growth

Cover Story

- 10 Bringing current topics into the classroom
- 12 Full market value
- 14 Choose your own adventure
- 16 New faculty hit the ground running
- 18 Student highlights
- 21 Today's soldiers; tomorrow's farmers
- 22 Department updates
- 24 Class notes
- 26 Research center stays open
- 28 Kruse family matches scholarship gifts
- 28 Frasier family honors K-State graduates



Find more information and
view previous issues online at
ksu.edu/agreport

On the cover: Nathan Hendricks, associate professor of agricultural economics (standing behind
lectern) chats with students before class. Clockwise from Hendricks are Tori Laird (graduate
teaching assistant), Brea Hostert, Rebecca Hernandez and Walker Clawson.

www.ksu.edu/agreport

KSU Foundation welcomes college representative

Courtesy of KSU Foundation



Emily Warriner recently joined the KSU Foundation as a development officer on behalf of the College of Agriculture. A Kansas State University graduate with bachelor's degrees in agribusiness and accounting, she is currently pursuing her master's degree in agribusiness.

Warriner, a native of Effingham, said she was raised "with agriculture in my daily life."

"After my time at K-State," she continued, "it was clear to me that agriculture and Kansas State University are my top two passions. I saw the chance to have a career interacting with alumni while helping students have the same great experience I had, and couldn't pass up the amazing opportunity."

Her strategy as a development officer is not simply about monetary investments, but guiding each specific donor to something that touches their heart.

"First and foremost are the interests of the donor and what they feel passionate about; and second, the dean's priorities as he has a great pulse on the needs of the college," she said.

Warriner adds that the College of Agriculture has interested, invested alumni and friends who maintain a high level of passion about their days at K-State. She sees something specific on the horizon that she can guide them to.

"An emerging opportunity in the College of Agriculture is the project for a new building," she said. "I'm excited about this addition to campus, and the new opportunities it will present for funding."

Heartfelt thanks

For the last 30 years and 60 issues, it has been my privilege to tell the stories and accomplishments of College of Agriculture students, faculty, and alumni in the K-State *AgReport*. The magazine has gone through various formats and stages, including four deans and four interim deans.

Looking through past issues brought back wonderful memories of interviews in fields, barns, classrooms, banks, mills, labs, over the phone, and at kitchen tables. I enjoyed coordinating or taking photos of weeds, livestock, crops, irrigation, buildings, and especially smiling faces. When we couldn't get there to take photos, you shared photos of your families and study-abroad trips.

The best part of my job has always been interacting with alumni. Thank you for your dedication to K-State, the College of Agriculture, and K-State Research and Extension.

— Gloria Holcombe, *AgReport* editor



Measuring momentum

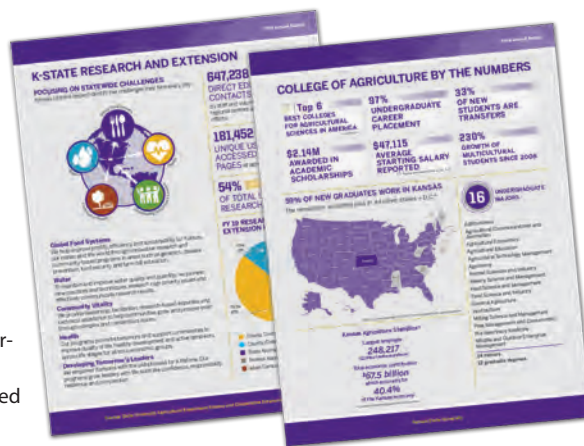
The College of Agriculture by the numbers

Did you know 59 percent of new graduates from K-State's College of Agriculture (2012-17) work in Kansas? The rest are spread all over the country — in all but six states.

The average starting salary for a four-year graduate from the college was more than \$47,000 per year (averaged across three semesters' grads from 2016-17).

If you want to know more about the College of Agriculture's progress, take a look at the 2019 annual reporting documents that were shared with the Kansas Legislature in January. There's a simple, single-sheet report for the college and another for K-State Research and Extension. They can be downloaded from bit.ly/ksu-ag-archive.

Remember, to stay informed about big news throughout the year, you can subscribe to our quarterly e-newsletter, *Statewide*, by signing up at bit.ly/ksu-statewide.



Global livestock conference picks K-State as first U.S. host

In September, Kansas State University will be the first U.S. host of the international partnership meeting of the Global Agenda for Sustainable Livestock.

More than 350 attendees from around the world, including ministers of agriculture, industry leaders, representatives of nongovernmental organizations and more, are expected on the Manhattan campus for GASL's Multi-Stakeholder Partnership Meeting Sept. 9-13.

The meeting will feature plenary sessions, policy discussions, field tours and highlights on innovation for sustainable livestock systems.

GASL is part of the United Nations' Food and Agriculture Organization, based in Rome. It is a recognized platform for sharing good practice and policy. It promotes the sustainability of the global livestock sector. Its main principle is that all livestock production systems can be more sustainable no matter where they are.



Vincent Amanor-Boadu, agribusiness economic and management professor, speaks to a group from the Rome-based Food and Agriculture Organization as they plan an international conference to be hosted in Manhattan in September.

Devlin leads the way in multi-partner irrigation research

Dan Devlin, agronomy professor and director of the Kansas Center for Agricultural Resources and the Environment, was chosen to lead the new Irrigation Innovation Consortium, which was created last year to develop and accelerate energy-efficient water technologies and practices.

Funded by a \$5 million grant from the nonprofit Foundation for Food and Agriculture Research, the consortium was founded by five universities — Colorado State, Fresno State, K-State, Nebraska and Texas A&M — along with eight private-industry partners to find ways to turn research into practice.

"In some cases, industry might bring us some technology to work on," Devlin said. "Going the other direction, K-State or one of the other universities might share some research findings, which might help industry bring technology from the drawing board into the marketplace."

For much of the past three decades, technology has lagged behind ideas, Devlin said. The focus of the IIC will be to find ways for university research and industry partners to develop products faster and get them out the door and into the fields where producers can put them to work.

Devlin said he often finds common ground with partners right away. "Some of the scientists working within the industry are K-State alumni — they were our students in the not-too-distant past," he said. "It can be exciting to see some of these familiar faces — and see what they bring to the table."

2,4-D resistance found in Palmer amaranth

A Kansas State University researcher reports the No. 1 problem weed in the U.S., Palmer amaranth, has developed resistance to the widely used herbicide 2,4-D — findings that may signal an important step in developing future controls for the pesky weed.

Vipin Kumar, a weed scientist at the Agricultural Research Center in Hays, said until now, researchers were not able to confirm the resistance levels to 2,4-D in Palmer amaranth.

The weed is commonly found in Kansas cropping systems and negatively affects soybean, corn, sorghum, sunflower, cotton, wheat and fallow fields. It is also a serious problem in wheat stubble.

Kumar and his research team have recently tested one strain of Palmer amaranth — known as a biotype — and the results, he says, are sobering.

That biotype has been confirmed with low levels of resistance to 2,4-D, as well as resistance to glyphosate (Roundup PowerMax), chlorsulfuron (Glean), atrazine (Aatrex) and mesotrione (Callisto).

His findings have been published in the journal, *Pest Management Science*, which is available online.



Palmer amaranth, the No. 1 problem weed, chokes out sorghum in a central Kansas field.

TEST-DRIVING A CAREER



COLLEGE PROMOTES INTERNSHIPS TO HELP STUDENTS FIND THEIR CHOSEN FIELD

Students use summers, winter and spring breaks, and sometimes an entire semester to gain real-world experience in their chosen career fields. Opportunities and requirements for internships vary among departments. Not all majors require students to participate in an internship, but advisors in all departments highly recommend them.

Faculty advisors see internships as a win-win situation for both the employer and the intern. According to Greg Davis '79, '88, '93, associate professor of landscape design, "Employers evaluate the intern continuously and can gauge whether the student could be a good fit for a career in the operation."

"Students gain confidence and develop clarity in their own career path and goals," said Karol Fike, associate professor and internship/career coordinator for the Department of Animal Sciences and Industry. "Sometimes the internship solidifies their plans and sometimes it causes them to re-evaluate their career goals.

Either way they gain real-world work experience, which earns them credibility with future potential employers and helps them clarify their career path."

Cherie Hodgson, undergraduate program coordinator for the Department of Agricultural Economics, added, "Probably the biggest plus is that 80 percent of internships lead to job offers for our students."

Agricultural economics students jump into a wide variety of internships: the banking industry, Farm Credit, K-State Research and Extension, local area co-ops and elevators, feedlots, commodity brokers, state and national government agencies, plus the finance, accounting, marketing, management, and human resources divisions of large companies and corporations.

Career fairs

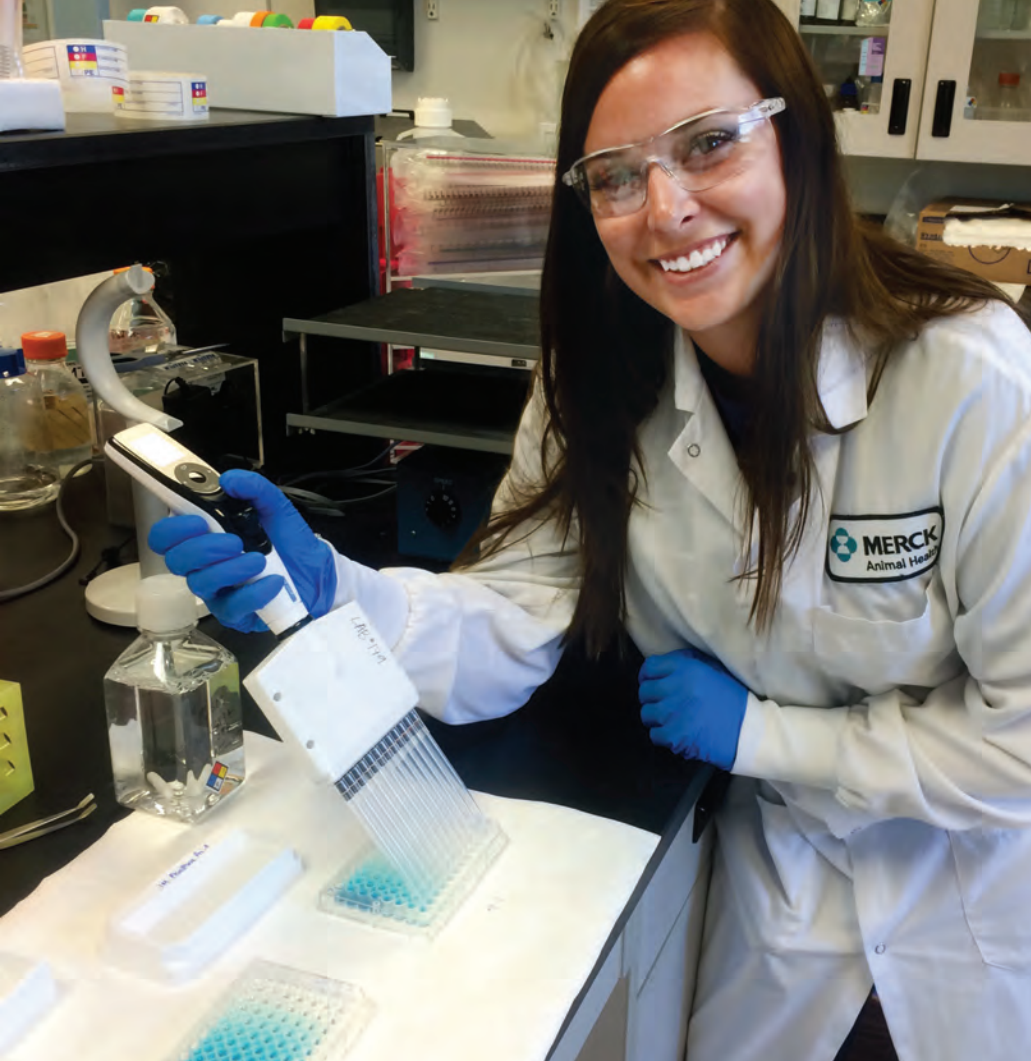
Talking with company representatives at a career event is a popular way for students to find an internship or job. The K-State Career Center hosts the All-University Career Fair in September

