K-State lands $1M to boost grain sorghum research

Project will form network that aims to deliver sorghum seed trait technology for farmers

By Pat Melgares, K-State Research and Extension news service

MANHATTAN, Kan. – The U.S. Department of Agriculture has awarded nearly $1 million to a Kansas State University program to lead research and innovation in sorghum production, boosting a crop that is grown more in Kansas than anywhere else in the United States.

Sarah Sexton-Bowser, director of the Center of Sorghum Improvement at K-State, said the award allows the university to build a network of public and private groups aiming to ease a bottleneck in sorghum technology, and develop even better seed traits in the future.

“K-State has invested capacity and infrastructure in sorghum crop research, and the crop is key to the state’s agriculture production,” Sexton-Bowser said. “Along with the farmers in Kansas and the greater sorghum community, our infrastructure has been identified by the USDA as leading coordinated innovation across public programs as well as private seed industry partnerships.”

According to Kansas Grain Sorghum, the state ranks No. 1 in production of grain sorghum. Most years, Kansas farmers grow more than 200 million bushels of the crop, or nearly half of all U.S. grain sorghum production. In dollars, production tops $1.8 billion, including more than $869 million in exports.

K-State molecular breeder Terry Felderhoff said the university’s research is critical in developing varieties resistant to emerging pests and diseases.

“One really good example of this was when we started working with sugarcane aphid resistance, which many people in the sorghum space know as a new pest on the scene a few years back,” he said. “We worked with international collaborators and identified resistance in exotic sorghum sources, and were able to identify the underlying genetics of stable resistance.”

With the USDA award, K-State will continue the work, according to Sexton-Bowser. Some of the early collaborators on the project include the United Sorghum Checkoff and the Kansas Grain Sorghum Commission; and private seed companies like Innovative Seed Solutions and Corteva AgriScience.
Sexton-Bowser noted that sorghum innovation typically occurs one of two ways: Individual researchers discover interesting genes and publish their work in research journals; or, seed developers (usually in private industry) develop high-yielding hybrids to market.

“You have these two great paths to innovation, but rarely do the two interact,” she said. “Terry (Felderhoff) does a great job at understanding the needs of both of those communities…not trying to copy them, but rather linking them together. Prior to our work in this area, that unique integration had not been occurring.”

More information on the grant and the partnerships working to improve grain sorghum production is available online from the Center for Sorghum Improvement.

“Improvement in sorghum is built on farmer leadership and land grant (university) leadership,” Sexton-Bowser said. “If not for the partnerships with Kansas farmers, we wouldn’t have this type of foundation to build from.”

FOR PRINT PUBLICATIONS: Links used in this story
Center for Sorghum Improvement, https://www.csisorghum.org

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the wellbeing of Kansans. Supported by county, state, federal and private funds, the program has county extension offices, experiment fields, area extension offices and regional research centers statewide. Its headquarters is on the K-State campus in Manhattan. For more information, visit www.ksre.ksu.edu. K-State Research and Extension is an equal opportunity provider and employer.

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