

K-State University to lead a multimillion-dollar global food security program

Kansas State University is receiving an initial five-year, \$8.5 million award from the U.S. Agency for International Development, or USAID, to establish the federal government's new Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss.

It is the third Feed the Future Innovation Lab established at Kansas State University in the last five months, bringing more than \$27.2 million to the university.

"Kansas State University is proud to lead this effort to improve our global food system," said John Floros, dean of the College of Agriculture and director of K-State Research and Extension. "As much as a third to half of the world's harvest is lost every year for a variety of reasons. Through this innovation lab, we will work toward solutions that reduce postharvest losses and help preserve greater quantity and better quality food for the world's growing population. By doing so, we will also help reduce the waste of the precious natural resources used to produce our food."

The Innovation Lab for the Reduction of Post-Harvest Loss is part of the U.S. government's global hunger and food security initiative, called Feed the Future. This newest lab will focus initially on helping the countries of Bangladesh, Ethiopia, Ghana and Guatemala reduce their postharvest losses and food waste for grain and oil seed crops, tuberous root crops, and peanut and legume crops.

The lab will expand its research focus to other Feed the Future countries over time. "A tremendous amount of time and effort is being put into improving crop yields in the developing parts of the world, but then 20-30 percent of those crops are lost soon after harvest and before they reach the consumer," said Dirk Maier, professor and head of the grain science and industry department and director of the university's international grains program. "We will research what can be done in an effective manner to

decrease these unacceptably large losses, especially among smallholder and subsistence farmers, and use appropriate technologies and knowledge to increase the supply of safe and nutritious food in these and other Feed the Future focus countries."

As a way to prevent postharvest losses, researchers will investigate prevention of stored product insect pests and mycotoxins as well as improved measurement, drying and storage techniques. They also will use innovative communication, training and education approaches and look at incorporating micronutrients in grain foods to help improve nutrition.

Maier will co-lead the innovation lab, which will be housed in the university's International Grains Program Institute.

Partners include the ADM Institute for the Prevention of Postharvest Loss at the University of Illinois; Oklahoma State University; University of Nebraska-Lincoln; South Carolina State University; University of Kentucky; Fort Valley State University; the U.S. Department of Agriculture's Manhattan-based Center for Grain and Animal Health Research; Archer Daniels Midland Co.; Romer Labs; Vestergaard Frandsen; and John Deere; as well as various universities and nongovernmental organizations in the initial four countries.

"I think we have a powerhouse alliance, and USAID affirmed that by selecting Kansas State University as the leader," Maier said. "It's a great honor and responsibility. I think it will spotlight

the state and the expertise and capabilities of Kansas State University's faculty and students as well as those of our collaborators."

While the lab's focus will be abroad, Maier said its results will benefit Kansas and the U.S.

"If you have countries with stronger economies, they will have higher demands for grains," he said. "History has proven that with China and India. To feed 9 billion people by 2050, more grain will need to be produced, preserved and sold for food and not rely on food aid to meet needs."

The university's other two Feed the Future Innovation Labs -- the Sorghum and Millet Innovation Lab and the Applied Wheat Genomics Innovation Lab -- focus on developing climate-resilient sorghum, millet and wheat