and the Agri-Industry Career Fair in January. Despite single-digit temperatures, the Jan. 30 event brought 94 employers to campus with 272 students attending,

"K-State's Agri-Industry Career Fair started in January 2007," said Mary Ann Barkley, Career Center assistant director. "From its beginning, the fair has been an important way for students and employers in the ag industry to connect in person.

At the fair, students have the opportunity to learn about a diverse array of agriculture-related jobs and internships as well as ask questions about what a career in the industry or with a particular organization is like. A large number of alumni attend to represent their companies and connect with current students."

Most departments require students to take an orientation class early in their college career. In addition to its orientation class, animal sciences and industry offers a career preparedness class for juniors and seniors. Barkley



Savannah Speckhart '17 worked in product research and development during her internship with Merck Animal Health.

often speaks to those classes about preparing an internship portfolio, updating résumés and writing cover letters. She also critiques portfolios and offers mock interviews.

Campus visits

Because it's the only department in the U.S. that offers degrees in milling science, feed science and bakery science and management, K-State's Department of Grain Science and Industry frequently receives requests from companies when they are looking for interns. The companies schedule student interviews in Shellenberger Hall.

"Twenty-five companies held on-campus interviews last fall," said Brenda Heptig, the department's academic programs support coordinator. "We don't have as many during the spring semester because most students have already accepted a summer internship by that time."

The department requires all majors to do two to three internships. Freshman orientation class helps prepare students for the interview process and what to expect while on the job. Some organizations offer international experience. For example, the Swiss Milling School offers a semester-long internship in Switzerland.

Encouraging participation

"All horticulture and natural resources students are required to have at least a summer internship," said Cathie Lavis '93, '05, professor and extension specialist in landscape management. "Some will do six months, and most of these come with a nice scholarship at the end. Our golf and sports turf students do two internships, which allows them to get both a clubhouse, inside experience and an outside experience."

Lavis posts a weekly newsletter for students in the Department of



Students talk to employer representatives at the Jan. 30 Agri-Industry Career Fair on campus.

Horticulture and Natural Resources with upcoming events, announcements and opportunities for scholarships, internships and employment called *The Week in Preview*. Other departments use listservs, alumni networks and Facebook to alert students about upcoming opportunities. Most departments require students to take an orientation class early in their college career.

Agricultural economics lists internships as an important college experience in its undergraduate recruitment brochure. "We talk about internship opportunities and benefits with all prospective students," said Cherie Hodgson.

"In our Freshmen Orientation class (AGECC 105) we have upper-class students present programs about their internship experiences. In this class, students are also introduced to the Career Center and their services by completing a tour of their facility."

About 25 percent of agricultural technology management students complete internships. John Slocombe '77, professor of biological and agricultural engineering and coordinator of the ATM program, talks with students at enrollment and throughout the year about participating in quality internships.

"I meet with students during dead week of the spring semester and present the internship course requirements," said Slocombe. "Students provide an information-and-contact sheet, description, objectives and a monthly journal of activities. Students are evaluated twice by their direct supervisor. We ask all students to present their internship to the ATM Club and, in some cases, faculty and our freshman-orientation course."

Clubs and organizations

The college offers more than 35 clubs and organizations. Club meetings provide the perfect opportunity to discuss the importance of internships

and allow students to give presentations about their specific experiences.

Assistant Professor Katherine Burke '10, '15, advises the Agricultural Communicators of Tomorrow Club. At an ACT meeting, a four-member panel from commodity groups discussed career fair preparation with students.

Members of the Wheat State Agronomy Club attend professional meetings, where they make presentations and compete in contests, said Kim Hay '12, '14, agronomy instructor and academic coordinator.

"It expands their network and allows them to interact with potential employers and students and faculty from universities across the country. The experience helps with professional development and improves their communications skills, which in turn helps them in their internships.

"Five of the six options in the agronomy program require an internship, so the majority (95 percent or more) of

our students complete at least one internship," added Hay.

College credit

To qualify for credit toward a degree, internships must meet specific criteria. For example, agricultural communications and journalism majors must choose an internship where 50 percent or more of their work duties relate to communications such as editing, writing, social media, marketing or event planning.

Jason Ellis '98, head of the Department of Communications and Agricultural Education, teaches Careers in Agricultural Communications that deals with professionalism, cover letters, résumés and ethics in the workplace.

Agricultural education majors often complete a "traditional" summer internship with K-State Research and Extension, a business or industry; however, they are required to participate in a 12-credit-hour, student-teaching block. ■



Agronomy student Peter Bergkamp worked for Helena Agri-Enterprises LLC in Pennville, Indiana, 2018.



Caitlin Carlson, Horticulture Club president, scales a tree with crew leader Dave Maddox. Carlson interned as a tree climber and plant healthcare technician for Davey Tree Service in Dallas, Texas.

Community-focused internships in NW Kansas

K-State Research and Extension is in the third year of an internship program sponsored by the Dane G. Hansen Foundation.

"The first year we had five students, the second year eight, and this year we hope to have 24," said Nadine Sigle, agriculture and natural resources extension associate based in northwest Kansas. "Students come from a wide variety of academic backgrounds, and the skillset depends on the project the community identifies."

Sigle said these interns work for a nonprofit, community or government entity. K-State Research and Extension promotes the internships to communities and organizations across northwest Kansas. The group identifies a project area if specific skills are required. In some cases, adding a skill not typically found in the area, such as architecture or community planning.

Students from any college or university may respond to the position announcement.

The Hansen Foundation pays for the wages and cost of employment. K-State provides the marketing, assists in the hiring process, manages the human resource aspects and is a liaison among the Hansen Foundation, the communities and the students. The communities provide supervision, office space, supplies and housing.

"We ask that students have completed six semesters, so they are ready to jump into a professional experience," Sigle said. "Students work up to 400 hours during the summer. The communities receive professional help on a project, and interns gain real-life experience in their chosen profession."

Planetary perspective

Featured speaker spent a career documenting advancements; shares concerns for future



Courtesy of Dennis Dimick

Dennis Dimick

Photographs taken by Dennis Dimick in his travels around the world are spreading a crucial message about how humans can preserve Earth's environment.

The former executive environmental editor for *National Geographic*, where he worked for 35 years, Dimick thinks he has a pretty good perspective on how humans have reached our current era of prosperity and where we're going.

Dimick has been chosen as the sixth speaker in the Henry C. Gardiner Global Food Systems Lecture Series at Kansas State University. On Oct. 14, Dimick will present

"Living in the Human Age," a fast-moving, vivid slideshow which explores and explains the modern human era.

The lecture series has routinely drawn more than 1,000 attendees since it was formed in 2015 by K-State and the Gardiner Angus Ranch of Ashland. The talk will be in K-State's McCain Auditorium, beginning at 7 p.m. Admission is free.

The Henry C. Gardiner Global Food Systems Lecture Series gives university students, faculty, staff and Kansas citizens an opportunity to interact with U.S. and international food industry leaders.

Dimick, a journalist, photographer and educator, has written on several natural resource issues and guided projects for *National Geographic*, including a 2004 global warming issue on visible climate change, and a 2010 issue on freshwater scarcity.

He also has addressed such issues as the world's growing population, which is expected to reach 9.6 billion by the year 2050; and in 2014, produced a "Future of Food" series on global food security.

Also in 2014, he managed a *National Geographic* project to explore the effects of coal for energy, and on long-term effects of drought and snowpack loss in the western United States.

Dimick and *National Geographic* photographer Jim Richardson, who holds an honorary doctorate from K-State, also will speak to K-State students and other campus groups.

Learn more about the Henry C. Gardiner Global Food Systems Lecture Series at bit.ly/GardinerLecture2019.

Supporting growth

K-State dairy program boosts industry progress

As Mike Brouk drives up to the Hildebrand Farms Dairy in Junction City, he's greeted by a familiar face.

Operations manager Melissa Hildebrand-Reed is keenly aware of how valuable Brouk, a K-State dairy specialist, is to the family business, which has operated since 1930 and currently provides milk to 120 stores in Kansas.

"Our family has always relied on the information we get from K-State," said Hildebrand-Reed, a 2007 agricultural communications and journalism graduate.

For the past 15 years, Brouk has advised Hildebrand Farms Dairy on feed rations for the 150-cow herd, symbolizing a time-tested and valued relationship between the university's dairy faculty and the state's nearly 300 dairy farms.

Brouk noted that over the past 20 years, the university has directly or indirectly helped develop innovations in the dairy industry such as soaker lines and ventilation systems to combat heat stress, diet formulations and pen designs.

The program's research focuses mostly on reproductive management, nutrition and heat stress. Brouk also spent most of a sabbatical year looking at the pros and cons of robotic milking.

"We've got lots of examples of where we've worked with the industry in Kansas and the United States to solve problems and get those solutions out to dairy producers," he said.

Dairy in Kansas

The university's work is one reason the state's dairy industry has seen steady growth over the last two decades.

