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## **Feed the Future Innovation Lab for Sustainable Intensification extended for five years**

A unique organization focused on farm innovations in developing countries and Kansas will continue and expand its work for another five years.

We're furthering our partnership with Kansas State University on the Feed the Future Innovation Lab for Sustainable Intensification for five years, building on our successful collaboration with them to date," said Bonnie Glick, deputy administrator of the United States Agency for International Development at a reception for members of Congress earlier this fall.

The lab, called SIIIL for short, was awarded to K-State in 2014 by USAID, with an initial budget ceiling of \$50 million. After an extensive review, USAID extended funding with an additional budget of \$23 million for the next five years (2019 to 2024) and an opportunity for growth as needed. K-State is home to three other Feed the Future Innovation Labs, which are:

- The Feed the Future Innovation Lab for Sorghum and Millet
- The Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss
- The Feed the Future Innovation Lab for Applied Wheat Genomics

Each of those labs was extended last year; all three started a year earlier than SIIIL.

"K-State's Feed the Future Innovation Labs are a true asset in fulfilling the university's land-grant mission so we're please the Innovation Lab for Sustainable Intensification has received renewed funding," said Richard Myers, K-State president. "The research produced by SIIIL and the university's other Feed the Future labs is not only helping producers in the foreign countries they serve but in Kansas as well. This work truly showcases K-State's leadership in global food systems."

The term sustainable intensification refers to processes or systems designed to increase agricultural yields without adversely affecting the environment or converting additional non-agricultural land. "Sustainable intensification is required to meet the demands of a growing population and also addressing global food and nutritional security," said Vara Prasad, K-State University Distinguished Professor and director of SIIIL.

The concept and principles of sustainable intensification are especially important in areas with limited resources. The work of innovation labs fits well with K-State's land-grant mission by making education and innovations available to everyone through research, teaching and outreach.

In the first five years, SIIIL's work included research projects in Bangladesh, Burkina Faso, Cambodia, Ethiopia, Malawi, Senegal and Tanzania, working toward common themes of increasing sustainable agriculture productivity, enhancing resilience of cropping systems and supporting nutritional outcomes.

In total, SIIIL works with more than 67 host-country organizations, research institutes and private-sector partners; eight international research centers; and 13 U.S. universities.

Also in the first five years, SIIIL supported more than 120 scientists, trained more than 80 graduate students and provided short-term training to more than 15,000 farmers and agricultural professionals across the globe.

## **New veterinary medicine research projects take on foot-and-mouth disease and African swine fever**

High-priority disease in cattle and swine will be tackled by three researchers in the Kansas State University College of Veterinary Medicine with grants totaling nearly \$1 million from the U.S. Department of Agriculture's Agricultural Research Service.

Jurgen Richt, Regents distinguished professor and director of the Center of Excellence for Emerging and Zoonotic Animal Diseases, received a \$150,000 USDA ARS grant for "Evaluation of Novel Foot-and-Mouth Disease Virus Vaccine Candidates with Broad Breadth of Protection - Phase II."

With a \$176,900 grant, Mike Sanderson, professor of epidemiology and associate director of the Center for Outcomes Research and Epidemiology, is leading the project Simulation Modeling of Foot-and-Mouth Disease Outbreaks in Livestock in the U.S."

"Actions Supporting the Development of an African Swine Fever Virus Live Attenuated DIVA Vaccine" is under the director of Jishu Shi, professor of vaccine immunology, with a \$640,720 grant.

Both Sanderson's and Richt's projects focus on foot-and-mouth disease, which affects livestock production in many regions of the world, including much of Asia and Africa.

Shi's research is centered on the development of control strategies against African swine fever virus, a threatening swine disease that has become a major issue in China and other Asian countries.

"The collaboration with USDA ARS is a valuable partnership for us in African swine fever vaccine research and highlights the importance of the K-State Biosecurity Research Institute as a key facility for K-State researchers working on high-consequence animal diseases," Shi said. "It will strengthen our capability in research that will be related to the National Bio and Agro-defense Facility (NBAF), and provide new impetus for our long-standing partnership with USDA ARS research scientists."

The Biosecurity Research Institute, known as the BRI, is a biosafety-level 3 and biosafety-level 3 agriculture research facility that allows for the study of high-consequence pathogens affecting plants, animals and food products, including zoonotic pathogens that infect humans. NBAF will be the nation's foremost animal disease research facility and is being built by the U.S. Department of Homeland Security adjacent to K-State's Manhattan campus.

## Jason Hartman announced as next state forester of Kansas

The Kansas Forest Service announced Jason Hartman as its next state forester. Hartman began his role on December 20, 2019.

Hartman will provide leadership to all programs of the Kansas Forest Service and employees of the agency through his expertise and education in resource management, forestry and fire management.

Hartman brings a vision of cross-programmatic relations to the Kansas Forest Service focused on collaboration between program leaders within the agency and with external partners. His vision will continue to position the service as a leader in forestry and wildland fire management services.



## Kansas State University horse judging team captures two world titles

The Kansas State University horse judging team captured a bit of history when the squad won two of the most prestigious contests offered for collegiate competitors.

K-State won the American Paint Horse Association title in September and followed that up with a victory at the American Quarter Horse Association contest in mid-November. It's the first time that any four-year



## K-State researchers make progress on work with industrial hemp

After one year of growing industrial hemp in test plots, Kansas State University researchers say they've moved closer to providing guidance to producers interested in growing the alternative crop in Kansas.

