

From the Dean and Director



John Floros (left), College of Agriculture dean and K-State Research and Extension director, welcomes Jim Heinze (BS '77 horticulture), 2015 Alumni Fellow.

As the fall 2015 semester gets under way, I find myself reflecting on the various ways faculty and staff provide excellent learning opportunities for our students.

Both undergraduate and graduate students have the opportunity to conduct research projects with our excellent faculty. Several articles in this issue highlight students who are working on important research related to our five grand challenges — global food systems, water, health, developing tomorrow's leaders, and community vitality.

The college offers leadership opportunities through 38 organizations and 20 competition teams. Critical thinking and time management skills learned though these organizations and teams serve our students well throughout their careers.

Successful alumni, such as Jim Heinze pictured above, return to campus to share their life experiences with students. Alumni and friends also provide internships and networking opportunities that often lead to employment after graduation.

Some may wonder what faculty do when they are not in the classroom. They are advising students and student organizations; presenting research or learning new techniques at various conferences; writing grants and journal articles; conducting relevant research; serving in leadership positions for university, state, national, and international organizations; planning and supervising study-abroad learning opportunities; and preparing meaningful classroom presentations.

Many teaching faculty also are extension specialists who provide training for consumers, agents, and volunteers around the state.

I hope many of you visited your local fairs and the Kansas State Fair to see the outstanding exhibits and demonstrations — a sample of the many activities available to Kansas 4-Hers.

Our 4-H program prepares Kansas youth with life skills to be productive citizens. Studies show that 4-H members are 3.4 times more likely to give back to their communities. Thank you to the many parents and volunteers who contribute to the program's success. Community club enrollment numbers for Kansas 4-H increased 9.5 percent in 2014.

Each summer, the state FFA holds its annual convention in Manhattan. Numerous faculty, alumni, and staff also are involved with this outstanding youth program.

Please consider attending our second annual Henry C. Gardiner Global Food Systems Lecture at 7 p.m. on October 12 in McCain Auditorium with Greg Page, executive chairman of Cargill, Inc. as the invited speaker.

We value your input. Please go to www.ksu.edu/agreport and take a short survey about the AgReport and how best to communicate with alumni, stakeholders, and friends.

John D. Floros
Dean and Director

AgReport

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College of Agriculture and

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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On the cover

Erin Bush, junior in agronomy, and Nathan Nelson, associate professor of agronomy, check rainfall at the Kansas Agricultural Watershed Field Laboratory at the Ashland Bottoms research fields southeast of Manhattan. For more information, see pages

Photo by Dan Donnert

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YOUR OPINION MATTERS!

We need your thoughts about the AgReport — its content and format.

Please go to www.ksu.edu/agreport and click on the survey link to participate.

Thank you.

News Briefs



No poultry contests this year

More than 2,000 Kansas 4-H members had to be creative with how they complete their poultry projects.

Recently, the Kansas Department of Agriculture issued a stop movement order that closed all poultry shows where birds are brought together to reduce the chances of spreading highly pathogenic H5N2 avian influenza (HPAI), said Scott Beyer, K-State poultry expert.

The order means all types of activities — poultry competitions at county fairs, the Kansas State Fair, festivals, swap meets, exotic bird sales, and auctions — are canceled for the rest of the year.

"I'm proud of our extension agents and volunteer poultry project leaders who figured out creative and meaningful ways for youth to exhibit all they have learned through the poultry project without the live bird," said Daryl Buchholz, K-State Research and Extension associate director.

"Specialists and agents also worked with state fair officials to provide guidance for 4-H members to qualify and represent their projects at the state fair without having the actual birds present."

Improving beef genetics

For beef producers, one of the best ways to improve profitability is to improve herd genetics.



A new website called eBEEF.org (http://ebeef.org/) was developed by beef cattle scientists to help producers access one location for the latest beef cattle genetics and genomics information.

Bob Weaber, K-State cow-calf specialist, and beef cattle scientists from five other land-grant institutions developed the website's resources.

"The focus is on genetics," Weaber said. "We've put together a vast set of resources including short video clips, fact sheets, archived talks, webinars, and other useful links all related to genetics of beef cattle and genetic improvement of beef cattle. We think it's going to be a good resource for producers to interact with many extension educators."

The website, showcased at the 2015 Beef Improvement Federation Conference in Biloxi, Mississippi, is part of the national eXtension program.



Washburn named assistant dean for agriculture academic programs

Professor Shannon Washburn accepted the position of assistant dean for academic programs for the College of Agriculture. He was formerly the undergraduate teaching coordinator for the Department of Communications and Agricultural Education.

As assistant dean, he is responsible for continuing student services, curriculum assessment, and transfer equivalencies. He advises Ag Student and Ag Competitive Teams councils and serves as an instructor for the Ag Scholar's program.

Washburn (BS '95 agricultural education, MS '00 curriculum and instruction) recently received the Commerce Bank Outstanding Undergraduate Teaching Award. Other recognitions include the American Association for Agricultural Education Outstanding Early Career Agricultural Education award and 2013 Gamma Sigma Delta Outstanding Advisor.

He participated in a yearlong national leadership program called LEAD21. Washburn chairs the Ag*IDEA Agricultural Education division and has served on various university and national committees and boards, including Faculty Senate and the Agricultural Alumni Board.

"Dr. Washburn's passion for, and commitment to working with students, combined with his knowledge and experience with curriculum, teaching pedagogy, and assessment, makes him a valuable addition to the office," said Don Boggs, associate dean for academic programs. "I am confident that both students and faculty are benefitting from his expertise."



Wheat disease returns

Wheat flag smut was found in a Rooks County field in May during routine crop monitoring by K-State Research and Extension and the Kansas Department of Agriculture. It was later confirmed in 39 other locations, mostly in north central and south central Kansas.

The fungal disease poses no threat to humans or animals and has no effect on grain quality, but can reduce yields.

The finding is significant because some countries that buy U.S. wheat have import restrictions on grain produced in areas where flag smut is known to occur.

The fungus can survive in the soil for at least four years and can be moved to adjacent fields by wind, plant debris, or equipment, said Erick De Wolf, K-State plant pathologist.

To access the fact sheet on disease identification and prevention, go to *orderpub@k-state.edu* and search for MF3235. It includes photos of infected wheat, as well as background information.

More information is available on the KDA website http://agriculture.ks.gov.

Multicultural Research Fellows program a success

Participants in the eight-week 2015 K-State Research and Extension Multicultural Research Fellows program presented their research on July 23. The students, their majors, institutions, and mentors are:

Jared Grant, agribusiness, Florida A&M University — Aleksan Shanoyan, assistant professor of food and agribusiness management;

Keegan Johnson, laboratory animal science, North Carolina A&T University — John Gonzalez, assistant professor of meat science;

Iyonna Campbell, English/agriculture minor, University of Maryland Eastern Shore — Zelia Wiley, assistant dean for diversity, and Lauri Baker, associate professor of communications and agricultural journalism;

Krystal Martinez, animal sciences and industry, Kansas State University — John Gonzalez, assistant professor of meat science;

Samantha Khatri, hospitality management and dietetics, Kansas State University — Bradford Wiles, assistant professor/extension specialist, family studies and human services; and

Simone Holliday, animal sciences and industry, Kansas State University — Lindsey Hubert, assistant professor of animal behavior.

This is the tenth year for the fellowship program.

Zelia Wiley, assistant dean for diversity and director of the Diversity Programs office, coordinates the program.



Multicultural Research Fellows and their mentors relax after presenting their research results. Back row (L-R): Bradford Wiles, Aleksan Shanoyan, and John Gonzalez. Front row: Jared Grant, Keegan Johnson, lyonna Campbell, Krystal Martinez, Samantha Khatri, Simone Holliday, and Zelia Wiley



Water for the Future

Plants, animals, and people depend on water. To address water issues faced by Kansas citizens, K-State Research and Extension focuses on conducting relevant water research, collaborating with various organizations and institutions, and educating Kansans on water quality and conservation.

Dan Devlin (BS '79, MS '83), director of the Kansas Center for Agricultural Resources and the Environment (KCARE) and the Kansas Water Resources Institute, oversees a broad range of water projects and assists with the annual Governor's Conference on the Future of Water in Kansas.

Ogallala importance

Water discussions in western Kansas often focus on irrigation, drought, and the Ogallala Aquifer, an underground water table underlying about 174,000 miles in Kansas and seven other states from South Dakota to Texas. It yields about 30 percent of the nation's groundwater used for irrigation and drinking water to 82 percent of the people who live within the aquifer boundary.

Eight counties in western Kansas that are among those relying on the aquifer — Haskell, Scott, Gray, Grant, Finney, Wichita, Seward, and Ford — together sold more than \$6.3 billion in crops and livestock, slightly more than one-third of total agricultural revenue for the entire state.

K-State published a study showing that current irrigation trends could deplete 69 percent of the groundwater in the Ogallala Aquifer within 50 years, drastically affecting the lifestyle and profitability of the area. To preserve the aquifer, K-State teamed with the U.S. Department of Agriculture's



Isaya Kisekka (left), agricultural engineer at the Southwest-Research Extension Center–Garden City, inspects hoses used for mobile drip irrigation with Monty Teeter, farmer and CEO of Teeter Irrigation.

Agricultural Research Service, as well as Texas Tech, Texas A&M, and West Texas A&M universities to study the aquifer and how to preserve it.

For its work and dedication to finding water-saving solutions, the research team earned the 2013 USDA Secretary's Honor Award in the category of enhancing economic vitality and quality of life in rural America.

Irrigation practices

Center pivot systems, a method of crop irrigation where equipment rotates around a pivot and crops are watered with sprinklers, have been used for decades; however, some of that sprayed water can and does evaporate instead of reaching the crops.