Barry Bradford, professor of animal sciences and industry who specializes



Courtesy of Melissa Hildebrand-Reed, Hildebrand Farms Dairy

Kansas dairy production continues its two-decade growth track — up 28 percent in the last five years — because of partnerships between producers such as Hildebrand Farms Dairy, shown here, and K-State's dairy, itself one of the most productive university dairies in the nation.

in dairy nutrition, said the university's dairy, north of the main campus, is a key component to the assistance K-State gives to the state's dairy industry.

The university's dairy is considered the most productive university dairy in the country, reporting a rolling herd-average milk production of 31,390 pounds in 2018.

According to the Dairy Records Management System, that places K-State's dairy in the top 20 of commercial herds tracked by that organization. No other university dairy is in that range.

The DRMS tracks data only for

U.S. dairies listed in the Dairy Herd Improvement Association, which includes 10,323 herds and 2.85 million cows.

"It certainly gives us some credibility when we talk to dairy producers in our state," Bradford said. "I think we do have a strength in terms of identifying little things that influence cow comfort and cow health and productivity. We share that information regularly."

Bradford noted that about 300 undergraduate students take some coursework through the K-State dairy program each year; many of them also work at the dairy.

For some of the students — such as pre-vet students whose primary experience is with companion animals — the dairy often is their first on-farm experience.

Looking to the future

The K-State dairy, however, is 40 years old and showing signs of aging. Bradford is among those looking at ways to secure future funding to update the facility so it could eventually be used not only as a full-scale dairy, but also as a teaching facility for short courses and other educational opportunities.

Dairy extension specialist Luis Mendonca provides information and training to the state's producers in Spanish and English. He also leads an internship program for students who want to work in dairy.

"We have labor issues in agriculture, so we are trying to engage students and motivate them to get involved in the dairy business," Mendonca said.

The university's program, called Dairy Leaders of the Future, is in its second

year. Mendonca said students typically tour dairies in western Kansas, and are encouraged to take internships at larger, family-operated dairies.

"It's trying to connect what's happening at large dairies in western Kansas and the students here at K-State," Mendonca said. "We are trying to bridge the two and facilitate discussions, and hopefully we can have some superstar students working at dairies in western Kansas."

More information on the program is available at dairyleaders.com.

K-State has also established the Dairy Records Intelligence Network — drinkdairy.com — which establishes benchmarks allowing producers to compare their production and reproduction records.

Mendonca said 107,000 cows in Kansas and Nebraska are currently enrolled in the program.

Bradford noted that the K-State dairy program has solid relationships with the Kansas Livestock Association, Kansas

By the Numbers

Number of cows has increased to about 160,000

Kansas milk production is up 28% in the past five years

3.3 billion pounds in 2016

Value of more than \$533 million

Source: Kansas Livestock Association

Dairy Association and the Kansas Department of Agriculture among others.

And, as Hildebrand-Reed well knows, producers appreciate the one-on-one assistance that has become commonplace in Kansas.

"We thrive because K-State is in our backyard," she said. "No doubt about that." ■



Courtesy of Samantha Albers

K-State's dairy is not only a high-performing facility. It is also a trusted resource for producers throughout the region.

Bringing current topics into the classroom

Farmers face difficult decisions such as whether to irrigate and how much, what to plant, and when to sell what they have harvested. K-State agricultural economists analyze how multiple factors such as weather, water supply, global markets, government programs, and crop insurance can influence daily decision-making. The next step is to get their findings into the hands of the decision makers on farms and students in the classroom.

When Nathan Hendricks enrolled at K-State, he knew he wanted to be in agriculture but wasn't sure of a major until he took Introduction to Agricultural Economics taught by Bryan Schurle.

"The economics just made sense to me and were exciting," said Hendricks. "It

convinced me to start going down that road to my degree. Being a teacher didn't cross my mind until my senior year. My brother, Chad ['02], was working on a master's degree, so I started thinking about a master's degree and teaching."

Hendricks completed a bachelor's degree in 2005 and a master's in 2007. He earned a Ph.D. at the University of California, Davis in 2011 then returned to the K-State Department of Agricultural Economics as an assistant professor, with responsibilities in research and teaching.

Research collaborations

The overall goal of his research program is to better understand how economic incentives affect the supply of agricultural products and the interaction

between agricultural production and the environment and natural resources. This often leads him to focus within three areas: agricultural policy, land use and water.

He's involved with fellow faculty members in multiple research projects related to land values both dryland and irrigated land (Mykel Taylor, Gabe Sampson); the impact of new technologies that provide yield prediction during the season (Jisang Yu); estimating how GMOs have increased corn yield over time (Jesse Tack); and global analysis of international trade (Nelson Villoria).

"Our young faculty are really fantastic," said Hendricks. "There are so many possible collaborations."



Nathan Hendricks, associate professor of agricultural economics, conducts a check-in with students (from left), Tori Laird (graduate teaching assistant), Brea Hostert, Rebecca Hernandez and Walker Clawson before Hendricks' Contemporary Issues in Global Food and Agricultural Systems class.

The economics just made sense to me and were exciting. — Nathan Hendricks

He also works with faculty in other departments and off campus. Hendricks is part of a National Science Foundation grant with Jonathan Aguilar, extension specialist at the Southwest-Research Extension Center, and Stacy Hutchinson, professor in biological and agricultural engineering.

In the classroom

Hendricks teaches Contemporary Issues in Global Food and Agricultural Systems in the spring semester, and two graduate courses, Quantitative Topics in Agricultural Economics and Price, Income, and Trade Policies in Agriculture. He advises about 30 undergraduate students and is the major professor for at least five doctoral students.

Incorporating his research interests into the classroom benefits students, especially in the contemporary issues class (AGEC 315). He also brings in guest speakers to talk about current topics.

“Dr. Hendricks provides a refreshingly unique economic classroom atmosphere, complete with large-group interactive experiences and tangible zeal for the subject matter,” said Sydney Gottlob, junior in agribusiness. “His AGEC 315 class encourages individualized critical thinking that is relevant to all types of majors and walks of life.”

Dwane Roth, a Finney County producer, and Brownie Wilson, GIS/support services manager with the Kansas Geological Survey, talked to the class about water conservation issues, including depletion of the Ogallala Aquifer.

“The students really enjoyed interacting with them,” said Hendricks.

Afterward, Roth contacted Hendricks with a proposal for Roth, Hy-Plain

Feedyard and Conestoga Energy to sponsor a class competition to hear what students thought producers should or shouldn't do about the depleting aquifer.

The students were up for the challenge. They wrote proposals on what should be done and why. Next, the class evaluated the proposals, chose the top three and forwarded those to Roth to share with associates.

For their hard work, students with the winning proposals got a year's supply of Varsity Donuts.

“The students really got into the ‘Water for Donuts’ challenge,” said Hendricks. “More than the prize, the students liked that someone was interested in hearing what they had to say.”

Other popular class topics include the economic impact of tariffs, the history and projections for world supply and demand for food, dicamba drift, agriculture and the environment, and international poverty.

“The section on international trade used to be hard to motivate,” said Hendricks. “This year, international trade was the topic students were most excited about at the beginning of the semester.”

While many of the topics covered in the class are controversial, Hendricks said student discussions are respectful. He always tries to provide both sides of an argument to help students appreciate different views and to better defend their own views.

Sharing results

As a land-grant institution, K-State has a mission of teaching, research and extension. And that means getting research results to the public.

Faculty are encouraged to publish in journals, which reaches colleagues across the United States and beyond. They



also present results to broader local audiences. Hendricks recently gave a presentation to producers in St. John, Kansas, about the impact of potential water use restrictions because of an impairment complaint regarding Quivira National Wildlife Refuge.

He speaks at the annual Risk and Profit Conference and the Governor's Conference on Water. Eric Atkinson '78, '82, agriculture director for the K-State Radio Network, also has interviewed him several times for “Agriculture Today.”

Last summer, Hendricks was invited to participate in a roundtable discussion about agriculture and the environment led by the Breakthrough Institute. The roundtable featured major environmental organizations, some agriculture technology firms and lobbyists.

“Engaging in those discussions is critical, so paths pursued by these thought leaders offer cost-effective solutions and avoid unintended consequences,” said Hendricks. ■

Full market value

Employers prize K-State agricultural technology management graduates

When Grant Good graduated from K-State's agricultural technology management program in 2007, he carried with him a résumé thick with experience.

It was no surprise that Good went from the graduation stand to a successful career at AGCO Corporation, an agricultural equipment manufacturer in Hesston, Kansas. He's been there ever since, currently working as an engineering manager developing and testing farm equipment.

"I was able to take advantage of flexibility in the curriculum the ATM program offers, and that really helped me learn a lot of things in areas that people in more specialized programs don't often get exposed to," said Good, whose four-year program in ATM allowed him to earn double minors in agronomy and animal sciences and industry. He also completed a master's of agribusiness in 2013.

College collaboration

The program is unique because students earn a degree from the College of Agriculture, even though the students are advised by, and the courses are taught by, faculty in biological and agricultural engineering. Faculty often hold dual appointments in the colleges of Agriculture and Engineering.

Good's example represents another distinctive aspect of the program. The ATM curriculum provides a wide range of electives, which allows students to design their college degree to a career objective they are passionate about.

"If we have students who have a strong interest in technology, they usually choose to enroll in more technology-related courses," said John Slocombe, professor of biological and agricultural engineering and ATM teaching coordinator.



Grant Good, '07, '13

Courtesy of Grant Good

"And likewise, if we have students who have a stronger interest in the agricultural sciences — commonly agricultural economics or agribusiness — they may choose to enroll in more courses from those disciplines."

Program evolution

Known as agricultural mechanization until 1991, ATM's roots go back to 1961, when students enrolled to boost their acumen in mechanical-related, agricultural businesses.

Today, Slocombe says, the program focuses on applied engineering concepts, agricultural sciences and business management. Students such as Good often find themselves with job offers before they have graduated.

Slocombe, who earned a degree in agricultural education in 1977, said the program's placement rate is routinely 100 percent, and those students start at an average annual salary of \$50,000.

According to data from the Kansas Board of Regents, K-State's ATM grads earn an average annual salary of nearly \$65,000 after just five years on the job.

"The job market for ATM graduates clearly is not saturated," said Lisa Wuggazer, biological and agricultural engineering academic program specialist. "For example, employers can't find enough people with a background in precision agriculture, and that's a high interest area to our current students. Because that market is a hot commodity, it's a good area for students to be interested in right now."

Slocombe noted many graduates pursue precision agriculture and other machinery-systems career paths; while others choose careers as grain marketers and terminal elevator managers for large companies such as Cargill, Bartlett Grain and Conagra.

Others, he added, may select careers in natural resources with governmental agencies, such as the Natural Resource Conservation Service and Farm Service Agency.