In April 2018, Kansas Gov. Jeff Colyer signed a bill enacting the Alternative Crop Research Act, leading to the legal production of industrial hemp in the state. Kansas is one of 42 states approved to grow the crop; the Kansas Department of Agriculture reported that

school has pulled off the judging double, according to head coach James Lattimer.

Like other livestock judging contests, horse judging requires team members to evaluate any of a dozen classes of horses, place them according to pre-determined criteria, and provide oral reasons for those placements to judges.

## Rural Education Center to receive USDA grant for robot-facilitated distance learning in rural schools

Robots will bring more learning opportunities to rural schools in Kansas, thanks to a national grant to be awarded to the Rural Education Center in the Kansas State University College of Education.

The U.S. Department of Agriculture has announced that the center will receive a \$146,031 Teaching Rural Students STEM Through Telepresence grant designed to create a distance learning network to benefit rural schools, with emphasis on science, technology, engineering and math. Participating schools will be Ashland High School, USD 220; Clay Center High School, USD 379; Dighton High School, USD 482; Haviland K-8, USD 474; Lakin High School, USD 215; Liberal High School, USD 480; Skyline High School, USD 438; and Bennington High School and Tescott High School, both in USD 240.

"We recognize the tremendous potential that exists in our rural students and are excited to take the lead in infusing our district partners with this innovative approach to STEM education," said Debbie Mercer, dean of the College of Education.

The telepresence grant is part of the USDA's \$42.5 million investment in 133 distance learning and telemedicine projects in 37 states and two U.S. territories. The USDA will provide the funding through the Distance Learning and Telemedicine grant program. These investments will benefit 5.4 million rural residents. In Kansas, the grant is expected to serve 2,360 rural students and 37,964 residents in rural communities.

The funds - used solely on equipment for the schools - will purchase 36 Double Robotics robots, which allow educators to teach and interact with their students who are at a different location. The schools will also received Apple iPads and laptops, as well as other equipment necessary for the project.

Jamie Wetig, superintendent of the Ashland Public Schools, said teacher supply is always an issue in rural schools and this partnership may impact what classes his schools can offer students.

"In an evermore challenging environment to recruit and retain highly qualified teachers, the ability to provide educational opportunities in a small and rural school may sometimes be limited," Wetig said. "By partnering with the Rural Education Center at Kansas State University, Ashland Public Schools will have the opportunity to work on the forefront in redesigning education from delivery to enhancing the curriculum."

Approved by the Kansas Board of Regents in 1978, the center focuses on meeting the needs of rural schools in the state of Kansas. They are emphasizing advocacy for rural schools and their communities by

there were 207 Kansas growers in 2019.

None of those growers, however, had information available to show best practices for growing industrial hemp in Kansas soils.

"It's a brand new crop that nobody in Kansas should have legal experience growing," said Jason Griffin, director of the John C. Pair Horticultural Center, one of three sites where K-State's research trials have taken place this year (research was also conducted at K-State facilities in Colby and Olathe). "Since it was new, we needed baseline information on how to grow the crop successfully."

Griffin noted that "99% of the people growing industrial hemp in Kansas this year were growing for cannabidiol," better known as CBD. Cannabinoids have high interest among consumers because of their purported medical and therapeutic benefits in humans and companion animals.

CBD and other varieties are legal to grow if they produce less than .3% tetrahydrocannabinol (THC). If the plant's THC level is greater than .3%, it is considered marijuana and not legal to grow or possess in Kansas.

"We knew that Kansas farmers wanted to get into this industry," Griffin said. "and our job is to conduct research to help farmers be successful with the crop."

Griffin and the research team at the John C. Pair Center planted seven CBD varieties, including five in high tunnels, which are plastic-covered structures that provide some protection from the environment compared to open field conditions. Because they were protected from insects and other pollinators, "the plants inside the high tunnel were just superior," Griffin said. "In that protected environment, they were larger and had more flower buds. Because they had more buds, they had a higher CBD content."

K-State's work also looked at various production systems, including growing the plants with organic and conventional fertilizer. Researchers also looked at the potential of growing industrial hemp for fiber and grain.

## Evergy installs new electric vehicle charging station at K-State

Kansas State University has continued its commitment to renewable energy with a newly installed electric vehicle charging station on the Manhattan campus. The charging station is a partnership with Evergy and is located in parking lot D1, which is west of West Stadium at 873 Denison Ave.

The new station provides a place for electric vehicle owners to charge their vehicles. The station offers more than 100 miles of electric range in a few hours of charging. In addition, electricity used at the station is offset with renewable energy credits from Evergy. A K-State parking permit is required to use the electric vehicle charging station from 7am to 5pm Monday to Friday.

The university reached out to Evergy after receiving several requests from more and more K-Staters who are driving electric vehicles. The installation and maintenance was provided by Evergy at no cost to

pursing grant opportunities and other sources of funding to support various rural educational projects. They will also conduct research and coordinate other educational activities to support the learning opportunities for rural students and teachers.

the university.

## DID YOU KNOW?

Former Colombian President Juan Manuel Santos will present a Landon Lecture at 10 a.m. Tuesday, February 4 in the K-State Student Union's Forum Hall. The event is open to the public.



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