For more than 25 years Freddie Lamm (PhD '90), research irrigation engineer at the Northwest Research-Extension Center, has done extensive studies and education on subsurface drip irrigation. SDI delivers water directly to plant roots through buried drip tape.

Irrigation engineers Dan Rogers (BS '76, MS '77), Jonathan Aguilar (PhD '09), and Isaya Kisekka are testing a new irrigation option that combines the two systems.



K-State researchers are testing drip lines attached to center pivot irrigation systems.

"Mobile drip technology integrates drip irrigation with a center pivot by replacing nozzles with drip lines," said Kisekka, Southwest Research-Extension Center. "Retrofitting existing systems at a minimum cost is appealing to producers. There is much interest but little data."

The lines, sometimes called dragon lines, are hard hoses similar to those used in landscapes or vineyards. The engineers are looking at many factors, including how the hoses hold up to being dragged along the ground, how it would work with limited or no-till operations, and how to accurately plant crops in a circle to center the lines between rows.

The research team works directly with local producers to evaluate the system. To compile complete data on the project, the team includes an agricultural economist to do a costbenefit analysis and an entomologist to evaluate insect issues.

Planning for the future

At the 2012 Governor's Conference on Water, Gov. Sam Brownback (BS '79) issued a call to action for a Vision for the Future of Water Supply in Kansas to address the state's current and future water needs. A team from the Kansas Department of Agriculture and the Kansas Water Office set out to evaluate the water needs.

According to the KWO website, "a guiding principle of the vision is that locally driven solutions have the highest opportunity for long-term success. With that in mind, the vision

outlines a process for water supply goals to be established by regions by stakeholders as a means for measuring success and implementing the vision."

To gather the necessary information from stakeholders, the state agencies looked to K-State Research and Extension for assistance.

On April 16, Secretary of Agriculture Jackie McClaskey (BS '93, PhD '14) and Tracy Streeter, Kansas Water Office director, sent a letter to Dean and Director Floros, which he shared with faculty and staff.

"On behalf of the KDA and KWO, we wish to extend our deepest appreciation for the support of Kansas State University in the regional water supply goal development process. For the past 10 weeks, nearly 70 staff from K-State Research and Extension and more than 10 staff from the K-State Institute for Civic Discourse and Democracy through the state partnered with our agencies to facilitate more than 50 orientation meetings, public outreach events, and work sessions for the 14 Regional Goal Leadership Teams identified in the Vision for the Future of Water Supply in Kansas. Without the talent and dedication of the KSRE and ICDD staff, this process would not have been a success."

Kansas Agricultural Watershed Field Laboratory

By creating 18 small watersheds and monitoring the water runoff, K-State agronomists are studying the effects of cover crops and phosphorus fertilizer management on water quality and crop growth.

Watersheds are areas where all the water — underneath or draining off the



Agronomy student Erin Bush checks one of the water monitoring systems at the Kansas Agricultural Watershed Field Laboratory.



Agronomist Peter Tomlinson (right) and Barrett Smith, agronomy master's student, discuss the next step to install the flume, which captures water runoff from poultry litter.

land — goes into the same place. These watersheds were created by terracing 1.2- to 1.6-acre tracts of land and installing flumes to capture the runoff. Automated equipment measures the rainfall and analyzes water quality.

Nathan Nelson (BS '98), associate professor of agronomy, proposed the study and leads the project.

The sites are planted to a cornsoybean rotation with six phosphorus fertilizer treatments. Each treatment is studied with and without a cover crop, which is a crop grown for the protection and enrichment of the soil and to reduce phosphorus loss and improve water quality.

"Toxic algal bloom in reservoirs are partially caused by phosphorus runoff," Nelson said. "We are developing best management practices (BMPs) that producers can implement to reduce runoff."

The project is supported by the 4R Research Fund (*nutrientstewardship. com*), the Kansas Soybean and Corn commissions, and K-State Research and Extension. Watch a video at https://youtu.be/_vsKEOdYH8M.

Master's student David Abel, Wichita, and Erin Bush, junior from Indiana, are assisting Nelson with the project. Bush was a member of the K-State Soils Judging Team coached by Professor Mickey Ransom and earned fourth place in the national soils judging contest. She will compete at the international contest in Hungary.

After completing her bachelor's degree, Bush plans to pursue a master's degree and work in a job related to soil science.

Poultry litter

Producers in southeast Kansas are using poultry litter — a mixture of poultry manure and bedding material such as sawdust, wood shavings, or rice hulls — to reduce fertilizer costs and improve soil fertility. While there are economic advantages, the practice can cause odor and water-quality issues without proper management.

Kansas is not a major poultryproducing area compared to neighboring states Missouri, Arkansas, and Oklahoma, where manure management and environmental regulations have decreased the acreage available to distribute poultry litter.

Shipping poultry litter to Kansas seemed like a win-win situation for producers; however, concerns about water quality and odor from improperly stored and applied litter resulted in citizen complaints to the Kansas Department of Health and

Environment (KDHE). In response, a collaborative effort among the KDA-Division of Conservation, KDHE, Natural Resource Conservation Service, local Watershed Restoration and Protection Strategy (WRAPS) groups, Kansas Farm Bureau, K-State Research and Extension, and other agricultural producer organizations led to the development of a producer education program and on-farm research to evaluate storage practices.

KDA-DOC, KDHE, and WRAPS groups provided financial resources for a voluntary, incentive-based conservation program using state and federal cost-share dollars. K-State Research and Extension developed the Poultry Litter 101 education program to addresses the composition, fertilizer value, appropriate application rates based on crop nutrient needs, and best management practices to minimize nutrient runoff and odor from the storage and land application.

A site evaluation tool developed by K-State provides producers with a metric to evaluate the suitability of potential infield storage sites and takes into consideration site conditions such as proximity and slope to waterways, soil type, size and type of buffer, and distance to neighboring homes and water wells.

Master's student Barrett Smith is working for Peter Tomlinson, assistant professor of agronomy and extension specialist for environmental quality, to evaluate the nutrients in the runoff from a poultry litter storage site and designated buffer area in southeast Kansas.

"This information will be important for improving design recommendations to minimize the loss of phosphorus," said Tomlinson.

Military concerns

K-State also is working with Fort Riley personnel, the Environmental Protection Agency Office of Research and Development, and EPA Region 7 to develop strategies for meeting the Department of Defense Net Zero Water goals.

For information on more projects, go to www.kcare.k-state.edu.

By Gloria Holcombe and Kaitlin Morgan

The K-State Research and Extension Watershed Specialist program was initiated in 2000 as a partnership between the Kansas Department of Health and Environment, K-State Research and Extension, and agricultural groups.

Providing Education and Awareness:

Watershed specialists
taught at 1,616 educational events,
making over 91,000 contacts. They
developed 282 oral presentations,
posters, and/or displays on water
issues. They shared their work at
regional and national meetings 19
times, were interviewed for 60 radio
and TV programs, and were
featured in 69 news articles.

One-on-One On-Farm Consultations:

In the last 5 years, specialists provided consultations to 1,330 cooperators, assisting them in developing water-quality plans, obtaining financial assistance, and providing technical assistance.

Watershed Restoration and Protection Strategy (WRAPS):

Watershed specialists provided assistance in developing and implementing 22 approved WRAPS plans in the past 5 years.

Watershed Specialists

Ron Graber, Central Kansas

Jeff Davidson, Flint Hills

Herschel George, Southeast Kansas

Stacie Minson, Big Creek Middle Smoky Hill River

> Will Boyer, Northeast Kansas

Water Monitoring:

2,297 water samples have been collected and analyzed for pollutant information for two WRAPS groups.

Conservation Practice Surveys:

In cooperation with NCRS, County Conservation Districts, WRAPS, and other K-State personnel, tillage practices were assessed on 12,883 fields. Additionally, 9,028 of these fields in 6 counties are assessed regularly to implement best management practices.



K-State Horticulture Club creates

PATIO PERFECTION

A beautifully landscaped outdoor space with a water feature, paved patio and walkway, irrigation system, lighting, seating, and a variety of labeled plants now exists near the south entrance of Throckmorton Plant Sciences Center. It took planning, hard work, cooperation, and generosity to make it happen.

The idea to renovate the space originated with Associate Professor Cathie Lavis and Delmar Westover, of facilities ground maintenance. In spring 2014, Horticulture Club advisor Lavis (MS '93, horticulture, PhD '05 agronomy) and Matthew McKernan, then president of the Horticulture Club, discussed the patio project.

Next, McKernan presented the idea to the club, and the members approved the project.

"We thought it would be cool to have an attractive outdoor space that everyone could use," said McKernan. Over the summer, Lavis worked with K-State administrators to ensure that the club could pursue the project.

Lavis, who teaches landscape maintenance, arboriculture, and irrigation, and Chad Miller, who teaches ornamental horticulture and plant propagation, saw the project as a way to incorporate hands-on learning into multiple horticulture classes.

Getting started

Shane Steelman (BS '14), who now works for High Prairie Landscape Group, LLC, Kansas City, and McKernan (BS '15) started planning in fall 2014. Initial projects involved killing the existing grass, grading and sloping the area, designing the space, and removing a drain and retrofitting it. They asked Greg Davis (BS '79, PhD '93), associate professor of landscape design, for design tips and help with logistics.

Now they had a plan and tools from Lavis' lab, but they lacked large equipment. That's where the campus facilities crew came to the rescue.

"Campus facilities staff have been wonderful," said Lavis. "Joe Myers, Delmar Westover, Kris Fulkerson, and others have been instrumental in the project and were always there to help. K-State administration also supported the project."