"It's really a progressive approach to academics," Slocombe said. "We are continually looking at ways to improve our curriculum to ensure relevancy and marketability of our graduates."

Related activities

There are approximately 60 students in the program, many of whom are involved in the ATM Club or the Quarter-Scale Tractor Club teams, both are highly visible on the K-State campus.

The ATM Club's biggest fundraiser is a lawnmower clinic in which students provide full maintenance on homeowners' lawnmowers prior to the spring mowing season. The Quarter-Scale Tractor Club has won many international competitions.

"Teamwork activities, where they have to work as a group, work at getting along, make decisions and assume leadership

roles for a common goal, are all valuable skills that our students obtain," Wuggazer said. "Those clubs complement their degree."

Slocombe added an average 50 percent of ATM students complete internships during their college career, some for university credit. "Many times, internships lead to a professional position following graduation," he said.

"BAE faculty have connections to many industries and are able to assist students with locating internships and career positions," Wuggazer said. "It's all about relationships and making those connections."

It certainly helped give Good a leg up in what has been a fruitful career with his company.

"The job experience that I gained in school was a big piece," he said. "In my career field, it has helped me have a much different customer perspective and practical knowledge in some areas where others may not have had exposure through their coursework."

More information about the ATM program is available online at www.bae.ksu.edu/undergraduate/atm. ■



Left: Justin Logan tunes up a lawnmower at Seaton Hall during ATM's annual community clinic, the club's main fundraiser for the year.

Below: Standing amid his colleagues at AGCO in Hesston, Kansas, Grant Good can attest to the Agricultural Technology Management program's value in learning technical skills as well as teamwork.





Courtesy of Anthony Meals

Learning a wide array of agricultural and technological skills in a variety of disciplines is only part of the equation for agricultural education majors. Effectively teaching those skills is the art learned along with the science. It all adds up to a virtually guaranteed job in a field with more openings than applicants.

Choose your own adventure

*Broad job choices await agricultural education grads
as demand far outstrips supply of qualified teachers*

Growing up in Plainville, Kansas, Alexandra Walters considered a career in social work or education, but decided to teach about agriculture.

Walters graduated in 2018 and is a first-year agricultural education teacher at Peabody-Burns Middle School-High School in Peabody, where she teaches classes in plant science, animal science, food science, agricultural mechanics and more.

“My students enjoy anything they get to design themselves,” she said. “For their fall final, my Food Science class created its own Christmas-cookie business where they were tasked to take a traditional recipe and swap a nutrient to make it healthier.

“The students had to conduct sensory analyses and reviews with their peers in the school and reevaluate their recipe. The project went over really well, not only with students in the class, but also those around the school.”

The path was not as clear for Anthony Meals, who grew up in a military family that moved frequently.

“I did not take my first ag course ’til I was a junior in high school when we moved to Clay Center,” Meals said. “I had a long desire to be an educator, but I was always waffling between being a history teacher or English teacher. It was not until I took an ag class that I knew this is what I was being called to do.”

A 2014 K-State graduate, Meals is in his fifth year of teaching agriculture at Blue Valley High School in Randolph.

Growing need for teachers

Meals and Walters are part of a growing trend in middle schools and high schools to offer agricultural education programs, and colleges and universities can’t turn out graduates fast enough to meet demand.

"It was not until I took an ag class that I knew this is what I was being called to do."

— Anthony Meals, high school teacher

"There is a nationwide shortage of agriculture teachers," said Brandie Disberger, '01, '03, an instructor in the Department of Communications and Agricultural Education. "Here in Kansas we are only graduating about half the needed agriculture teachers. We have had 100 percent placement in this major for over 20 years."

While some students put their skills and knowledge to work in production agriculture after high school, many further their education by moving into university agricultural education and other higher-education programs. They then have a range of career opportunities available to them, including going back into the classroom to teach others.

Disberger, who taught high school agricultural education for 10 years before returning to K-State, said there are ag education openings in urban and suburban school districts as well as in rural areas.

The K-State program is relatively small. Agricultural education classes typically range from 12 to 25 students. Currently there are 90 undergraduates in the program, with about 20 graduating each year. Disberger anticipates more than 25 graduates in 2020.

Students with an interest in agriculture and a passion for working with people make excellent candidates, Disberger said, noting that as of May 2018, average starting salaries in Kansas for students with a bachelor's degree in agricultural education were more than \$40,000.

Importance of agriculture

"It is critical — for people and agriculture — that people understand how agriculture and the industry impact their lives," said Jonathan Ulmer, associate professor of agricultural education. "High school agriculture guides students through career exploration and preparation through the classroom, laboratory, FFA and work-based learning."

The breadth of training lends itself to a range of career opportunities, Disberger said. About 80 percent of K-State's

graduates go on to teach at the high school level, but some choose careers in extension. Others work in agriculture-related sales or service positions, nonprofit organizations, or pursue advanced academic degrees.

Students study a variety of topics, from energy systems to animal science to plant systems; food products and processing; biotechnology in agriculture; power, structural and technical systems; and more.

Agricultural education students learn through classroom and laboratory work, but also through experiential learning, typically outside the classroom. Many high schools also use the National FFA Organization and other programs to help students hone their leadership skills.

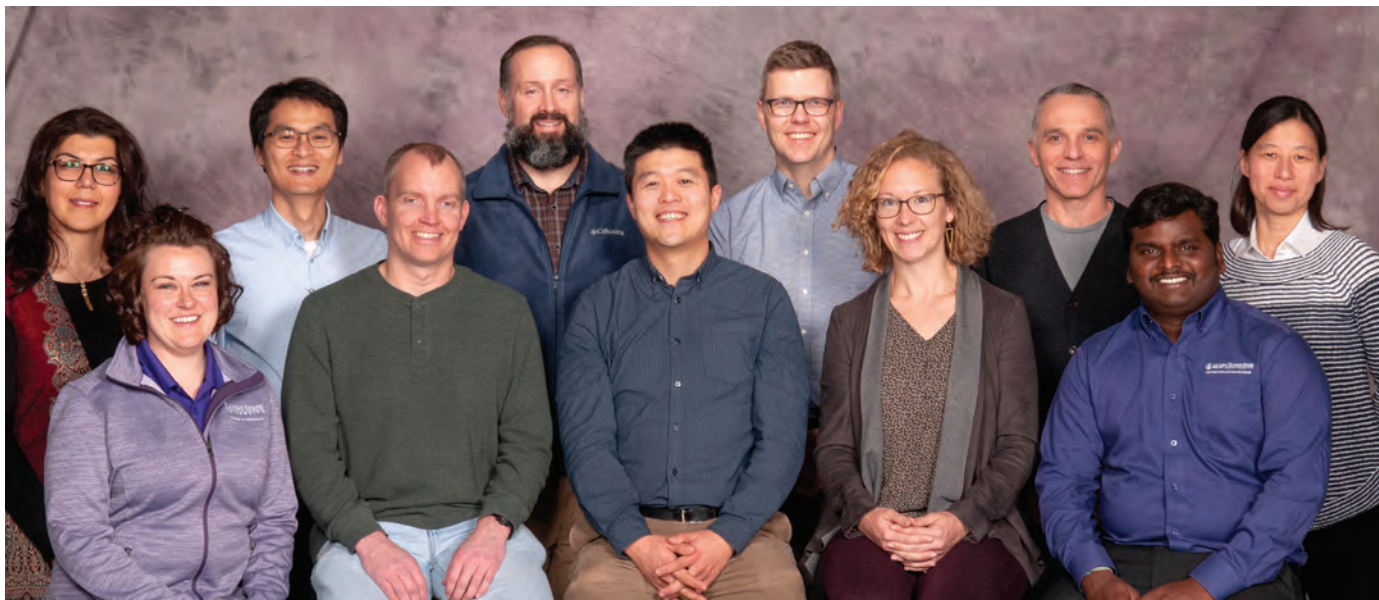
When asked about his students' favorite project, Meals said it depended on where their interests were, for example: "If you asked my Ag Mechanics students, it would be individual woods projects; if you asked my Vet Science class, it would be either the surgery training unit or animal grooming unit; if you asked my Applications in Horticulture class it would be the annual spring landscaping project around our school; and if you asked our Ag Engineering students, they would describe troubleshooting prototype designs on 3D printers."

Disberger noted the number of Kansas FFA chapters had grown to 198 in 2018 from 181 in 2016. "Some individuals think that career and technical education programs, including agricultural education, are closing in high schools when it is just the opposite," she said. "They are growing rapidly."

What's at stake? In Kansas alone, agriculture contributes nearly \$62.8 billion to the state's economy, about 43 percent of the total. The state's farmers and other agricultural businesses produce \$4.2 billion in exports to countries around the globe.

Educating middle, high school and college students — who in turn contribute by becoming better teachers, farmers, ranchers, industry and community leaders — is the goal. ■

New faculty hit the ground running



Faculty participating in the K-State Agricultural Research Scholars program (from left): Shahideh Nouri, Jessica Rupp, Yi Zheng, Kristopher Silver, Jeremy Cowan, Michael Chao, Joseph Janzen, Sarah Janzen, Brian Spiesman, Kaliramesh (Kali) Siliveru and Tania Kim.

Faculty come to K-State to build upon existing programs and generate new ones related to emerging agricultural issues.

To get new faculty up to speed on processes and grant-funding opportunities, the college offers the K-State Agricultural Research Scholars (K-StARS) program.

“We do very well in hiring new faculty, but success in the new research economy is very complex in the current economic climate,” said Martin Draper, interim associate dean of research and graduate programs.

“This additional effort with our new faculty has helped build collaboration among the cohort and contributed to increased success in bringing external funding to K-State and the new scientists’ research programs. That funding advantage grows knowledge faster and gives students exposure to new creative ideas.”

Eleven recent hires in six departments are participating in the current K-StARS program, and they bring a broad range of skills to enhance College of Agriculture teaching and research.

Some are K-State alumni, most have worked at other land-grant universities, and others have international experience.

Commodities and poverty

Sarah Janzen’s research focuses on global poverty and international agricultural development. Her research spans three areas: theoretical modeling of poverty and asset dynamics; risk and agricultural finance in developing countries; and impact evaluation of anti-poverty programs.

She has ongoing research projects in Kenya and Nepal and teaches Contemporary Issues in Global Food and Agricultural Systems in the fall semester.

Joseph Janzen conducts research on price and trading dynamics in agricultural commodity markets. He also teaches classes in agricultural marketing and farm management.

He holds B.S. and M.S. degrees in agribusiness and agricultural economics from the University of Manitoba, and he earned a Ph.D. in agricultural and resource economics from the University of California, Davis. Before joining

K-State, he was an assistant professor at Montana State University.

