

Program Summary

In Fiscal Year 2015, the legislature appropriated \$5M to Kansas State University to strengthen K-State's programs and infrastructure in areas related to global food systems (GFS). The intent of the funding was to support sustainable economic growth and prosperity in industries that are foundational to the Kansas economy.

The university has been investing state, federal, and private sector dollars to build various strengths in GFS-related disciplines for many years. However, the state's commitment of this targeted funding allows the university to pursue specific strategies directly tied to leveraging these capabilities to grow, support, and protect the state's economic interests in animal health and global food systems-related industries.

The Bio-Agro Science and Innovation Corridor, or BASIC, cultivates national, state and industry collaboration to solve some of the world's most pressing questions.

- *The collaborations build on Kansas State University's strengths and land-grant mission to help address the challenge of sustainably feeding a population that will double global food demand by 2050.*
- *New facilities built in this corridor will benefit and be able to leverage the extensive resources and capabilities of Kansas State University and existing partners.*

Vision

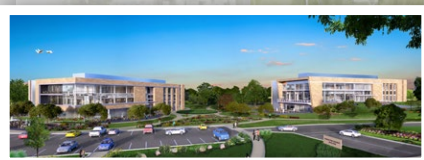
Kansas State University's new Bio-Agro Science & Innovation Corridor (BASIC), anchored by the \$1.25B National Bio & Agro-Defense Facility and K-State's Biosecurity Research Institute, serves as the physical epicenter of a plan that establishes Kansas, the region, and the university as the destination for the world's food and animal health companies and GFS-related research and educational talent. This plan has been informed by numerous conversations with local, regional and state officials, industry stakeholders, global companies, entrepreneurs, small business owners, faculty and administrators across the three K-State campuses, federal agencies, and the Kansas Department of Commerce/Board of Regents Research Grant Accountability Committee. Created under the leadership of President Schulz, the corridor brings together the city, the state, the federal government, the university and the private sector to build the world's premier location for research and educational leadership in bio-agro security and global food systems.

GFS program funding has supported this planning process, attracted and retained globally recognized scientists and educators, catalyzed strategic relationships with emerging and industry-leading companies, and supported institutional capabilities required to convert this plan to a reality.

International Grain Science and Industry Complex

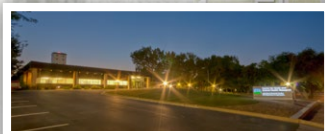


National Bio and Agro-defense Facility



Partnership Park

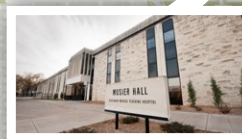
USDA Center for Grain and Animal Health Research



Biosecurity Research Institute



Kansas Department of Agriculture and Partnership Park



Veterinary Medicine Complex



Plant Sciences

Use of Funds

The university has deployed the GFS appropriation in two board investment areas that enable the vision described above.

1. Strategic capacity building

- a. **Biosecurity Research Institute (BRI)** — GFS funding has provided operating and program support for this one-of-a-kind facility and research bridge to NBAF. The BRI attracts and houses scientists from around the world working on understanding, preventing, diagnosing, and treating infectious diseases that threaten food animals and crops.

BRI Research Bridge to NBAF

Proposed NBAF diseases:

- Rift Valley fever
- Classical swine fever
- African swine fever
- Japanese encephalitis
- Foot and mouth disease
- Contagious bovine pleuropneumonia
- Nipah virus
- Hendra virus

Current diseases being studied at the BRI:

- Rift Valley fever
- Classical swine fever
- African swine fever
- Japanese encephalitis
- Chikungunya
- Wheat blast
- Yellow fever
- Avian influenza
- Schmallenberg virus
- Chinese porcine reproductive respiratory syndrome virus

Science magazine top 10:

- Rift Valley fever
- Ebola Sudan
- MERS
- Lassa fever
- Chikungunya
- Marburg
- Paratyphoid fever
- Schistosomiasis
- SARS
- Hookworm

- b. **BASIC Master Plan** —The Bio-Agro Science & Innovation Corridor is a transformational real estate investment and partnership concept that will provide critical capacity for strategic alliances, research, and education, primarily in animal health and global food systems-related disciplines. This city/university/private sector partnership effort was launched in part with GFS funding through an investment in the comprehensive master planning effort. The corridor, scoped as a several hundred million dollar project, has been kick-started by a recently completed facility funded and utilized by the private sector.