Additional support

Club officers Molly Palmer and Kelsey Hatesohl, both May 2015 graduates, crafted a letter to horticulture alumni, explaining the project and offering options for named memorials, such as engraved bricks, specific plants, patio containers, etc.

The club had pavers from hosting the national Professional Landcare Network student competition in 2012 to complete the patio.

Brent (BS '01) and Jason (BS '97) Rothwell, of Rothwell Landscape, Manhattan, loaned equipment and helped with mulch and edging.

Tim McKay, district sales manager for Vista Professional Outdoor Lighting, and Kevin Marks, John Deere Landscapes, Manhattan, donated materials and did a lecture and demonstration on how to install the lighting. Tory Schwope (BS '99), KAT Nurseries in Olathe, provided plant material.

Friends of the KSU Gardens donated the water feature, and Scott McElwain (BS '96), director of the KSU Gardens, helped students in the Landscape Construction/Contracting class install the fountain.

Pallace Schnittker, senior in horticulture, recruited her father, Bill Schnittker at ESi Inc. of Wichita, to design and fabricate the purple patio tables and umbrellas.

The Wheat State Agronomy Club donated a bench for the space, the Turfgrass Club donated their time on a couple of weekends, and other alumni and friends contributed to the project.

Right equipment, right time

McKernan served many roles during the planning and construction. He documented every step of the process





Members of the Horticulture Club worked evenings and weekends to complete the patio. Standing from left: Cathie Lavis, Ty Lutz, Shane Steelman, Luke Becker, Marc McKernan, Jonathan Jessen, Christopher Dierenfeldt, Dylan Seley, Caitlynn McVey, Andrea Johnson, Mary Hedenberg, Kelsey Hatesohl, and Molly Palmer. Kneeling: Matthew McKernan.

with photographs and created a poster to hang in the Throckmorton lobby for the patio dedication on April 12, 2015.

"The biggest struggle was organizing all the components," said McKernan.

He made sure the equipment, tools, and supplies were delivered and ready when students were available to help.

Looking ahead

In addition to the patio area, the club installed new plant material around the building and added decorative potted plants.

The Horticulture Club initiated a landscape maintenance committee to care for the patio. That committee will coordinate with the bedding plant

committee to ensure they grow adequate seedlings for the annual bedding plant sale and to keep the areas around Throckmorton beautiful.

"The project brought the campus and community together," said McKernan, who recently became the horticulture agent for K-State Research and Extension – Sedgwick County. "Throckmorton is the home of plant sciences, and we — the students — believe the landscape should reflect what we learn and do."

If you would like to be part of this ongoing project, named pavers are still available for \$50 each. Contact Lavis *clavis@ksu.edu* for more information.

By Gloria Holcombe





Amber Kelly helps 4-H'er Heavyn Hennen with a sewing project.



Rogan Tokach holding a frame of bees.

Kansas 4-H'ers donate

Time and Energy

What prompts teenagers to donate their time and energy to helping less fortunate people in other countries? Kansas 4-H Youth Development.

At the annual Emerald Circle Banquet on May 28, the Kansas 4-H Foundation presented more than \$59,000 in scholarships to 64 outstanding Kansas 4-H members for their dedication and leadership.

Rogan Tokach, president of the Willowdale 4-H Club in Dickinson County, earned a medallion for his self-determined project on beekeeping.

Four years ago, Tokach saw a booth at the Central Kansas Free Fair with bees, honey, wax products, and most importantly, an observation hive.

"I bugged the guy to death asking questions and begged my mom to let me get a hive," Tokach said.

He now has two beekeeping projects
— a personal service project called
Honey for Heifer and Brown's Busy
Beekeepers, a SPIN (Special Interest)
Club through Dickinson County 4-H.

"I harvest honey from my bees then market it via Facebook and by telling friends and family," said Tokach. "People make a \$10 donation for a jar of honey, and I use it to buy beehives from Heifer International. I have been able to donate 100 hives so far and have a waiting list for honey this fall." Heifer International is a nonprofit working to eradicate poverty and hunger. The organization distributes animals, along with agricultural and values-based training, to families in need around the world as a means of providing self-sufficiency.

Tokach added, "They friended my Facebook page 'Honey for Heifer' and sent me comments of thanks and encouragement. They even featured me in their newsletter, 'When Cows Fly.'

He received grants from the Kansas Honey Producer's Association, Dickinson County 4-H Foundation, and Brown's Memorial Home to support the SPIN club, which teaches bee enthusiasts — young and old — how to care for bees and harvest honey.

"We are in our first year and looking forward to our first honey harvest this fall," Tokach said.

Amber Kelly won the Leadership medallion for developing and directing a statewide project called the Little Dresses for Africa campaign. The project helps provide clothing for girls in Africa, giving them hope of an education and better life.

"We have an active leadership project, which teaches youth the skills to plan a project that can make a difference in the lives of others," said Diane Nielson, K-State Research and Extension agent in Atchison County.

"They research information to see if the project they are interested in is needed or if someone else is already doing it," explained Nielson. "Amber has a passion for the clothing construction project and an Internet search (www. littledressesforafrica.org/blog/) resulted in the Little Dresses for Africa project."

Kelly recruited local seamstresses to donate fabric and/or sew dresses based on a pattern. In the fall, Nielson helped Kelly get booth space in Centennial Hall at the Kansas State Fair on K-State Day. Kelly and other Atchison County volunteers set up sewing machines for youth to sew dresses, which led to the project going statewide.

Kelly collected 451 completed dresses and sent them to the Little Dresses for Africa coordinator, who delivers them to Africa for distribution. Based on her first-year experience, Kelly set a goal to increase numbers for year two.

In addition to the dress project, Kelly also serves as the Atchison County 4-H Council Secretary, Club Parliamentarian, Camp Corral Counselor, and 4-H Ambassador.

The new 4-H year starts in October. Go to www.Kansas4-H.org for more information.

By Gloria Holcombe

Doctoral student's research earns

Early Career Honors



Kansas State University plant pathology graduate student Kerri Neugebauer earned the 2015 Jeanie Borlaug Laube Women in Triticum Early Career Award for her research and dedication to working with wheat. Neugebauer is one of four recipients around the world.

The award is named after the daughter of Norman E. Borlaug, who was known for his passion for agriculture and finding ways to provide food to increasing populations.

In addition to receiving the award, Neugebauer (BS '11 agronomy) will attend the Borlaug Global Rust Initiative Technical Workshop in Sydney, Australia, in September. She will present her research and collaborate and learn from other leaders in her field. Neugebauer's research focuses on finding a preventive for wheat leaf rust, a fungal disease that could potentially cause up to 50 percent of yield loss on wheat grown all over the world.

Being a leader in the scientific field, Neugebauer hopes to encourage

tomorrow's scientists and researchers, just as the generation taught by Norman Borlaug has influenced her. The challenge facing these future scientists and leaders, she says, is the increasing human population.

Neugebauer said
the focus must be to
positively promote how
the science of agriculture
can feed the world

"We are currently dealing with an exponential human population growth, but we are limited in the amount of food that can be produced given the amount of land and other resources that are available," Neugebauer said. "Food production is going to have to increase in order to keep up with the population growth."

Kerri Neugebauer examining wheat in a Throckmorton growth chamber with her mentors John Fellers, center, and Harold Trick.

Neugebauer said the focus must be to positively promote how the science of agriculture can feed the world.

"It is our job as current scientists to help tomorrow's researchers see the big picture and give them the tools they need to succeed," she continued. "Science and agriculture in general has gotten such a negative connotation with the increasing amount of media propaganda, and we have a responsibility to mold and positively promote the field to the general public."

Under the mentorship of Harold Trick, professor of plant pathology, and John Fellers, research molecular biologist with the USDA/Agricultural Research Service, Neugebauer has acquired skills that are necessary to have a successful career in science.

"Harold has taught me aspects of the field you don't learn in classes or research such as how to promote yourself, how to network at meetings, and how to collaborate," Neugebauer said. "They are always encouraging me to apply for fellowships and scholarships, such as the Women in Triticum award."

Next spring, she will travel to the CIMMYT International Maize and Wheat Improvement Center in Obregon, Mexico, for a month-long training program to learn about their wheat-breeding program. She also will visit labs; conduct field research such as disease assessment, selection for highyield potential and resistance to stem and leaf rust, and drought research; and attend lectures.

By Taylor Manges

2015 has been designated as the International Year of Soils. You might ask,

'Why is soil so important?'



Without soil there would be no food in your cabinets or refrigerator, no lush grass for your yard or golf course, no beautiful flowers to decorate your landscape, no cotton T-shirts with your favorite team logo, no food for your pets, and your water wouldn't be as clean. Basically, soil — along with air, water, and sunlight — sustains life.

To raise awareness and promote the sustainability of our limited soil resources, the Soil Science Society of America (SSSA) and other organizations around the world initiated the International Year of Soils.

Improving soils

From field crops to garden vegetables, foods rely on soil for growth. As the world population grows, soil productivity needs to increase to meet elevated food demands.

K-State maintains a soil testing lab, where scientists examine soil samples submitted by homeowners and farmers and then make recommendations on nutrient adjustments.

"We have crops today with highly productive genetics that require productive soils," said Dorivar Ruiz Diaz, agronomist and director of K-State's soil testing lab. "I think our job as agronomists and farmers is to maintain and improve that productivity through proper management."

Ruiz Diaz studies efficient use of fertilizers and application of animal manure and waste products from cities and industries.

Different crops use different amounts of water and nutrients, which can affect the soil balance. Rotating crops, incorporating cover crops that help prevent erosion, and implementing reduced tillage or no-till systems help improve soil fertility.