Specialty food crops

Jeremy Cowan is building a sustainable food-systems program and providing educational opportunities for students and the community at the Willow Lake Student Farm. He teaches Fruit Production, Vegetable Production, Sustainable Agriculture, and other courses.

His research focuses on regenerative agriculture in specialty-food crop systems and will explore the possible contributions of biodegradable plastics and permaculture, an agricultural system or method that integrates human activity with natural surroundings to create self-sustaining ecosystems. He also looks at the sociological impacts of sustainable-agricultural education.

Insects — good and bad

Tania Kim’s research program examines how land management and landscape diversification affect the biodiversity of beneficial insects including natural enemies, pollinators and decomposers and the ecological services they provide.

*"I set very high standards and motivate student interests
inside and outside the classroom."*

— Michael Chao, meat scientist

The conversion of natural areas to agriculture has increased dramatically over the last 50 years, and this transformation increased the use of pesticides, habitat disturbance through tillage and crop harvesting, and loss of food resources.

She teaches Economic Entomology, where students learn how both harmful and beneficial insects affect humans, how to identify them in the field, and how to manage them, plus an upper-level insect ecology course.

Brian Spiesman studies relationships between insects, plants and the changing environment. His research focuses on how land use and climate change affect biodiversity, how species interact within a community, and their ability to perform essential services, such as pollination. Kim and Spiesman work together on two USDA-funded projects.

Kristopher Silver's research interests involve insect toxicology — the physiological and molecular interactions between insects and insecticides. To understand how insecticides work, he looks at how a chemical affects a biological system. He teaches Entomology Seminar, Insecticide Properties and Laws, and co-teaches a special topics course called Molecular Entomology Laboratory.

"As a teacher, it is really special when you are trying to get a student to understand a topic or procedure, and then you see that light go on in their eyes," said Silver. "They finally do it or see how everything works or have that 'wow' moment, and it's really wonderful to see them grow."

Grain processing

Kaliramesh (Kali) Siliveru '16 teaches courses on particle technology, advanced grain processing technology, and grain handling. He also conducts research

related to grain processing, food safety and storage. He is leading a project on computerized modeling of grain processing, re-creating the life of flour from a wheat stalk in a farmer's field to the consumer's kitchen.

"You have to make certain the entire chain is clean," Siliveru said. "Computerized modeling provides a fuller understanding of where *E. coli* or other pathogens that may be found in the supply chain from farm to fork."

Yi Zheng brings both industry and research experience to the department. His primary focus is biomanufacturing. He said creative freedom that comes with working in academics led him to K-State.

"Dr. Zheng is expected to broaden our approach to fermentation biotechnology," said department head Gordon Smith. "He is currently working on innovative projects to produce high-value materials from low-value input."

Meat science

Meat scientist **Michael Chao** teaches undergraduate and graduate classes and advises the Meat Science Association. His research interests are in meat lipidomic (the study of pathways and networks of cellular lipids in biological systems) and developing, niche meat-processing techniques to serve the needs of domestic-ethnic markets and international markets.

Chao said he considers undergraduate research an important part of his teaching responsibility.

Plant diseases

Shahideh Nouri teaches a graduate-level plant virology course. Most plant viruses are transmitted by arthropods, such as mosquitoes, flies, lice, fleas, ticks and mites.

She studies the molecular biology

of virus-vector interactions, virus evolution, and the role of vectors' natural microbiome in the virus transmission. Vectors are agents that carry and transmit an infectious pathogen into another living organism.

After earning a Ph.D. in plant pathology from K-State in 2015, **Jessica Rupp** accepted a position with Montana State University.

In 2018, she returned to K-State to head the Applied Wheat Pathology Laboratory. Her program focuses on diseases affecting wheat — Fusarium head blight (scab), wheat streak mosaic complex, the leaf spot complex, barley yellow dwarf virus, and the root rot complex — with particular emphasis on disease phenotyping of both commercial and elite breeding lines from Kansas, Nebraska, Montana, North Dakota and South Dakota.

The lab looks at how farmer practices influence wheat diseases, including the use of cover cropping, grazing and fallow-land practices. ■

In the Next Issue:

2019 Agricultural Alumni Board awards:

Distinguished Alumnus — David Nuttle '58, inventor and humanitarian

Outstanding Young Alumnus — Justin Knopf '00, Knopf Farms Inc., Gypsum

David Mugler Outstanding Teaching — Christine Wilson '94, '96, '01, professor, Department of Agricultural Economics

Student highlights

Adam Holtorf, agribusiness major from Seward, Nebraska, played starting center for the K-State Wildcat football team. In 2018, Holtorf was given the Big 12 conference's highest academic honor, the Dr. Gerald Lage Academic Achievement Award. To be nominated, athletes must have a cumulative grade-point average of 3.8. He also was on the 2018 Rimington Trophy watch list for the top college center in the nation. He will be returning this fall for his final season. Holtorf thanks his advisor, Christine Wilson '94, '96, '01, for her help in managing his busy athletic schedule and classes on campus.



Courtesy of K-State Athletics

College organizations honor outstanding students

Student organizations nominate candidates for Student of the Month. Selection is based on scholarships and honors, activities both on- and off-campus, résumé, grade-point average and significant experiences during his or her college career.

September: Claudia Hissong, senior in agricultural economics from Greencastle, Pennsylvania, was nominated by the College of Agriculture Ambassadors.



October: Hector Rojas, junior in animal sciences and industry from St. Charles, Illinois, was nominated by the Minorities in Agriculture, Natural Resources and Related Sciences.



November: Taylor Belle Matheny, senior pursuing a dual major in animal sciences and industry and agricultural communications and journalism from May's Lick, Kentucky, was nominated by Block and Bridle.



December: Karl Wilhelm, senior in agribusiness from Holton, Kansas, was nominated by the College of Agriculture Ambassadors.



Agriculture Student Council coordinates the nomination process and selects the honorees. The Kansas Farm Bureau Foundation sponsors a monetary recognition for each recipient.

Honors

College of Agriculture Scholarships for Distance Education were awarded to these students enrolled in online programs through K-State Global Campus: **Jesse Mazelli**, senior in animal sciences and industry, Valley Center; **Cianna Means**, senior in food science and industry, Orange, California; **Ashley Howlett**, master's student in agribusiness, Bliss, New York; **Kyle Walcutt**, master's student in food science, Winchester, Virginia; and **Julie Wadzinski**, master's student in agribusiness, Marathon, Wisconsin.

Stephanie Boucher, senior in food science and industry, Springfield, Missouri, earned a K-State Global Campus Scholarship for Distance Education Students.

Dümmen Orange awarded the \$5,000 Dr. P. Allen Hammer Scholarship to **Karen Schneck**, horticulture senior with a minor in entomology.

AB Mauri North America awarded \$5,000 scholarships to bakery science and management students, **Josi Johnson** and **McKenzi Weber**. They were chosen for their ability to demonstrate baking excellence, leadership skills and an understanding of baking trends. The scholarships are part of a five-year, \$50,000 pledge to K-State from AB Mauri North America.

The Shinoda Foundation presented **Megan Haresnape** with the 2018-19 Shinoda Scholar of the Year, the foundation's highest award. She is a senior from Lebanon, Kansas, majoring in horticulture with a minor in agribusiness. Her goal is to own and operate a production greenhouse.

Eric Koehlmoos, senior in agricultural education from Paullina, Iowa, was named the 2018 National FFA Star in Agriscience.

Shelby VenJohn, bakery science and management student and 4-H alumna, taught a baking class to Sedgwick County 4-H'ers. They made eight dozen pretzels and dough for 24 dozen cookies.

CRMER student fellows

College of Agriculture graduate and undergraduate students who were selected as fellows for the 2019-20 Center for Risk Management Education and Research class: **Anthony Edwards**, agribusiness, Blue Rapids; **Jenna Goetzmann**, agribusiness and global food systems leadership, Gardner; **Laila Carter**, food science, Isaac Romig, milling science and management, Overland Park; **Reba Kreider**, food science and industry, Horton; **Clara Wicoff**, agricultural economics and global food systems leadership, Iola; **Taylor Nikkel**, agricultural economics, Maple Hill; **Grace Luebcke**, animal sciences, pre-veterinary medicine, Marysville; **Reece Leonard**, agricultural economics, McDonald; **Kaitlyn Dinges**, agricultural economics, Ness City; **Noah Scrimsher**, agribusiness, Oskaloosa; **Julia Maddock**, agricultural economics, Paola; **Ira Kullot**, agribusiness, Syracuse; **Elena Brookover**, agricultural economics, Parker, Colorado; **Luke Gnad**, agricultural economics, West Point, Nebraska; **Gabe Blair Fontinelle**, agricultural economics, Brazil; and **Haobin Lin**, agribusiness, China.

Graduate Students

Two agronomy Ph.D. students were selected to present at the Capitol Graduate Research Summit: **Chandrima Shyam**, State West Bengal, India, for “Rapid metabolism of 2,4-D increases the resistance in common waterhemp (*Amaranthus tuberculatus*) under high temperature,” and **Balaji Aravindhan Pandian**, Tamil Nadu, India, for “Genetic basis and inheritance of mesotriene tolerance in grain sorghum.” Associate Professor Mithila Jugulam advises both students.

Yanting “Tina” Shen, grain science and industry, received the 2018 Outstanding Doctoral Student Scholarship from the Institute of Food Technologists, Kansas City section.

Afsana Noor, Ph.D. research assistant in plant pathology, received the Kansas Academy of Science Graduate Research Grant Award under the direction of Associate Professor Chris Little.

MANRRS students present memorial diversity awards

Members of the K-State Minorities in Agriculture, Natural Resources and Related Sciences chapter chose **J. Ernest “Ernie” Minton** and **Zelia Wiley** as corecipients of the 2019 Wallace Kidd Memorial Diversity Award. Minton serves as the interim dean of the College of Agriculture and interim director of K-State Research and Extension. Wiley is the college’s assistant dean for diversity and director of the Diversity Programs Office.

Minton joined the Department of Animal Sciences and Industry in 1983. Before becoming interim dean and director, he served as associate director for research and associate dean for graduate programs. Wiley came to K-State in 2012 as the university’s first diversity coordinator and founded the MANRRS chapter in 2002. Numbers and retention of minority students have increased by 400 percent during her tenure.

Wiley and Minton are strong supporters of the K-State Research and Extension Summer Research Fellowship, an eight-week paid fellowship designed for undergraduate students from U.S. land-grant colleges and universities.

MANRRS students thanked Wiley and Minton for their support and encouragement. Speakers at the event included **Lonnie Hobbs Jr.**, MANRRS co-advisor; **Jordan Bailey**, MANRRS president; **Tiffany Carter M.S. ’14** grain science and doctoral candidate in soil science; **Makinsey McIntosh**, Multicultural Academic Program Success Bridge Program; **Hector Rojas**, MANRRS vice president; and **Raymond Thomas**.

