KANSAS STATE UNIVERSITY

Pre-Harvest Food Safety and Security

Problem/Issue Statement

The food supply in the United States is one of the safest in the world; however, food-borne illnesses do occur and frequently are associated with foods of animal origin. The College of Veterinary Medicine at K-State has an interdisciplinary research team to address scientific issues related to the four vital areas in pre-harvest food safety in beef cattle: Shiga toxin-producing *Escherichia coli* (O157:H7 and non-O157), *Salmonella, Campylobacter,* and antimicrobial resistance of food-borne and normal gut bacteria.

This team with microbiology, molecular biology, epidemiology and production systems expertise, with collaborations with researchers from other departments at K-State, and input from key industry stakeholders is generating valid and industry-relevant outcomes. Understanding the ecology of food-borne pathogens and emergence and dissemination of antimicrobial resistance in bacteria in cattle and their environment will advance effective and practical strategies for comprehensive reduction or elimination of food-borne pathogens and antimicrobial resistance at the farm.

Request Description

$2M is requested to support the collaborative food safety and security research efforts in the Colleges of Veterinary Medicine and Agriculture. This will include investigations of food-borne pathogens and emergence and dissemination of antimicrobial resistance in bacteria in cattle and swine and their environment. Research findings will advance effective and practical strategies for comprehensive reduction or elimination of food-borne pathogens and antimicrobial resistance at the farm.

Request Goals and Expected Outcomes

The goal of this program is to develop strategies to identify and mitigate food-borne pathogens and antimicrobial resistance in beef production systems. Specifically, studies will identify the ecology of Shiga toxin-producing *Escherichia coli*, both O157 and non-O157 serotypes, *Salmonella, Campylobacter,* and antimicrobial resistance elements in beef cattle and on-farm mitigation strategies, with the long-term goal of enhancing food safety and public health.

Appropriations Subcommittee

Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Request Type

Funding Request ☒ Bill Language Request ☐