Urban soil uses

More than 80 percent of the U.S. population now lives in urban areas, and many want to grow their own produce or purchase locally grown food; however, urban soils are different than farmland or rangeland, said K-State soil

chemist Ganga Hettiarachchi. Urban soils develop from soil material that has been disturbed, manipulated, and transferred by various living creatures.

One of her current projects involves finding ways to manage mildly contaminated soils, often called brownfields, into soils suitable for productive use, such as community gardens.

In addition to gardens, urban soils help support other plant growth and trees, which are key components to bringing carbon dioxide back into soil, Hettiarachchi said.

Benefits of composting

About one-third of waste in landfills comes from food. K-State soil scientist DeAnn Presley works in rural and urban areas to promote composting, which will reduce food in landfills and improve the soil.

Food contains carbon, a soil amendment, and other nutrients such as nitrogen and phosphorus needed for plant growth, Presley said.



"We can divert food out of landfills where it is taking up space and producing methane, a powerful greenhouse gas," she said. "Compost can be formed from anything that was alive, but it is usually vegetative matter decomposed in a controlled way. If we produce compost, we can reapply those nutrients and organic matter that give soil its water-holding capacity."

Presley also provides basic soil science education for elementary school students and 4-H groups and coordinates land-judging events for FFA and 4-H.

Tomorrow's scientists

Andrew McGowan (BS '10 agronomy and current PhD student) came to K-State to major in environmental science.

"My father, who graduated from K-State with a degree in horticulture, encouraged me to take the Introduction to Soils class taught by Steven Thien," said McGowan. "I took Dr. Thien's class and found my niche in agronomy."

McGowan worked in the soil microbiology lab and participated for four years as an undergraduate student on the soils judging team, including two national championship teams.

"The judging team allowed me to travel, see soils in other regions, and apply what I learned in the classroom," said McGowan.

As a doctoral student, McGowan helps mentor undergraduate students through the National Science Foundation Research Experience for Undergraduates. He teaches the Soil Microbiology class when his mentor, Chuck Rice, is traveling.

McGowan earned the Morris Udall Scholarship in 2009 and studied in Beijing, China. He will receive the Francis Clark Soil Biology Scholarship from the SSSA in November.

By Katie Allen and Gloria Holcombe



Andrew McGowan, agronomy PhD student, uses a mass spectrometer to analyze lipids extracted from a soil sample in a Throckmorton Plant Sciences Center laboratory.

Gary Pierzynski, university distinguished professor and head of the Department of Agronomy, accepted a two-year term as the U.S. representative to the Intergovernmental Technical Panel on Soils.

Chuck Rice, university distinguished professor of agronomy, represents the Soil Science Society of America on the General Plenary Assembly of the Global Soil Partnership.

Rice and Pierzynski each served terms as SSSA president and helped designate monthly soil topics to promote the International Year of Soils. Many of those topics apply to Kansas and ultimately how the K-State College of Agriculture is preparing students to meet future challenges. Go to the SSSA site https://www.soils.org/iys/monthly-videos to learn more and view monthly videos and activities.

The SSSA website also has children's activities with questions such as, What is your state soil? Harney silt loam was adopted as the Kansas state soil on April 12, 1990, after a strong grassroots effort led by Orville Bidwell, agronomy professor emeritus. Harney silt loam possesses the ideal qualities of a prairie soil and covers almost four million acres in 26 west central Kansas counties.



Genetics Center Finds A New Home



Nearly one year ago, 75,000 strains of fungi — some collected during World War II — were tucked away in neat rows into a humble room on the fourth floor of Kansas State University's Throckmorton Plant Sciences Center.

The Fungal Genetics Stock Center arrived at the university without much

fanfare. It is the center's fourth move since it was formed at Dartmouth in 1960, having made previous stops at California State College at Humboldt, the University of Kansas Medical Center, and the University of Missouri-Kansas City.

Now, K-State officials hope it has its permanent home.

"For basic genetic studies, fungi are kind of the lab rats, providing excellent model systems for basic research," said Ernie Minton, associate dean of research and graduate programs for the College of Agriculture. "From an economic perspective, they provide the baseline knowledge for downstream, more applied research studies on fungal diseases of grain crops that are important in Kansas and around the world.

"Interestingly, a naturally occurring fungal mycotoxin was found several years ago to stimulate weight gain and improve feed efficiency in cattle. This discovery was quite unexpected, and points to the potential of the resources of the center to hold many yet unknown, diverse, but beneficial discoveries."

"With the addition of the stock center to a number of existing resources and research efforts, you could easily argue that this is the strongest place in the world for doing fungal genetics."

For that reason, the excitement is high at the university, which boasts the country's top-ranked Department of Plant Pathology. Nearly half of the department's faculty work with fungi.

"One of the things that was very attractive to us in bringing this collection to Kansas State University was that it has a history of valuing collections," said Kevin McCluskey, who has been the center's curator since 1995.

Some examples of the university's public collections include the Wheat Genetics Resource Center and a leading fusarium collection.

"The climate for the stock collection is better here than anywhere else," said John Leslie, professor and former department head in plant pathology. "McCluskey has been isolated in



The center curator Kevin McCluskey uses a 96-channel liquid handling system to copy sets of yeast strains, whose whole DNA genome has been sequenced.

other places. Here, he has a number of colleagues who think about the same kind of problems that he thinks about.

"With the addition of the stock center to a number of existing resources and research efforts, you could easily argue that this is the strongest place in the world for doing fungal genetics."

The majority of the center's collection includes the species *Neurospora* and *Aspergillus*, kept in industrial-sized refrigerators at minus 112 degrees. The center sends 25,000 to 50,000 strains to clients worldwide each year, and McCluskey said the website (*www.fgsc. net*) gets up to 3 million hits annually.

"In some ways, this is like having a library," Leslie said. "It's got lots of books in it. You need some of them sometimes, and you need others at different times. The more books you've got in it, the better off you are. It enables scientists to have impact more quickly ... we can have an impact maybe in two years rather than 10."

McCluskey likes the center's proximity to critical agricultural research.

"Our location connects us more closely with our research community," he said. "Originally these organisms (fungi) were used for fundamental genetics research, and now we're seeing more applications to agriculture. People are using them to protect plants against infection."

Fungi have helped to advance human medicine, including penicillin to protect wounded soldiers from infection in World War II, and a 1950s study that won the Nobel Prize for identifying what a gene is.

In agriculture, fungi are used to protect people from toxins that can contaminate crops.

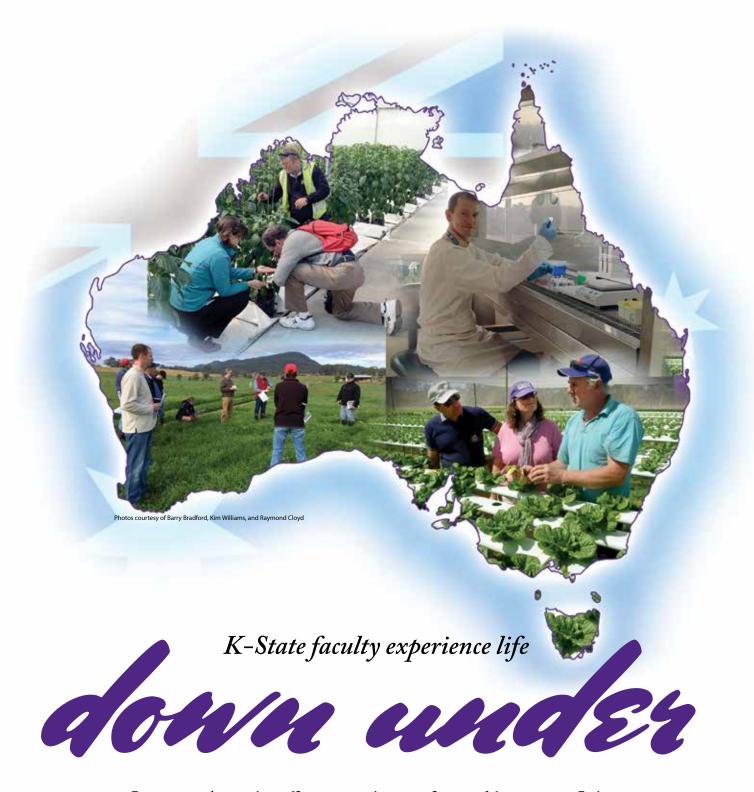
A nontoxic form of *Aspergillus*, for example, can be sprayed on farm crops, "then when the toxins show up, there's a 'No Vacancy' sign," McCluskey said.

Leslie questioned whether K-State would have been interested in the center 20 to 30 years ago.

"Today, we've got the people and the capabilities to do just about anything that you can think of in genetics," Leslie said.

Ultimately, he added, "it means better food. It means better education for students. It's far from the only thing, but it is one of the things that top 50 universities do."

By Pat Melgares



Living in Australia offers more than surfing and kangaroos. It has similar climate and research programs relevant to Kansas. Three K-State faculty experienced living and working in Australia to bring new ideas to their research programs and classrooms.

Barry Bradford, associate professor of dairy nutrition, and his family lived in a small town south of Melbourne for six months, while he worked at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia Animal Health Laboratory (AAHL) in Geelong, Victoria, Australia.

CSIRO is the Australian government's primary research organization, and AAHL can handle the most dangerous pathogens that need to be studied, similar to the National Bio and Agro-Defense Facility being built in Manhattan.

Bradford's objective was to learn about and help conduct research on a relatively new field called ribonucleic acid interference (RNAi), a new generation of pharmaceuticals that can very specifically alter animal function to improve efficiency, change product characteristics, or prevent disease.