Hobbs, Carter and Thomas came to K-State for graduate school after participating in the K-State Research and Extension Summer Research Fellowship. Hobbs and Thomas are agricultural economics master’s students. Bailey, McIntosh, and Rojas are majoring in animal sciences and industry.

The award was established in memory of Wallace Ray Kidd ’50, the first minority graduate of the Department of Entomology. It has been presented every other year since 2005. This was the first time there were two recipients.



MANRRS members with honorees (from left): Cheyenne Lozano, Samantha Swearingen, Daisy Farr, Marie Armstrong, Raymond Thomas, Akayla Calhoun, Dariyan Springfield, Interim Dean Ernie Minton, Hector Rojas, Assistant Dean Zelia Wiley, Bricelis Jimenez, Makinsey McIntosh, Marisa Avila, Lonnie Hobbs Jr., Jordan Bailey and McKenzie Stevens.

Landscape contracting team competes

Forty K-State horticulture students participated in 29 events at the National Collegiate Landscape Competition. The K-State Landscape Contracting Team placed 12th out of 64 schools and more than 800 students at the competition. Several K-Staters placed in the Top 10 of their events: **Dalton Dunn**, woody ornamental plant identification; **Tyler Clements**, mini track loader operation; **Jordan Robinson** and **Soia Adinoli**, employee management; **Katy Doll**, sales presentation; **Landon Forche**, tractor loader backhoe operation; **Cait Carlson**, **Claudia Giacone** and **Kinzie Ratliff**, landscape plant installation; **Kristin Vaughn**, interior plant identification; and **Renata Goossen**, annual and perennial identification. The competition also hosts a large industry career fair. Six K-State team members also received national scholarships, and the K-State team brought home a check for \$500 by winning the Career Development Series. Local, regional and national landscape firms help offset expenses of the trip. The team coaches are Associate Professor Greg Davis and Professor Cathie Lavis.



The 2018 K-State Collegiate Crops team includes (from left) Keren Duerksen (assistant coach), Kevin Donnelly (coach), Wes Jennings, Jayden Meyer, Nate Dick, Blake Kirchhoff, Madison Tunnell, Noah Winans, Kaylin Fink (assistant coach) and Luke Ryan.

Crops team wins national title, sweeps individual awards

For 16 of the past 20 years, Kansas State University Collegiate Crops teams have captured the national title by winning both the Kansas City American Royal Collegiate Crops Contest and the Chicago Collegiate Crops Contest.

Official members of this year's championship team were **Wes Jennings**, Abilene, junior in agronomy; **Luke Ryan**, Solomon, sophomore in agronomy; and **Jayden Meyer**, Smith Center, sophomore in agricultural economics. Alternate contestants were agronomy majors **Nate Dick**, junior, Inman; **Noah Winans**, junior, Tekonsha, Michigan; **Madison Tunnell**, sophomore, Olathe; and **Blake Kirchhoff**, sophomore, Hardy, Nebraska.

Team members swept the top three individual placings at both events. Such a sweep is rare and has only been accomplished twice before in the 85-year history of the events, both times by K-State.

Professor Kevin Donnelly '72, '74, coaches the team. Agronomy seniors **Keren Duerksen**, Newton, and **Kaylin Fink**, Chapman, serve as assistant coaches.



K-State won Reserve National Championship at the 113th Collegiate Livestock Judging Contest

Back Row (from left): Instructor **Chris Mullinix** (coach), **Cody Rae Lafrentz**, Bienfait, Saskatchewan; **Cody Boden**, Clear Brook, Virginia; **Shilo Schaaek**, Westmoreland, Kansas; **Kolton Aubuchon**, Trinidad, Colorado; **Dean Klahr**, Holton, Kansas; **Wyatt Durst**, Morrowville, Kansas; **Cameron Hayden**, Cassopolis, Michigan; graduate student **Spencer Scotten** (coach).

Front Row: **Jake Pettigrew**, Columbia City, Indiana; **Emilee Holt**, Caldwell, Idaho; **Whitney Whitaker**, Atascadero, California; **Shayne Myers**, Colusa, California; **Cara Comstock**, Nevada, Missouri; **Hannah Frobose**, Pemberville, Ohio; and **Payton Dahmer**, Nevada, Missouri.



Horticulture senior Haley Burgett (far right) walked Servicemember Agricultural Vocational Education participants through the Plant Sciences Center greenhouses. The group also visited the Willow Creek Student Farm. Regan Hale, student farm manager (second from right), led that tour.

Today's soldiers; tomorrow's farmers

Organization trains veterans for careers in agriculture

Candice Shoemaker, a professor in the Department of Horticulture and Natural Resources, saw how a new idea might work during a harvest tour with military veterans last year.

"The host farmer had this late-model combine with all the latest precision agriculture technology on board — computerized controls, automatic steering, and GIS (geographic information systems). One soldier asked if he could have a seat at the controls," Shoemaker said. "Maybe half an hour later, this soldier had figured everything out and was driving it through the field. He ended up harvesting several rows all by himself!"

Shoemaker '82 is one of several K-State professionals working with SAVE — Servicemembers Agricultural Vocational Education. The nonprofit organization aims to guide transitioning members of the U.S. military from the battlefields to the crop fields. One of the initial steps is a farm tour to expose military personnel to their options in agriculture.

SAVE and K-State are working toward mutually beneficial results. Shoemaker noted more than half of all farmers are 60 or older, and many of their children and grandchildren would rather not carry on the family farm.

"At the same time," she said, "we have this growing population of highly skilled soldiers, sailors and airmen transitioning out of the military. They've served our nation and are looking for their next career."

Through hands-on training and internships, SAVE can help farmers and ranchers pass on their operations to disciplined, skilled men and women with some unique advantages.

Shoemaker stresses that it doesn't take 1,000 acres to yield these benefits. Smaller farms, often situated closer to urban areas, provide a comfortable fit.

"Reports from recent SAVE farm tours show veterans respond more positively to smaller, diversified operations," Shoemaker said. "Adjacent urban

areas also increase the likelihood that veteran families are close to military bases, where they can take advantage of Veterans Administration hospitals, commissaries and post exchanges."

SAVE is beginning to gain attention at the national level as a potential model for partnership between a nonprofit and a land-grant university. "The USDA really wants K-State to be the leader in figuring this out and introducing this to other land grants around the country," Shoemaker said.

K-State Research and Extension agents are crucial connecting points, because they have close working relationships with local farmers and ranchers. "In fact, we have more requests for SAVE trainees and interns than we can fill," Shoemaker said.

**Learn more about SAVE at
thesavefarm.org.**

Agricultural Economics

Professor **Jason Bergtold** spoke at the December college commencement. He also earned the 2018 U.S. Department of Agriculture Food and Agricultural Sciences Excellence in College and University Regional Teaching Award.

Agronomy

Colby Moorberg, assistant professor, was named an open education resource, research fellow by the Open Education Group. The group's goal is to increase the affordability and effectiveness of education. He also was named as one of two faculty of the Fall Semester.

Associate Professor **Ignacio Ciampitti** earned 2018 Early Career awards from both the Crop Science Society of America and the American Society of Agronomy.

Professor **Nathan Nelson** '98 received the 2018 Soil Science Education and Extension Award from the Soil Science Society of America.

David Mengel, professor emeritus and former department head, earned the 2018 ASA Distinguished Service Award.

Professor **Stephen Welch** leads a research team that earned a National Science Foundation Early-concept Grant for Exploratory Research award of \$300,000 to develop a sensor to attain real-time data on soil health to help farmers make better decisions related to food production. Other team members: Professor **Ganga Hettiarachchi** plus Stacey Kulesza, Prathap Parmeswaran, and Ryan Hansen from chemical engineering.

Hettiarachchi is part of a team led by the University of Texas, El Paso. With her \$236,409 share of the award, She will focus on how to prevent lead exposure through soil or dust.

Professor **Anita Dille** was honored as Professor of the Week at the January 9 K-State vs. West Virginia basketball game. She also was elected vice president of the Weed Science Society of America.

Animal Sciences and Industry

Awards presented at the American Society of Animal Science/American Dairy Science Association Midwest section meeting: **Cassie Jones** '07, '09, associate professor — Outstanding Young Teacher Award; **Annie Lerner** '15, '16 — 3rd place in Ph.D. oral competition; **Henrique Cemin** — Midwest Young Scholar (Animal Science) Ph.D.; **Caroline Ylioja** — Midwest Young Scholar (Dairy) Ph.D.; K-State Academic Quadrathlon Team (**Derek Neal**, **Kyndall Norris**, **Amanda Roth** and **Mark Jameson**) competed in regional competition.

Sara Gragg, K-State Olathe campus, received the Hall of Fame Advanced Degree Graduate of Distinction Award from the Department of Animal and Food Sciences at Texas Tech University.

The department partners with Cats' Cupboard to provide \$20 vouchers to 80 students each month during the regular semester. Students may use the voucher to purchase ground beef, milk, eggs, and hard cheeses at Call Hall Dairy Bar. Cats' Cupboard staff and volunteers selected the department for the organization's "Friends of Cats' Cupboard" award for 2019.

Communications and Agricultural Education

Jonathan Ulmer, associate professor of agricultural education, received the Honorary American FFA Degree, which recognizes those who advance agricultural education and FFA through outstanding personal commitment.

Entomology

Associate Professor **Brian McCornack** is serving as interim head of the department.

Food Science Institute

Professor **Fadi Aramouni** received the Food Product Development Award for his research on incorporating breadfruit flour as an extender of gluten-free products. The students who worked on the projects: Elizabeth Clark, Ellissa Heim and Danielle Reedy.

Jeanette Thurston has been selected as the Food Science Institute director, beginning June 17. For the last 10 years, she has held positions of increasing responsibility at the U.S. Department of Agriculture's National Institute of Food and Agriculture, advancing basic and applied research, education, extension and strategy in the area of food safety.

Grain Science and Industry

Professor **Jon Faubion** '73, '80, received the William Geddes Memorial Award from the AACCC International, formerly the American Association of Cereal Chemists.

Xiuzhi (Susan) Sun, university distinguished professor of grain science and industry and ancillary faculty of biological and agricultural engineering, was chosen as a fellow of the National Academy of Inventors. She is named on 15 U.S. patents that have generated more than \$385,000 in licensing revenue via the Kansas State University Research Foundation.

Horticulture and Natural Resources

Charles Barden, professor of forestry, was honored for his service on the Kansas Alliance for Wetlands and Streams board of directors. He joined the board in 2001 and served as chair from 2007 to 2011.

