The South Central Plains region is a bread basket for the world producing a significant proportion of the wheat used for flour in North America and exported around the world. Grasses, including wheat, are the predominant plant species on the plains and serve as the base for another food staple, beef. Both of these food staples are and will remain critically important in providing food security for the citizens of the United States and the world as our population increases to an estimated 9 billion by 2030. There is no more land available for producers to use to increase food supplies so it is requisite that we continue to increase efficiencies and productivity on the land available.

The Need

The vulnerability of the food production enterprise as a potential target for bioterrorism and biocrime presents additional needs for research to strengthen U.S. capabilities for prevention and response.

Federal funding through Hatch and Smith Lever funds is a minor portion of the operations funds and has declined over the past years. We request additional support through federal funds to increase the levels of research and education to enable us to develop greater efficiencies and productivity. These increases are necessary to provide food security for the citizens of the United States and the world.

Oklahoma State University, through its research, extension and education programs, is a world leader in developing new wheat varieties, forage varieties and production systems, cattle production systems, harvesting and handling equipment, logistical systems, quality and contaminate biosensors, value-added data management systems and integrated holistic decision support tools. These systems are intimately linked and are synergistic. The citizens of Oklahoma provide significant support through

The Request

Federal funding is needed to develop new knowledge and extend the scope of research and development. Requested funding totals $17.5 million over 5 years.

Facilities
- renovation and replacement - $12 million over 5 years

Annual Operations
- undergraduate research scholarships - $100,000 annually
- graduate research scholarships - $250,000 annually
- postdoctoral fellowships - $300,000 annually
- maintenance and operations - $450,000 annually

Total annual operations - $1.1 million

Additional research funding is needed to continue to increase the efficiency and productivity of U.S. food production and ensure its security.
state fund allocations to the OSU Agricultural Experiment Station, Cooperative Extension Service and colleges that drive the research, outreach and education that support this production system.

Goals

- Develop knowledge through research to increase efficiencies and productivity – Oklahoma Agricultural Experiment Station.
- Deliver science-based information to farmers, ranchers and industry to increase efficiencies and productivity – Oklahoma Cooperative Extension Service.
- Deliver formal education to develop our youth as the best trained and most highly educated population possible so that they may continue to increase efficiencies and productivity – College of Agricultural Sciences and Natural Resources.

Addressing food security on a global scale will require working together to address economic, financial, government, political and technical issues, and increasing production efficiency of crops and livestock in an environmentally and economically sustainable manner.

Infrastructure

Research within the Division of Agricultural Sciences and Natural Resources is conducted through a state research agency that is an integral part of the Division, the Oklahoma Agricultural Experiment Station.

The research agency is funded primarily through the state of Oklahoma and operates 19 research field stations across the state, laboratories in five buildings on the main OSU campus and funds approximately 150 faculty-level research positions in multiple disciplinary departments located in four colleges in addition to the Division. Similarly, the Oklahoma Cooperative Extension Service is a state agency that is a part of the Division and funds faculty positions with shared appointments in research and teaching. The Cooperative Extension Service provides outreach and education programs through locations in every county in the state.

Addressing food security on a global scale will require working together to address economic, financial, government, political and technical issues, and increasing production efficiency of crops and livestock in an environmentally and economically sustainable manner. In order to meet the projected food demand by 2050, new knowledge of genomics, physiological processes, nutrient utilization and animal well-being must lead to new management practices that are economically, environmentally and socially sustainable.

Oklahoma State University is located in close geographic proximity to major centers of the industry and OSU scientists have a long history of distinguished leadership and contributions to the livestock industry in North America. Oklahoma State has the infrastructure and resources to continue this legacy. We maintain significant programs in wheat breeding and production and numbers of animals in order to provide meaningful teaching and research opportunities for our students and industry.

For More Information

- The Division of Agricultural Sciences and Natural Resources: www.dasnr.okstate.edu/