"There is a long way to go, but my goal is to help move this technology out of biomedical labs and start to use it for livestock," said Bradford who was in Australia on a Fulbright scholarship/sabbatical.

"The RNAi process is no more invasive than giving an animal a traditional drug and more targeted," he said. "It also does not involve genetic modification. Being involved in this new area will allow me to introduce students to the technology."

Dairy differences

While in Victoria, Bradford also met with fellow dairy nutritionists.

"Because they rely primarily on grazing, they are much more attuned to managing grass but less aware of research on how lactating cows respond to various carbohydrates," he said.

Victoria has two primary dairy areas with about one million dairy cows, more than two-thirds of the country's total.

He was able to visit grazing-based Australian dairies, which will allow him to share insights with his students about a very different type of dairy farm than most in Kansas.

Experiencing two countries

K-State horticulturist Kim Williams and entomologist Raymond Cloyd

spent 10 weeks in Australia and New Zealand, networking with colleagues and industry professionals.

In that short time, they visited 15 production operations; 21 botanical gardens, conservatories, and relevant national parks; 17 brokers, markets, garden centers, and agri-tourism sites; and four research institutions and collaborators. It took months of planning to coordinate all their collaborative efforts.

The husband-wife team started their sabbaticals in mid-August 2014 at the International Horticulture Congress in Brisbane, Australia, where both made presentations.

The seasons in Australia and New Zealand are directly opposite from Kansas, but the climates for growing plants and dealing with insect pests are directly relatable.

Williams teaches and conducts research in the Department of Horticulture, Forestry and Recreation Resources, and Cloyd has an extension and research appointment in the Department of Entomology.

"Taking our sabbaticals in tandem worked well," said Williams. "As we met with producers and colleagues, I focused on greenhouse management, while Ray concentrated on integrated pest management issues."

Plants and pests

The seasons in Australia and New Zealand are directly opposite from Kansas, but the climates for growing plants and dealing with insect pests are directly relatable.

Williams was especially interested in how colleagues and producers in those

regions used hydroponics, a method of growing plants using mineral nutrient solutions.

"The Australians are further along in conserving water, such as optimizing pump speeds," said Williams. "They use a wide range of production systems not common in Kansas."

Discussing water conservation practices from "down under" and whether they will work in the United States creates interesting classroom discussions. Her greenhouse management class is split among horticulture and agricultural education students, who may incorporate what they learn in various ways from commercial greenhouses to high school classrooms.

Cloyd said it was an "eye-opener" to see how the producers they visited deal with pests. Both Australia and New Zealand prohibit importing any nonnative insects that are natural enemies to help with pest control.

They have many of the same pests, but Cloyd noticed different insects in their outdoor hydroponic lettuce systems.

"Their limited pesticide options make it difficult to rely on rotations to deal with pests," said Cloyd. "They have to be diligent with their applications."

"We also noticed that marketing efforts are proportional to population," said Williams. "Because Australia has a smaller population than California, their greenhouses produce a broader range of crops to sell to a smaller population base."

Bradford, Williams, and Cloyd viewed their sabbaticals as fantastic experiences.

"Probably one of the best parts about going on sabbatical is that it knocks you out of your routine," Bradford said. "I think it is good for all sorts of reasons, including helping to break bad habits, talking with people who have different ideas and expertise, and making you more appreciative of what you have back home. I definitely saw all of those benefits from my sabbatical."

By Gloria Holcombe

Faculty Notes

Agricultural Economics

Allen Featherstone, department head, is a new director of the Agricultural and Applied Economics Association Executive Board.

Agronomy

Colby Moorberg, assistant professor, earned the Emil Truog Award from the Soil Science Society of America for his outstanding dissertation at North Carolina State University.

Vara Prasad, professor of crop eco-physiology, was named a Fellow of the Crop Science Society of America.

Animal Sciences and Industry

Jennifer Bormann, associate professor of beef cattle genetics, received a Scholarship of Teaching and Learning award from the college's Innovations in Teaching, Learning, and Assessment Program.

Kelly Getty, associate professor of food science, received an Honorary Kansas FFA Degree at the Kansas State FFA Association convention.

At the American Dairy Science Association/ American Society of Animal Science joint annual meeting in Orlando, Florida, **Mike Tokach**, university distinguished professor, received the American Feed Industry Association's Award in Nonruminant Nutrition Research, and Professor **Jeff Stevenson** was elected a 2015 ADSA Fellow.

Biological and Agricultural Engineering

Dan Rogers, professor; Jonathan Aguilar and Isaya Kisekka, assistant professors, Southwest Research-Extension Center; Phil Barnes, associate professor; and Freddie Lamm, Northwest Research-Extension Center, earned the American Society of Biological and Agricultural Engineering Blue Ribbon Award for outstanding extension publication for Important Agricultural Soil Properties.

Donghai Wang, professor, won the Superior Paper Award in the research-processing systems category for *A Char-supported Nano-NiO Catalyst for Biomass Syngas Cleanup with Conditioning*, which was co-authored with W. Yuan and A. Kumar.

Communications and Agricultural Education

Steve Harbstreit, associate professor of agricultural education, accepted the VIP Award at the Kansas State FFA Association convention.

Brad Beckman, communications specialist with the global food systems team, was installed as president of the Association for Communications Excellence at the organization's annual meeting.

Entomology

Brian McCornack, associate professor of entomology, received the Award for Excellence in Integrated Pest Management at the North Central Branch meeting of the Entomological Society of America.

Grain Science and Industry

Tim Belstra (BS '71 feed science and management) of Belstra Milling Company; **Dave Krejci**, executive vice president and secretary of GEAPS; and **Dale Presnell**, retired president of Hayes & Stolz, were recognized for their support of the department at an April 22 luncheon.

Horticulture, Forestry and Recreation Resources

Greg Davis, associate professor of landscape design and undergraduate programs director, was honored as the 2015 PLANET Academic Excellence Foundation Outstanding Educator of the Year at the annual Student Career Days in Raleigh, North Carolina.

Chad Miller, assistant professor of ornamental horticulture, received a Scholarship of Teaching and Learning award from the college's Innovations in Teaching, Learning, and Assessment Program.

Robin Ruether, research associate at K-State's Horticulture Research and Extension Center in Olathe, was named to the 2015 Class of "40 Under 40" by horticulture industry magazine, *Greenhouse Product News*.

K-State Research and Extension

Two university distinguished professors, **Barbara Valent** of plant pathology and **Ruth Welti** of biology, were recognized by the American Society of Plant Biologists. They are among 24 North American authors whose papers published in *Plant Physiology* and *The Plant Cell* were the most highly cited papers between 2009 and 2013.

Northwest Research-Extension Center

Freddie Lamm, professor and research irrigation engineer, was named a Fellow of the American Society of Biological and Agricultural Engineering.

Plant Pathology

Harold Trick, professor of plant pathology, was named a Fellow of the Society for In Vitro Biology.

Retirement Recognition

Twenty individuals accumulated 594 years of service, an average of nearly 30 years, to the College of Agriculture and K-State Research and Extension. The retirees, their units, and years of service: Barbara Addison, Finney County, 21; Joseph Arata, Agricultural Economics, 18; Marie Blythe, Planning and Reporting, 20; Arlo Biere, Agricultural Economics, 46; Anna Mae Brown, Wildcat District, 23; Daniel Fung, Animal Sciences and Industry, 35; Larry Hollis, Animal Sciences and Industry, 12; Kathryn Lupfer-Nielsen, Post Rock District, 37; Charles Mickelsen, Agricultural Economics, 19; Kent Miller, Kansas Farm Management Association, 31; Robert Neier (BS '79 horticulture), Sedgwick County, 35; Phil Sloderbeck, Southwest Research-Extension Center, 33; Alan Stevens, Horticulture, Forestry and Recreation Resources, 24; Loyd Stone, Agronomy, 41; Frank Swan, Stanton County, 34; Tom Warner, Horticulture, Forestry and Recreation Resources, 26; Tranda Watts, Twin Creeks and Golden Prairie districts, 42: Frank White, Plant Pathology, 29; Karen Wilson, Agricultural Economics, 34; and Billy Wood (BS '79 animal science), Douglas County, 34.



Each semester student organizations nominate outstanding faculty, and Ag Council selects the winners. Greg Davis (far left), associate professor of landscape design, and Chad Miller (seated), assistant professor of ornamental horticulture, were named Faculty of the Fall Semester. Christine Wilson, professor of agricultural economics, and Steve Keeley, professor of turfgrass science, were chosen as Faculty of the Spring Semester. Miller also was elected Outstanding College of Agriculture Academic Advisor. They are next to the water feature donated by Friends of the KSU Gardens in the new Throckmorton patio area.

Gamma Sigma Delta

Gamma Sigma Delta, international honor society of agriculture, presented awards on April 24: Distinguished Faculty Award — Dave Mengel, professor of soil fertility and nutrient management; Outstanding Teaching Award — Chad Miller, assistant professor of ornamental horticulture; Outstanding Advising Award — Deanna Retzlaff, assistant professor of food science; Early Career Award — Ignacio Ciampitti, assistant professor of crop production and cropping systems; and Excellence in Extension Award — Dorivar Ruiz-Diaz, associate professor of soil fertility and nutrient management.

