

FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

The Feed the Future Innovation Lab for Legume Systems Research is a five-year research capacity building development program managed by Michigan State University that focuses on grain legumes in West and Southern Africa. Legumes are a nutrient-dense staple crop that have multifunctional roles in smallholder farm systems in developing countries including food and nutrition security, generating income, providing livestock feed and fodder, and contributing to the sustainability of soil systems through their nitrogen-fixing capabilities. Cowpea and common bean are the focal crops of the Legume Systems Innovation Lab.



The Legume Systems Innovation Lab goals include:



Inclusive and sustainable agriculture-led economic growth



Strengthened resilience among people and systems



A well-nourished population, especially among women & young children

The strength of the Legume Systems Innovation Lab's design lies in its innovative and vibrant research to scaling strategy using a systems approach. Supported projects are diverse in research focus and address both the development and placement of innovative technologies with a thorough understanding of the systems they will impact thus leading to successful adoption. Projects are focused in three areas of inquiry:

- Integration of legumes into sustainable smallholder farming systems and agricultural landscapes
- Integration of legumes within local and regional market systems, including trade
- Analysis of sociocultural and/or economic motivators or barriers to legume utilization at various stages and scales within production and market systems

In addition, the Legume Systems Innovation Lab will focus on opportunities that address nutrition; the unique needs of women and youth; ensure greater resilience of people and systems under stress and shocks; and contribute to the development of human and institutional capacity for a resilient agricultural innovation system. Project activities are focused in the Feed the Future target and aligned countries of Benin, Burkina Faso, Ghana, Mali, Malawi, Mozambique, Niger, Nigeria, Senegal, and Zambia.

The Legume Systems Innovation Lab is funded by USAID under the Feed the Future Initiative.

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Legume Systems Innovation Lab projects are driving innovations in legume insect pest management, new and enhanced variety breeding, alternative cropping systems, technology adoption in trade systems, nutritional approaches, and policy effects on the system. Additional projects address gaps within our systems approach knowledge base to provide a greater understanding for successful innovation scaling.

PROJECTS

Social & Economic Systems

- How Input Policies Change the Legume Farming Landscape
- Quantifying the Scope and Scale of Nutritious Cowpea Products in Local Markets



Market Systems



- Promoting Trade Integration in Regional Legume Markets with Mobile Technology
- Cowpea Atlas: Mapping Cowpea Data Sources and Gaps in West Africa
- Transforming Seed Systems to Respond to Bean Variety Demand Through Multistakeholder Platforms in Malawi

- Development of Market-Driven Improved Cowpea Varieties Using Mature-Markers
- Optimized Shrub System: Improving Cowpea Yields and Strengthening Smallholder Resilience
- Science-Driven and Farmer-Oriented Insect Pest Management for Cowpea Agro-Ecosystems
- Genetic Improvement of Dry Beans for Bruchid Resistance for Southern Africa
- Sustainable Intensification of Dual-Purpose Cowpea Varieties for Enhanced Food and Fodder in Senegal

Farming Systems