Steve Keeley, professor of turfgrass science, is serving as interim department head.

Dan Sullins, assistant professor of wildlife and outdoor management, joined the department in February.

Associate Professor **Chad Miller** was honored as Professor of the Week at the March 9 K-State vs. Baylor basketball game.

Kansas Forest Service

Jason Hartman, fire protection specialist, and Rodney Redinger, fire training specialist, spent eight days traveling across Armenia to train firefighters in the former Soviet republic. The practices and tools used by the Armenian firefighters were also of interest to the

Kansas Forest Service specialists who plan to replicate a custom-built tool to use in firefighting.

K-State Research and Extension

Watershed specialist **Ron Graber** '82, '85, coauthored a paper with Trisha Moore and Aleksey Sheshukov, biological and agricultural engineering faculty, in the February issue of the *Journal of Extension*. "Integrating Watershed Management Across the Urban — Rural Interface: Opportunities for Extension Watershed Programs," shows that partnerships are an important component for improving water quality at the watershed scale.

Bertha Mendoza received the 2018 Public Health Award from the Kansas Public Health Association.

Bruce Snead, Engineering Extension Programs director, received the 2018 Radon Hero award for his leadership and dedication to reducing radon exposure over the last 30 years.

New agents hired by K-State Research and Extension:

Jennifer Brantley, Sedgwick County director for community development

Jennifer Fitzpatrick, Pawnee County family and consumer sciences

Charlene Miller, Butler County agriculture and natural resources

Wendie Powell, Wildcat District agriculture and natural resources

Amanda Staub, Stafford County agriculture and natural resources

Kallie Turner, Kingman County agriculture and natural resources

Plant Pathology

Professor **Eduard Akhunov** made the annual Highly Cited Researchers list prepared by Clarivate Analytics "Intellectual Property and Science" business of Thomson Reuters. His research group was the only one listed from Kansas.

Professor **Megen Kennelly** is serving as interim department head.

In memoriam

Anna Mae Brown '73, Girard, 67, died Feb. 18, 2019. She was the Crawford County family and consumer sciences agent from 1990 to 2014.

Stanley Clark '54, '59, Manhattan, 87, died Nov. 19, 2018. He conducted research and taught at K-State for 30 years, serving as department head the last nine years. During this tenure, the agriculture mechanization degree was renamed agricultural technology management and the Department of Agricultural Engineering was renamed the Department of Biological and Agricultural Engineering.

Stanley W. Ehler Jr., Manhattan, 78, died Feb. 28, 2019. As a faculty member in the Department of Agronomy for 32 years, he created Crop Science, Weed Management, and Seed Technology classes and taught Soil Fertility and Grain Grading. He advised the Wheat State Agronomy Club, Ag Student Council and the Crop Protection Club.

Carroll Hess, Topeka, 95, died Aug. 17, 2018. He served four years in Oman and two years in the Philippines for the U.S. Agency for International Development. He was appointed dean of the K-State College of Agriculture in 1966 and retired in 1988.

Mary Doris Schroeder '38, '68, Manhattan, 101, died Nov. 28, 2018. She started as Thomas County home economics agent in 1960. She was promoted to northwest district home economist. She retired in 1983. Five generations of her family graduated from K-State.

Douglas Stucky '80, Cimarron, 61, died March 27, 2019. He was the Gray County agriculture agent from 1986 to 1992, when he became the executive extension agricultural economist for the Kansas Farm Management Association, Southwest.

Ralph Titus '55, '64, Manhattan, 84, died Oct. 8, 2018. He was director of Extension Radio, Television and Film for 32 years, retiring in 1994.



The Department of Animal Sciences and Industry renamed the recently renovated Weber Hall Lounge (142) as the Jack Riley Student Center on Feb. 22. Riley loved teaching and advising and taught more than 7,000 students. He was faculty coordinator of the beef research unit for 16 years and department head for 17 years. Pictured during the dedication ceremony are his widow, Jan; their sons Brian and Steve; Steve's wife, Kelly and son, Cooper.

'50s

On Dec. 14, the Department of Animal Sciences and Industry dedicated 202 Weber Hall as the **Ben E. Brent** Analytical Lab. Brent '59, '60, joined the K-State faculty in 1966 and worked to elevate the research component of the department. He helped build the department's reputation as a research department and was an early advocate for using computers to address animal agriculture applications.



Courtesy of Angie Denton

'60s

Jim Riemann '66, '73, '74 was named the Department of Animal Sciences and Industry Distinguished Alumnus. He is a member of the department's Livestock and Meat Industry Council and was inducted into the Meat Industry Hall of Fame's 2018 class on Feb. 11. Riemann was a teaching and research faculty member at the University of Tennessee-Knoxville, director of a new beef research and development program for Excel Corp. (Cargill) in Wichita, and served as Kansas Department of Agriculture assistant secretary.



Jim Riemann with Evan Titgemeyer, interim department head

'70s

Jerry Bohn '72, was recognized as the 2019 Kansas Stockman of the Year at the annual Stockmen's Dinner on Feb. 28. He worked for Hormel, Blackjack Feedyard, CattleFax, and 34 years at Pratt Feeders. He has a long record of service to the beef industry and is on track to serve as the president of the National Cattlemen's Beef Association.

Michael Beam '78, former senior vice president for the Kansas Livestock Association, was appointed Kansas Secretary of Agriculture.

Steve Strickler '74, Iola, is a member of the Dairy Farmers of America Board of Directors.

Ron Wilson '78, '99, director of K-State's Huck Boyd National Institute for Rural Development, has been elected secretary of the national chapter of Western Wordsmiths.

Maureen Olewnik '79, '83, '03, K-State Global Food Systems Initiative coordinator, was elected president of AACC International, formerly American Association of Cereal Chemists. She assumed the role at the association's 2018 meeting in London.

'80s

Bill Graff '88, was named the 2018 Department of Agricultural Economics Distinguished Alumnus. He is senior vice president and chief information officer for Cerner.



Courtesy of Tom Reust

Clinton Krehbiel '88, '90, was chosen Midwest ASAS President-Elect at the American Society of Animal Science/American Dairy Science Association Midwest section meeting.

Dallas Peterson '81, '83, professor and extension weed specialist, was named a fellow of the Weed Science Society of America.

'90s

Jennifer Wilson '93, '02, became leader of extension operations. She previously was K-State Research and Extension, Riley County director.

Jackie McClaskey '93, '14, is the president of development for the American Royal Association. She previously served as Kansas Secretary of Agriculture.

'00s

Jennifer Shike '00, is the editor of Farm Journal's *PORK*. She previously directed junior activities for the National Swine Registry. She started the National Junior Swine Association, taking it from an idea to an organization of more than 12,000 youth members from across the country.

Brandon Depenbusch '02, '08, '09, received the Outstanding Early Career Agribusiness Award at the ASAS/ADSA Midwest section meeting.

Sandy Klein '06, '11, assistant dean, was chosen as one of two fall Faculty of the Semester.

Matthew Rouse '07, research plant pathologist, at the USDA-ARS Cereal Disease Lab, received the 2018 Norman Borlaug Award for Field Research and Application, endowed by the Rockefeller Foundation. His work, which aims to prevent cereal yield losses, focuses on wheat and barley resistance to stem rust and physiologic specialization of the barley leaf rust pathogen in the United States.

KaCee Thompson '09, Hiawatha High School agricultural education teacher and FFA sponsor, was named Outstanding Teacher by the Kansas Association of Agricultural Educators.

'10s

Logan Hedlund '12, joined the Dodge City Kansas Farm Management Association office as an extension agricultural economist.

Alan Duttlinger '13, received the Dr. Tim S. Stahly Outstanding Swine Nutrition Midwest Graduate Student Award at the ASAS/ADSA Midwest section meeting.

Logan Britton '15, '16, and Osler Ortezt '18 each received \$500 Love of Learning awards from Phi Kappa Phi. The national honor society distributes 200 awards each year.

Alumni hired as K-State Research and Extension agents

James Coover '07, '12, '14, is the Wildcat District crop production agent. He previously was the agriculture and natural resources agent for Dickinson County.

Gary Fike '93, is the Riley County director. He had worked as a beef cattle specialist with Certified Angus Beef and for the Red Angus Association of America.

Zachary Hoppenstedt '18, is the Johnson County horticulture/vegetable/fruit production agent. He had been a program associate for the Horticulture Research and Extension Center in Olathe.

Stephanie Kramer '12, is the Rawlins County agriculture and natural resources agent. She had been an operations specialist for Farmers Bank & Trust in Atwood.

Jeff Seiler '14, is the Sedgwick County agriculture and natural resources agent. He had been a research associate for AgReliant Genetics.

Tony Whitehair '10, '14, is the Dickinson County agriculture and natural resources agent. He had been an assistant scientist in the Department of Agronomy.

Keep us updated

Let your fellow College of Agriculture alums know what you've been up to. Send news and address changes to:

Mail: Jason Hackett
Kansas State University
126 Dole Hall
1525 Mid Campus Dr., North
Manhattan, KS 66506

Online: ksu.edu/agreport
Email: jhackett@ksu.edu

In memoriam

Myron Ammeter '70, '72, Manhattan, 70, died Aug. 16, 2018. He taught high school in Westmoreland, worked in sales for Ralston-Purina, earned a pilot's license and was a community leader.

Larry Claflin '72, Wakita, Oklahoma, 78, died Feb. 3, 2019. He taught and conducted research in the Department of Path Pathology for 32 years, serving as major professor for 30 graduate students.

Merle Eversmeyer '66, '69, '71, Manhattan, 83, died Feb. 4, 2019. He served as the research leader in the USDA plant pathology unit from the mid 1960s until 2001.

Theodore "Ted" Hopkins '60, Derby, 89, died Dec. 17, 2018. He joined the K-State Department of Entomology in 1960 and was promoted to associate professor in 1963 and professor in 1966. He retired in 1998.

Leland McKinney '98, '00, Urbandale, Iowa, 43, died Jan. 1, 2019. After completing a Ph.D. at Oklahoma State, he joined the Department of Grain Science and Industry. He was with K-State for seven years before taking a position at Iowa State.

Charles Pitts Jr. '62, '65, State College, Pennsylvania, 85, died Feb. 3, 2019. He was a professor and head of the Penn State Department of Entomology for 22 years.

William M. Phillips '47, '49, Manhattan, 95, died Dec. 2, 2018. He worked for the USDA Agricultural Research Service located at the Fort Hays Branch Experiment Station, Hays, from 1948 to 1973, then joined the station faculty doing research on weed control in field crops. He became head of the station in 1976 and retired in 1985. In 2001, he wrote the 100-year history of the Agricultural Research Center-Hays, formerly the Fort Hays Branch Experiment Station.