All-University Campaign Prizes

College of Agriculture/K-State Research and Extension employees who contributed to the All-University Campaign were entered into a drawing. Here are the prize winners:

Skybox visit during a home, nonconference football game:

Michael Holder, Flint Hills District

Jim Nelssen, Animal Sciences and Industry

Call Hall Dairy Bar coupons: Tara Markley, Johnson County

Denise Sullivan, Leavenworth County

Jacob Weber, Wildcat District

Jill Martinson, Dickinson County

Jeff Wichman, Communications and Agricultural Education

Teresa Douthit, Animal Sciences and Industry

Kris Boone Payne, Communications and Agricultural Education

John Reese, Entomology

Joann Zarger, Extension Administration

\$15 gift card to JPs @ Jardine: Julie Traxson, Wildcat District

Jennifer Wilson, Riley County

Bob Goodband, Animal Sciences and Industry **Tim Carson**, Animal Sciences and Industry

\$5 gift certificates to the K-State Research and Extension Bookstore and Mail Center:
Deanna Turner, River Valley District

Susie Bilderback, Geary County

Hannah Bourbon, Kansas Farm Management Association

Libby Curry, Northwest Area Extension Office **Daryl Waldren**, Northwest Area Extension Office

Vernon Turner, Communications and Agricultural Education–Technology

John Ruberson, Entomology

Alina Akjunova, Plant Biotechnology Center

Dave Mengel, Agronomy

Rick Umscheid, Grain Science and Industry

Dean's parking space for a day: Chris Mullinix, Animal Sciences and Industry

Summer Teacher Institutes Offered

The Department of Communications and Agricultural Education hosted two Curriculum for Agricultural Science Education (CASE) Institutes and a Food and Nutrition Science (FNS) Institute.

The CASE Institutes provide the foundation for a full year of curriculum for teachers. Instructor Brandie Disberger (BS '01, MS '03) coordinated Principles of Agricultural Science – Plant, June 15–25, with 22 participants from 14 states. Associate Professor Steve Harbstreit, supervised Agricultural Power and Technology, July 5–16. Twelve teachers from five states attended.

CASE equips teachers to elevate classroom experiences to prepare their students for success in college and careers that emphasize science, technology, engineering, and math.

Associate Professor Jason Ellis (BS '98) and master's student Robert McKendree coordinated the FNS Summer Institute, July 13–15.

The FNS Institute provided 41 science, agricultural education, and family and consumer sciences educators from three states with project-based, scientifically rigorous, food and nutrition science curriculum for high school students.

It is a joint curriculum and professional development project among K-State, University of Nebraska–Lincoln, the Shiga-toxin *E. coli* Coordinated Agricultural Project grant, and the Nebraska Department of Education.

In Memoriam

Jack M. Burke, 83, Battle Lake, Minnesota, died May 8, 2015. He joined Kansas Extension in 1958 as a radio-TV specialist. He progressed to assistant director of radio station KSAC; associate state leader, Extension Information and KSAC station manager; head, Department of Extension Radio, Television and Film; and head, Department of Extension Communications. He retired in 1991.

Rodney "Rod" Buchele, 67, Garden City, died Aug. 2, 2015. He worked in 4-H programs in Wisconsin, Florida, and Colorado before joining K-State Research and Extension in 2003 as the southwest area extension specialist for 4-H Youth Development. He was a devoted follower of public radio and served as a director and president of the High Plains Public Radio Board.



All University Awards Ceremony Recognition

The following individuals in the College of Agriculture/K-State Research and Extension were recognized by K-State President Kirk Schulz and Provost April Mason at the May 6 All University Awards Ceremony. Back row from left: Aleksey Sheshukov, assistant professor of biological and agricultural engineering, Big 12 Faculty Fellowship Award; Kun Yan Zhu, professor of entomology, Commerce Bank Distinguished Graduate Faculty Award; Dean and Director John Floros; Shannon Washburn, professor of agricultural education, Commerce Bank Outstanding Undergraduate Teaching Award. Front row: Justine Floyd, senior in agribusiness, Commerce Bank Presidential Student Award for Distinguished Service in Enhancing Multiculturalism; Chad Miller, assistant professor of ornamental horticulture, Big 12 Faculty Fellowship Award; Gloria Holcombe, editor, communications and agricultural education, President's Award of Excellence for Unclassified Professionals; and Tim Carson, computer information specialist/instructor, animal sciences and industry, President's Award of Excellence for Unclassified Professionals. Not pictured: Bradford Wiles, assistant professor/extension specialist, family studies and human services, Big 12 Faculty Fellowship Award.

Student Highlights



Students of the Month (back row L-R): Jared Bourek, animal sciences and industry, February; Logan Britton, agricultural economics/agricultural communications and journalism, November; Evan Woodbury, agricultural education, January; and Ben Brown, agricultural economics, September. Front row: Maggie Seiler, agricultural communications and journalism, March; Victoria Willis, animal sciences and industry, April; Samantha Bolen, animal sciences and industry, December; and Katrina Sudbeck, agronomy, October.

Britton earned the Student of the Year Scholarship, and Brown gave the student reflections address at spring commencement. Britton and Brown also were named College of Agriculture Ambassadors of the Year.



Kyle Hooker, assistant manager of the K-State Horse Unit, was named the 2015 K-State Student Employee of the Year. During the 10 months the Horse Unit did not have a permanent manager, Hooker stepped up to be assistant manager. He actually was a full-time manager on top of being a senior in animal sciences and industry. Watch the video at https://www.youtube.com/watch?v=jqXAaDnmjYk.

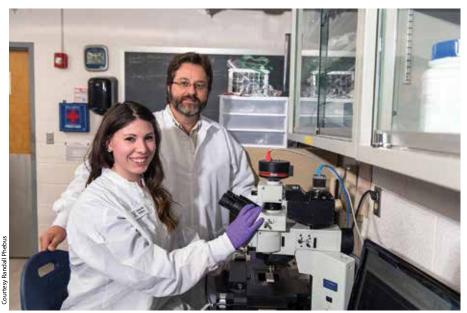


Kays awarded Phi Kappa Phi Fellowship

Reagan Kays (BS '15 agribusiness), earned a Phi Kappa Phi Graduate Fellowship to study agriculture, business, and public policy law at Georgetown University Law Center in Washington, D.C. Phi Kappa Phi is one of the oldest and most selective collegiate honor societies.

In addition to serving as the 2014–2015 student body president, Kays was president of K-State's chapter of Blue Key, a College of Agriculture ambassador, a member of the K-State Student Foundation, and the national undergraduate director of Alpha Gamma Rho fraternity. Kays also received the Friend of K-State Global Campus Award and gave the student address at spring commencement.

"Reagan has a bright future ahead of him," said Barry Flinchbaugh, professor of agricultural economics. "He has wonderful people skills and a deep belief in the democratic process. The future of Kansas — and perhaps the nation — will benefit from his outstanding leadership."



Amanda Wilder, food science master's student, received a \$10,000 Meat Industry Suppliers Alliance Scholarship and a \$1,500 United Dairymen of Idaho Scholarship. Her research focuses on controlling Shiga toxin-producing E. coli in beef through application of antimicrobial interventions during postharvest beef processing. It is supported by a U.S. Department of Agriculture, National Institute of Food and Agriculture Coordinated Agricultural Projects grant led by her mentor, Professor Randall Phebus.

K-STATE FIRST

K-State First, the university's first-year experience program, selected 35 students as Connected Across Topics (CAT) Community learning assistants and residential learning assistants for fall 2015.

Karly Frederick, junior in agribusiness, will assist Sandy Klein, events coordinator for the College of Agriculture, with Leadership for Agricultural Advocacy. Cooper Clawson, senior in agricultural economics, will help Don Boggs, associate dean of academic programs, with the Profitability in Livestock Enterprises community. Ian Jolliffe, junior in bakery science and management, will work with David Krishock, instructor in Grain Science and Industry, with Need for Feed.

The CAT Communities are designed around student interests, and they offer mentoring from a professor and an advanced undergraduate learning assistant who shares the students' interests and serve as role models.

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Graduate student awards

The 2015 Richard Elmore Brown Outstanding Graduate Student Teaching awards were presented to: Matti B. Kuykendall, agronomy; Melissa K. Lynes, economics; and Stuart A. Sprague, horticulture.

Elizabeth Clark, MS student in food science, received the Kansas City Section of the Institute of Food Technologists Graduate Scholarship Award.

Jessie Topp, master's student, received the outstanding thesis proposal and Jennifer Ray (MS '15 agriculture education and communications) earned the outstanding research paper awards from the Association for Communications Excellence.

Dilooshi Weerasooriya, agronomy doctoral candidate from Sri Lanka, earned a \$500 International Graduate Student Scholarship from the Konza and Manhattan Rotary clubs.

Nick Sevart, food science doctoral candidate, has been selected as a top 10 finalist in the Developing Scientist Competition at the International Association for Food Protection Conference in Portland, Oregon.

Trevor Rife, plant pathology doctoral student, was one of 18 national recipients of the 2015 Future Leaders in Science Award from the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.

Elizabeth Clark, food science master's student, received the Kansas City Section of the Institute of Food Technologists (KC-IFT) Graduate Scholarship Award.

Matthew Wilson, doctoral candidate in horticulture, received a North American Colleges and Teachers of Agriculture Graduate Student Teaching Award.

Shelly Wiggam, entomology doctoral student, was awarded one of five \$1,000 J.E. Weaver research grants by the Nature Conservancy.

Undergraduate awards

K-State Global Campus awarded Agriculture Scholarships to Wesley Green, senior in food science and industry, and Patrice Lyon, master's student in food science. Caroline Clausen, senior in food science and industry, earned a K-State Global Campus Scholarship.

Youwei Yang (BS '15 agricultural economics), Baiyin City, China, earned the inaugural International Leadership Award from the KSU Alumni Association. Yang has been a student ambassador for K-State Libraries, as well as the Student Governing Association.