Kansas State University Foundation Building

- c. **Talent** — GFS funding has provided support to attract and retain globally recognized faculty in the Colleges of Agriculture and Veterinary Medicine who are working in areas of direct relevance to industry and the economy.



2. Private sector partnerships, sponsored funding attraction, and entrepreneurship

Activities in this category are designed to attract or generate private sector wealth in industries related to global food systems. These activities connect university faculty and administrators to the private sector with the benefits of 1) allowing university scientists to move their research from concept into use, 2) helping industry develop new products and innovations in service to their customers, 3) jump starting new Kansas companies, and 4) attracting investments and jobs to the state of Kansas. Many of these partnership negotiations involve companies that want to expand in or locate in Kansas. While K-State does not currently have space to accommodate large scale corporate projects and co-locations, the Bio-Agro Science & Innovation Corridor will fill the gap. Examples of projects in this investment area include:

- **Company Formation** — A GFS program investment helped launch Tech Accel, a K-State conceptualized and co-founded company that advances research and technologies in partnership with global leaders in food science, animal health, and other areas of agriculture. The Kansas-based company has been capitalized with \$10+ million from private sector investors and has received commitments for more. Tech Accel is funding research at K-State and has the potential to change the model for technology advancement alliances between universities and companies. The company and its partnership model is attracting worldwide interest.
- **Private Sector Research Partnerships** — GFS funding supported the launch of research matching and proof of concept grants that are awarded to companies and faculty members performing GFS-related research with direct commercial applications. Grants have been accompanied by matching investments from the private sector and/or by letters of intent to license technologies.
- **Economic Development Partnerships**- This appropriation is assisting strategy development efforts, marketing activities, and 1:1 company outreach activities designed to impact the economies of Kansas and cities with Kansas State University campuses.
- **Entrepreneurship** — This funding is supporting an award-winning entrepreneurship program at Kansas State that selects and nurtures Kansas-based global food solutions-related start-ups.

Funding Impacts

Global Food Systems (previously referred to as animal health) funding has supported activities, talent, and infrastructure that has provided the following quantifiable value to Kansas.

Private Sector Highlights:

- Attracted \$73M in private sector capital since program inception (FY11).
- Created nearly 100 net new private sector jobs with \$82K average wage.
- Attracted/launched 16 companies.
- Generated \$99M in private sector/non-profit/trade association funding for research in areas of industry concern.

Sponsored Funding Highlights:

- Earned and invested \$129M of federal funds conducting foundational research in global food solutions and animal health (FY11-FY15).
- Chosen as the host for a \$50M USAID Feed the Future Innovation Lab. This is the fourth of twenty-four national labs led by K-State that solves key challenges in agriculture.
- Grown annual research awards in agricultural disciplines by 145% in four years.



FY2015 Financial Summary

Investment Summary	<i>in \$(000)s</i>
	<u>Investment</u>
 <i>Strategic Capacity Building</i>	
Operating Funds	3,000
Biosecurity Research Institute750
Insectory Construction200
Education and Marketing46
Total.....	3,996
 <i>Partnerships and Entrepreneurship</i>	
Business and Program Dev/Implementation504
Innovation Grants500
Total.....	1,004
 Total State Investment	 5,000
Matching Funds	<i>in \$(000)s</i>
	<u>Expenditures</u>
GFS-Related Sponsored Research	
Federally Sponsored Research	28,904
Industry Funded Research	4,463
Industry Association/Non Profit Funding	15,441
Total.....	48,808
	 <u>Investment</u>
Private Sector Capital40,421