Irvin F. Ross '56, Pinellas Park, Florida, 90, died on Oct. 2, 2018.

George W. Siver Jr. '52, Freehold, New Jersey, 92, died Aug. 29, 2018. He was a U.S. Navy veteran, professor at Rutgers University and director of 4-H youth programs in Monmouth County for 30 years.

Kansas Master Farmers and Master Farm Homemakers

Five couples were honored March 8 in Manhattan as the 2018 class of Kansas Master Farmers and Master Farm Homemakers in recognition of their leadership in agriculture, environmental

stewardship, and service to their communities. Marking its 92nd year, the statewide award program is sponsored by K-State Research and Extension and *Kansas Farmer* magazine.

Gary and Rebecca Hatesohl, Washington County

- Alumni children
- Adam ('09 B.S. animal sciences and industry, '13 D.V.M.)
- Kelsey ('15 B.S. horticulture)

Tom and Judy McCarty, Thomas County

- Alumni children
- David ('02 B.S. animal sciences and industry)
- Ken ('05 B.S. animal sciences and industry)

James ('69 B.S. agricultural economics) and Miriam ('71 B.S. home economics education) Nelson, McPherson County

Mark ('78 B.S. animal sciences and industry, '79 M.S. animal science) and Joanne Noll, Brown County

- Alumni children
- Aaron ('06 B.A. architecture)
- Byron ('06 B.S. construction science and management)
- Ethan ('10 B.S. agronomy)
- Gabriel ('14 B.S. geography)
- Michael ('03 B.A. English, B.A. mass communication)

Gary ('62 B.S. animal sciences and industry) and Delores Rieck, Osage County



Research center stays open, adds industrial hemp test plots



The John C. Pair Horticulture Center had been slated for closure, but after exploring ways to ensure its self-sustainability, research will continue at the Hayville site near Wichita. One of the new areas of research will be industrial hemp.

The John C. Pair Horticulture Center in Haysville remains open for extension-outreach and research after being slated for closure.

Following feedback from stakeholders, a Kansas State University task force proposed a number of ideas to broaden and modify the scope of work, while simultaneously improving operational efficiencies at the center. One proposed change included making it Kansas' primary site for industrial hemp research.

"It's not one, two or even three things — it's several small steps that will lead to a new, sustainable future," said Cheryl Boyer, K-State associate professor and extension specialist for nursery crops. "It's a lot of work, but we are up to the task."

Staff members are making plans for a field day and tour of the center on June 4.

"This will be the public's opportunity to experience firsthand the research being conducted at the Pair Center and see how it connects to our everyday lives," said Sedgwick County horticulture agent Matthew McKernan '15.

"Whether you are purchasing a bag of local grass seed or buying a new tree from a local garden center or nursery, it is the research conducted at the Pair Center that helps our local horticulture industry provide you with plants that are best adapted to our local growing conditions," he said.

For now, seed buyers, nursery owners and fans of the Pair Center's nationally known organic sweet potato slips can count on service continuing and expanding.

Yet for those involved in efforts to keep the center open, the time for celebration still has not arrived.

"We've been given a Band-Aid for the short term," Boyer said. "But we still need to arrive at solutions for the medium- and long term."

The center opened in 1970 as the K-State Horticulture Research Center with a focus on research and extension activities related to woody ornamental crop production and utilization. It was renamed for John Pair '61, center director, in 1998.

In addition to woody ornamentals, research crops at the center have included grapes, peaches, strawberries, asparagus, sweet potatoes, pumpkins and tomatoes. The center currently evaluates trees, shrubs, flowers, turfgrass and bulbs.

Tumultuous 2018

Last June, the College of Agriculture announced the center, as well as the Pecan Experimental Field, an 80-acre stand of native pecan trees in Chetopa, would be closed as a budget-cutting measure. Officials noted that difficult decisions had to be made because of reductions in base support from the state as well as recent enrollment declines that led to reduced tuition revenue.

After news of the closure decision spread in June, K-State President Richard Myers and Interim Dean of the College of Agriculture Ernie Minton were contacted by private citizens, members of the garden and nursery industry, political leaders, Extension Master Gardeners and others concerned about the loss of the Pair Center.

McKernan said the groundswell of support shows the Pair Center's importance "not just to our local gardeners and garden centers, but its impact on the horticulture industry across the United States."

Responding to the public, Myers, Minton and other K-State leaders charged faculty and staff with finding ways to keep the center open without reversing the budget cuts.

“We appreciate the administration for rethinking this decision,” said Jason Griffin, director of the Pair Center. “We have to give a big shout-out to local- and national-level industries that stepped up to voice their concern about the decision.”

New directions

Griffin, Boyer and McKernan were part of a task force formed to solicit and generate ideas and then submit a detailed plan to help the center become self-sustaining.

Topping the list of initiatives factoring into the Pair Center’s new operational reality is industrial hemp research.

Minton made it clear from the beginning that he wants K-State to lead in this area of research because of its potential value to the agricultural marketplace.

Industrial hemp is closely controlled by federal and state regulations because it comes from the same cannabis species as marijuana. But instead of getting people high, it is grown for fiber, seed or oil — each of which leads to a variety of end products.

In April 2018, the Kansas legislature’s Alternative Crop Research Act was signed into law by then-Gov. Jeff Colyer, allowing the Kansas Department of Agriculture to oversee research into the cultivation of industrial hemp.

Griffin, who leads K-State’s efforts in building expertise on the crop, said K-State Research and Extension is at the earliest steps in trying to answer these questions. The University of Kentucky and Cornell University are the current

research leaders in the United States, and they are getting ready to start only their fifth year of growing test plots.

K-State’s agricultural research will likely include test plots at the Pair Center near Wichita, the K-State Olathe Horticulture Research and Extension Center outside Kansas City, and the Northwest Research-Extension Center in Colby.

Growing concerns

Several questions loom large over this burgeoning industry, including whether hemp is an agronomic or specialty crop. Griffin says it’s both, depending on where it’s grown.

Industrial hemp is different from marijuana plants that are used for their intoxicating chemical tetrahydrocannabinol (THC). Industrial hemp contains little THC at all. Hemp can be used in the manufacture of a wide array of products such as paper, clothing, industrial textiles, insulation, body-care products and much more.

Currently, a high-profile use of hemp is for cannabidiol or CBD oil, which is touted as a possible treatment option for a number of health issues. Most of those claims, however, are unsubstantiated because it has been illegal to conduct research until recently.

The 2018 Farm Bill loosens regulations on industrial hemp research and production, removing it from the Controlled Substances Act, thus moving regulation and enforcement from the Drug Enforcement Agency to the U.S. Department of Agriculture. Still, to be legal, hemp plants must contain less than 0.3 percent THC content.

And any crop that grows incorrectly and ends up “hot” — with a THC level above the limit — must be completely destroyed. ■



Courtesy of Matt Barton, University of Kentucky Ag Communications

K-State Research and Extension specialists will begin growing and harvesting small, highly controlled plots of industrial hemp at research facilities around the state this year, much like this University of Kentucky plot.

Kruse family matches scholarship gifts

Doug, '88, and Sabrina Kruse, of Templeton, California, have given a gift to establish the Kruse K-State Family Scholarship, creating 15 scholarship-match opportunities in the College of Agriculture.

"This generous gift greatly enhances our ability to create new and meaningful scholarships for our students, while providing the opportunity for additional generous donors to also invest in student success and opportunity," said Ernie Minton, interim dean of the college and interim director of K-State Research and Extension.

New gifts of \$30,000 will be matched with \$30,000 from the Kruses' gift, with \$10,000 going into an expendable scholarship fund. This makes \$2,000 scholarships immediately available to students for as many as five years. The



Sabrina and Doug Kruse

remaining \$50,000 will go into the endowment, ensuring future generations of Wildcats will receive scholarships as well.

"Kansas State University empowered me and many others to go out into the

world and do well. Now it's our turn to give back," Doug said. "With the world population at 7.7 billion people and growing over 80 million people per year, it's going to take a lot of innovative minds to figure out how we can generate the food to sustain this growth.

"There is no institution I have more faith in than K-State to instill the knowledge and confidence students will need to go out and help create solutions for some of these global challenges."

The Kruses both are Kansas State University Foundation Board of Trustees members.

If you are interested in the K-State Family Scholarship Program, visit www.ksufoundation.org/family or contact Kim Schirer '78, senior director of development for the College of Agriculture, at 785-532-2090. ■

Frasier family honors K-State graduates

Curt Frasier, '73, and Sherry Basgall Frasier, '73, of Beloit understand the value of a Kansas State University education.

"We gained so much from K-State and have seen that happen with so many students," Curt said.

Thanks to their generosity, the Alumni Excellence Award was created as an annual award recognizing an alumna or alumnus of K-State whose career, service and achievements exemplify the spirit, values and excellence of the university. It carries on the tradition of the Alumni Association's past Alumni Medallion Award, which was presented from 1969 to 2004.

"In our discussion about this award when it was established by the Alumni Association, we felt like it was a real opportunity to highlight those individuals that have had a special part in our world today and a special recognition for K-State," Curt said.



Sherry and Curt Frasier

The 2018 award has been given to Pete Souza '06, a renowned photographer, and Mary Jo Rupp Myers '64, who has a rich background in public service related to military, educational and humanitarian organizations and programs. Nominations are being reviewed for the 2019 award. ■

Make a difference by supporting the
College of Agriculture.

Visit ksufoundation.org/agriculture
to find out how you can be part
of the college's exciting future.

Welcome Home 10.4.19

Join us for the 5th Annual Family & Friends Reunion as we celebrate
K-State Animal Sciences and Industry's family and friends.



Kansas Livestock Association

Help us recognize the Kansas Livestock Association for its contributions to the agricultural industry.

October 4, 2019 • Stanley Stout Center, Manhattan, KS

www.asi.k-state.edu/familyandfriends

Bring the entire family and enjoy an evening of great food, good music, kid's activities and catching up with friends and ASI faculty and staff. All fun – no fundraising.

KANSAS STATE
UNIVERSITY

Animal Sciences
and Industry

KANSAS STATE
UNIVERSITY

Henry C. Gardiner
Global Food Systems Lecture



Dennis Dimick

Former executive environment editor
National Geographic

Monday, October 14, at 7 p.m.

Kansas State University, McCain Auditorium

Lecture Title:

Living in the Human Age

www.k-state.edu/globalfood/lecture-series

KANSAS STATE
UNIVERSITY

College of Agriculture

Know a future wildcat?
We'd love to meet them.

(785) 532-5736
www.ag.ksu.edu
@kstateag