Certified Angus Beef presented 2015 Undergraduate Colvin scholarships to Garrett Kays (\$5,000) and Lindsay Upperman (\$4,000).

Jason Troendle (BS '15 agricultural economics), St. Charles, Minnesota, earned the William L. Muir II and John T. Muir Alpha Tau Omega Blue Key Leadership Award.

The K-State Ag Technology Management Club received the second-place trophy from the Association of Equipment Manufacturers for Outstanding Student Technology Branch.

The top three posters at the April 24 Undergraduate Research Showcase were submitted by Spencer Dively, senior in milling science and management, Highland; Cheyanee Evans, sophomore in animal sciences and industry, Blue Rapids; and Rachel Reichenberger, senior in food science and industry, Mount Hope.

Wesley Green, senior in food science and industry; Kimberly Holt, senior in animal sciences and industry; Courtney Nicholson (BS '15 animal sciences and industry); and Adrienne Davis-Phillips (BS '15 food science and industry) were among 59 students inducted into Alpha Sigma Lambda — a national honor society that recognizes full-and part-time undergraduate adult students.



Elizabeth Harner (shown above with Coach Bill Snyder) has been selected for the inaugural class of Snyder Leadership Legacy Fellows, K-State's newest leadership development program. She is a senior in agribusiness/international studies from Manhattan.

Snyder Fellows will participate in various leadership development workshops, activities, and events during the 2015–2016 academic year.



Nicole Lane (left), senior in agricultural communications and journalism, receives the 2015 Livestock Publications Council Forrest Bassford Student Award from Danielle Palmer, North American public relations coordinator for Alltech (the award sponsor), at the Ag Media Summit in Scottsdale, Arizona, July 25–29. Fellow senior Kaitlin Morgan was one of the four finalists.

Since the award's creation in 1985, K-State has had 11 student award winners and 17 finalists, the most of any institution.



The quarter-scale tractor "A" team placed second overall at the American Society of Agricultural and Biological Engineers' annual International Quarter-Scale Tractor Student Design Competition May 28–31 in Peoria, Illinois. A K-State team has won or placed in the top three 17 of the last 18 years.

Pictured above from left: Eli Sheppard, Josh Mederios, Tyler Montgomery, Zach Stejskal, Jacob Schwindt, Ryan Strasser, Jordan Reisinger, Kyler Macy, Tyler Siebels, Austin Schmitz, and Aaron Spare.



Words of Wisdom

Take full advantage of what K-State offers, develop your people skills, and discover your strengths. Jim Heinze, the 2015 College of Agriculture Alumni Fellow, offered this practical advice to students in the Horticultural Design 2 class taught by Greg Davis.

Heinze, director of North American sales for the commercial division of The Toro Company, spoke to various classes and met with horticulture/turfgrass graduate students when he was on the Manhattan campus in April to be honored as an Alumni Fellow.

When Heinze enrolled at K-State, he wasn't sure of a major. The Introduction to Horticulture class taught by Gus van der Hoeven convinced Heinze to focus on horticulture. Heinze, a native of Lincoln, Kansas, graduated in 1977 with a horticulture degree.

After graduation, he worked as a landscape manager for a property

management company in Kansas City. In this position, he used the broad scope of skills he learned at K-State. He purchased Toro equipment and built a relationship with the Toro representative. In 1993, a sales position with The Toro Company opened in Bloomington, Minnesota, and he took the leap to go from being a practitioner to sales.

"I found my niche," said Heinze.
"I looked at the job as an opportunity to be a problem solver and make my customers' lives better."

He used his horticultural knowledge and management skills to advance his career. Heinze was promoted to director of commercial sales in 1999 and director for sales for North America in 2012. He has served on the Heart of America Golf Course Superintendents Association of America and the Kansas Turfgrass Foundation board.

Heinze has maintained his ties to K-State and the college. He also serves on the Dean and Director's Advisory Council.

When Heinze visited with K-State students, he encouraged them to "own the technology of your industry" and take advantage of internships.

He also stressed the importance of networking, setting goals, caring about people, being passionate about what you do, and most of all, being ethical.

"The guidance of the professors here and quality of the education on the technical side was a hallmark and baseline for me to step out of the world of education into the world of industry and not miss a beat," said Heinze. "I was very well prepared."

By Gloria Holcombe



Three outstanding individuals — an agricultural education teacher, the president of a major food distribution company, and a nationally recognized professor — were honored on May 2 by the College of Agriculture for service and leadership to their profession, the college, and Kansas State University. David Holliday was named the Distinguished Alumnus, John Niemann was designated Outstanding Young Alumnus, and Bryan Schurle earned the David J. Mugler Outstanding Teaching Award.

Distinguished Alumnus

During his 22 years as an agricultural education teacher and FFA advisor at Rock Creek Junior/Senior High School, David Holliday (BS '88, MS '89 agricultural education) has influenced the lives of approximately 1,700 future agricultural leaders and consumers, including numerous FFA Career Development Event winners, District and State FFA officers, and State and American Degree recipients.

"I am humbled and honored by this award," said Holliday. "But it's not about me. It's about offering kids the opportunity to achieve and to help them form a positive relationship with FFA."

The Holliday family — Drew, Jacey, Ruth (David's mother), Kade, Cody, Kelly, (David's wife), Brady, Silas, David, and Seth. Jeremy and Tricia were not present.

Each fall, Holliday hosts several K-State

students in their pre-internship field teaching experiences and regularly helps freshman and transfer students with early field observations. He has encouraged several students to major in agricultural education, including his son Cody.

Holliday also chairs the external advisory committee for the K-State Department of Communications and Agricultural Education. K-State's College of Education recognized him as the 2012 Distinguished Cooperating Teacher of the Year.

David J. Mugler Outstanding Teaching Award

For 38 years, Professor Bryan Schurle has been mentoring and challenging K-State undergraduate and graduate students, including David Holliday and John Niemann.

"No class challenged me or made me think deeper about a subject and its real-world applications than Dr. Schurle's AgEcon 120 course," said Candice Wilson, student and teaching assistant. "He is more than a professor. He is a mentor, friend, and a true representation of what it means to go above and beyond the call of duty and to care for others and their success."

K-State Professor Christine Wilson (BS '94 agribusiness; MS '96, PhD '01 agricultural economics) also acknowledged Schurle's influence in her life as a teacher, mentor, and colleague.



Bryan and Brenda Schurle

Schurle has received teaching and advising awards from the college and university as well as recognition from various organizations, including the North American Colleges and Teachers of Agriculture, the Agricultural and Applied Economics Association, and the National Association of State Universities and Land-grant Colleges.

The award is named for former Associate Dean David Mugler, whose motto was "They don't care what you know, until they know you care."

Outstanding Young Alumnus

John Niemann (BS '93 agribusiness) became president of Cargill Food Distribution, based in Wichita, in 2013. In the first year, he revitalized the 30-year-old division, breaking records and diversifying for future growth.

Niemann started his career with Elanco Animal Health, where he enhanced training programs and improved marketing offerings. In 2001, he joined Cargill.

He was named vice president/general manager of the Fresno Beef facilities in California in 2010. As the company thrived, he encouraged his teammates to volunteer in the community. Under his leadership, Cargill earned several awards for their involvement with Habitat for Humanity, United Way, Earth Day projects, and the Ronald McDonald House.



John and Jennifer Niemann with their children Hillary, Trace, and Peyton.

As Niemann accepted the award from

Agricultural Alumni Association board member Phil Kirk (BS '89 agricultural economics), he thanked the college, his teachers, and FFA for positively influencing his life.

He chairs the Dean and Director's Advisory Council and represents Cargill on the National FFA Foundation's Sponsors Board. Niemann was the featured speaker at the College of Agriculture spring 2015 commencement. On June 30, 2015, Niemann was appointed president of Cargill Turkey and Cooked Meats based in Wichita.

Class Notes

'60s

John Carlin (BS '62 dairy husbandry), former governor of Kansas, received the Alumni Award of Distinction at the North-American Interfraternity Conference. He is a professor in the Staley School of Leadership Studies and faculty advisor to FarmHouse.

Carl Johnson (BS '65 agronomy) devoted his professional career to developing improved rice cultivars for the California Rice Industry. He retired in 2008.

'70s

Jerry McReynolds (BS '70 agricultural economics), a Woodston farmer, was named to Ingram's 50 Kansans You Should Know list.

John Morgan (BS '74, MS '76 agricultural economics), an investor and managing member of Campa Investments, and Phil Stroupe (BS '76 dairy production, MS '77 animal science), pharmacy supervisor at the Norris Student Health Center at the University of Wisconsin–Milwaukee, were elected to four-year terms on the KSU Foundation Board of Directors.

Craig Meyer (BS '75 agricultural education) was named senior vice president/chief risk officer for Golden State Farm Credit in Chico, California.

Phil George (BS '76, MS '79 animal science) presented "Russian Beef Project" to the Beef Systems class on April 16.

Douglas Karlen (PhD '78 agronomy), longtime USDA soil scientist and researcher in sustainable agriculture, presented the 32nd annual Roscoe Ellis Jr. Lectureship in Soil Science on April 29.

Dave Nichols (MS '79, PhD '82 animal science), professor of animal sciences, was named to Ingram's 50 Kansans You Should Know list.

'90s

Kate Perkins (BS '91 animal science, DVM '93), veterinarian at Andover Veterinary Clinic and a cattle rancher, was elected to a four-year term on the KSU Foundation Board of Directors.

Lisa M. Lunn (BS '97 animal science, DVM '99) is an associate professor of veterinary medicine at the University of Alaska Fairbanks. She is married to Kevin Krugle.

'00s

Rhonda (Nida) McCurry (BS '01 agricultural communications and journalism), executive director of Agri-Business Council of Wichita, was named to the 40 Under 40 class of 2015 by the Wichita Business Journal.

Matt Spangler (BS '01 animal science), University of Nebraska beef genetics specialist, was named Outstanding Young Extension Specialist at the American Society of Animal Science Midwest Meeting.

Charles Starkey (PhD '02 animal science) was named the American Feed Industry Association Member of the Year.

Kevin and Sharon (Combes) Thielen (both BS '02 agribusiness) announced the birth of

daughters Clara and Kassie on April 11, 2015. Kevin is executive director of the Kansas Beef Council, and Sharon is assistant dean for the K-State College of Agriculture.

Alexa "Lexie" Hayes (BS '07 animal science) has accepted the position of extension assistant, youth livestock coordinator in the Department of Animal Sciences and Industry. She previously worked as a 4-H Youth Development educator in Comanche County for the Oklahoma Cooperative Extension Service.

Elizabeth Yeager (BS '07 agricultural economics, PhD '11 economics) joined the Department of Agricultural Economics as an assistant professor. She previously was an assistant professor at Purdue University.

Brandy L. (Valek) Jones (BS '08 agricultural economics) is a customer service specialist for Frontier Farm Credit in Manhattan. Her husband Christopher (BS '07 agribusiness) is a salesman for Performance Ag in Beattie. They live in Wamego with their sons Colby Wade and Chase Cooper.

Chance Fiehler (BS '09 animal science) is the feed mill manager for the O.H. Kruse Feed Technology Innovation Center. He previously managed the feed mill at Cactus Feeders in Ulysses.

Sallissou Issa (PhD '09 animal science) has been elected the INRAN Scientific Director in Niger. INRAN is the research component of the Niger Ministry of Agriculture.

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Roberta Wyckoff (BS '11 agricultural education) joined K-State Research and Extension – Douglas County as an agriculture and natural resources agent. She previously taught agricultural education in Spring Hill and Ellsworth high schools.

James Coover (BS '12, MS '14 agronomy) joined K-State Research and Extension – Dickinson County, as an agriculture and natural resources agent. He previously worked in the K-State soil microbiology lab and the USDA Hard Winter Wheat Genetics Research Unit.

Sandy Myers (BS '14 agricultural economics, specializing in agronomy) works for the Kansas Farm Management Association as an extension agricultural economist in Dodge City.

Katelyn Barthol (BS '15 agribusiness) joined K-State Research and Extension – Finney County, as an agriculture and natural resources agent. As a student, she worked for the Weather Data Library and interned for K-State Research and Extension – Leavenworth County.

Casey Droddy (BS '14 agricultural communications and journalism) is a sales support representative at Cargill AgHorizons.

Kyle Coble (BS '15 animal science), swine nutrition graduate research assistant, was named American Society of Animal Science Midwest Young Scholar.

In Memoriam

John Blythe (BS '40 agronomy), 96, Manhattan, died June 20, 2015. He was an extension agent in Morton County before enlisting in the army Air Corps. He returned to farming in 1952. He worked for Kansas Farm Bureau as a lobbyist for 21 years.

Robert Gilliford (BS '47 animal science), 96, Olsburg, died May 26, 2015. He was a farmer and worked for the Army Corp of Engineers. The K-State Alumni Association honored him as being a donor for more than 50 years.

Ivan Goros (BS '50 agricultural economics) 90, Lewistown, Montana, died July 19, 2015. He worked for Lincoln County until 1957 when he moved to Minneapolis as the county office manager for the Ottawa County USDA. He retired in 1984 and moved to Montana in 2002.

James K. Quinlan (BS'54, MS'67 entomology), 87, Manhattan, died July 25, 2015. He worked as a USDA research entomologist for more than 30 years. His memorial was at the KSU Gardens Quinlan Visitors Center, named for his father.

Ronald Sweat (BS '59 agricultural education), 77, Manhattan, died May 2, 2015. He taught vocational agriculture in Marion then pursued a banking career in Beloit, WaKeeney, Colby, and Bethany, Missouri. He then worked as a bookkeeper for Walters Brothers Oil Distribution Co., until his retirement.

Theodore "Ted" Samuelson (BS '61 agricultural education), 81, Manhattan, died March 21, 2015. He taught at Wamego High School, was Farmers Home Administration supervisor for Cloud, Republic, and Ottawa counties, a certified farm real estate appraiser, and lifelong farmer.

Christopher Sluder (BS '87 agricultural economics), 50, Bottineau, North Dakota, died on March 24, 2015. He was employed by Monsanto, Smithfield, and AMVC Management before accepting a position with Turtle Mountain Pork in North Dakota.

Information to share?

Submit your notes, address changes, or comments to www.ksu.edu/agreport

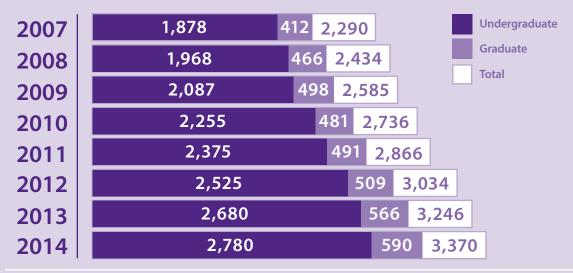
For questions, contact Gloria Holcombe, 208 Umberger Hall, 1612 Claflin Road, Manhattan, KS 66506 or gloria@ksu.edu.

WE'RE GAINING SPEED

The College of Agriculture and K-State Research and Extension are growing by leaps and bounds, further benefiting not only Kansans and the world, but our future — students. In fall 2014, 2,780 undergraduates and 590 graduate students enrolled in our courses. Our multicultural student population has increased by 180 percent since 2009. Total student numbers have increased each year since 2007. We're proud of what we've accomplished, and we look forward to the K-State family sharing in our success.

STUDENT NUMBERS

Our total student numbers have increased each year since 2007.



TAKING THE LEAD

College of Agriculture programs have received recognition as some of the best in the nation, including:



Our Grain Science Department is not ranked because it is one of its kind in the nation.

SUCCESS AT EVERY TURN

Industry leaders and professional organizations frequently recognize us for our outstanding teaching, research, and extension. The list is lengthy and includes:

- Crop Science Society of America
- American Society of Animal Science
- Entomological Society of America
- American Society of Agronomy
- Society for Range Management
- American Society of Agricultural and Biological Engineers
- Agriculture and Applied Economics Association
- Institute of Food Technologists



Scholarship Honors Cholick Legacy

After 11 years at K-State as dean of the College of Agriculture/director of K-State Research and Extension and CEO of the KSU Foundation, Fred Cholick's legacy at the university will endure.

Several people worked together to establish a scholarship for undergraduate students in the College of Agriculture in honor of Fred and his wife, Cathy. Richard Porter, Reading; Connie Kays, Weir; and Steve Irsik (BS '69 agricultural economics), Ingalls, have been instrumental in this endeavor.

"It's like getting two for the price of one," said Porter (BS '72 chemical engineering, Master of Agribusiness '04). "One hundred percent of the gift goes to the great cause of helping students, and the gift also honors Fred for his outstanding leadership while at K-State."

"We are excited that this scholarship will help students as they prepare for careers in agriculture, an industry that Dr. Cholick is so very passionate about," said Kays (BS '81, MS '84 animal science; BS '88 business administration). "We also hope that it will help students in the College of Agriculture overcome the increased costs of getting an education and make their dreams of a college education become a reality."

The Cholicks wanted to ensure that this scholarship was available to

students for generations to come, so they too contributed in order to make it endowed.

"We had scholarships," Fred said, referring to his and Cathy's undergraduate studies. "This is payback. A land-grant institution is supposed to be accessible, but high costs can impede that. This scholarship will help students access a college education."

If you would like to honor Fred and Cathy Cholick by contributing to this scholarship fund, you may donate online (http://www.found.ksu.edu/why-i-give/2015/cholick.html) or contact Kim Schirer at kims@found.ksu.edu or 785-532-7515.

KANSAS STATE

Henry C. Gardiner Global Food Systems Lecture

Greg PageExecutive Chairman of Cargill Inc.

Monday, October 12, 2015, at 7 p.m. Kansas State University McCain Auditorium

Since joining Cargill in 1974, Greg Page has held numerous positions with the company in the United States and internationally, including work with a poultry processing operation in Thailand; beef and pork processing operations in Wichita; and the Financial Markets Group in Minneapolis.

He served as Cargill's chief executive officer from 2007 to 2013 and has been chairman of the Board of Directors since 2007.



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



Accomplishments during last year's 48-hour service project:

3,158 participants, including **468** 4-H alumni completed **130** service projects in **61** counties raising **\$9,375** for charities, and collecting **9,214** nonperishable food items

Find out how you can be part of 48 Hours of Service,

October 10–11, 2015

www.Kansas4-H.org/484H







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Friday, October 9, 2015

5:30 PM to 9:30 PM at the Stanley E. Stout Center Help celebrate the K-State Animal Sciences & Industry family and its industry contributions!

Bring the Family!



Keep up to date with us on social media as plans develop for this exciting event:



@KSUFamilyFriend

www.facebook.com/KStateFamilyAndFriends

Don L. Good



IMPACT AWARD

The first Don L. Good Impact Award will be presented to Miles McKee, Professor

Emeritus, Kansas State University. Dr. McKee has taught, mentored and been a friend to thousands of ASI students spanning more than four decades. Join us as we honor one of the most influential teachers and animal scientists of the century!

- Food & beverages Live music
- Jr. Wildcat Barnyard
- "Surprise" guests!

Register Online Now!

www.asi.k-state.edu//amilyandfriendsreunion.html