

Why Grain Legumes?

Grain legumes are diverse and nutritious staple crops that include common bean, cowpea, lima bean, pigeon pea, and chickpea. Their nutritional value offers great hope for achieving future food security in developing countries.

Importance of Grain Legumes

Grain legumes are nutrient-dense, affordable foods that contribute to household food and nutritional security. Research suggests that legumes improve gut health and digestion, enhancing the nutritional benefits from diets.

Grain legumes are high-value cash crops for smallholder farmers; their sale provides needed income for households and communities. Demand for legumes is projected to increase, giving rise to new future market opportunities.

Grain legumes are often a women's crop, which contributes to improved livelihoods for all family members.

Grain legumes enhance the sustainability of cropping systems by increasing soil fertility through biological nitrogen fixation.

Grain legumes are adapted to diverse climates, thus providing solutions to climate change.

Improved varieties with heat and drought tolerance offer even more hope for crop stability in vulnerable regions.



Why the Legume Innovation Lab?

The Feed the Future Innovation Lab for Collaborative Research on Grain Legumes (Legume Innovation Lab) is a research and capacity building program supported by the Bureau of Food Security, USAID, to contribute to FTF objectives and research goals. FTF-sponsored research on grain legumes focuses on increasing their production and availability to sustainably improve food security, nutrition, soil health, and economic opportunities for resource-poor smallholder farmers, particularly women.

To ensure sustainability, the Legume Innovation Lab empowers and strengthens the capacity of local agricultural research institutions and their partners through education and technology development. Short-term training ensures that new knowledge and innovations are available and useful to those working directly in the grain legume sector (such as smallholder farmers); degree programs strengthen research capacity in host country institutions to ensure ongoing and future scaling up of grain legume research to accommodate population and climate changes.

Feed the Future Goals

The United Nations estimates that nearly 870 million people—about 12 percent of the world's population—suffer from chronic under-nourishment, mostly in developing countries.

Feed the Future (FTF) is a U.S. Government global initiative to establish a foundation for lasting progress against global hunger. Born of the belief that global hunger can be solved by collaborative research and investments in developing countries, FTF addresses the root causes of hunger and poverty by helping developing countries transform their own agricultural sectors to grow enough food to sustainably feed their people. Goals of FTF include:

- Embracing innovative partnerships with the research community to integrate agriculture and nutrition, with a particular focus on mothers and children
- Helping partner countries build their capacities for sustainable development through increased agricultural growth and impact-focused research
- Promoting gender equality, particularly the empowering of women, who have been historically vital to driving agricultural growth
- Improving dietary quality and nutrition, especially of women of childbearing age and children in their first 1,000 days of life
- Promoting economic growth through improved linkages along the entire value chain—from farm to market—by improving connections to local, regional, and global markets, promoting sustainable intensification, and supporting an enabling environment for agricultural trade to minimize the impact of food price hikes.



Strategic Objectives of the Legume Innovation Lab

Legume Innovation Lab research focuses on four strategic objectives:

Advancing the Productivity Frontier for Grain Legumes. To sustainably and substantively increase grain legume productivity by improving plant adaptation to diverse agroecologies and reducing smallholder farmer vulnerability to climate change, low soil fertility, drought, diseases, and insect pests. Projects include improving the genetic yield potential and reducing vulnerability to biotic and abiotic stresses.

Transforming Legume Systems and Value Chains. To transform grain legume-based cropping systems through improved soil fertility operations and better management of value chains. Projects include improved understanding of consumer behavior in the value chain and farmer decision making strategies to improve soil fertility management

Enhancing Nutrition. To improve the nutritional quality of diets and enhance the nutritional and health status of the poor, especially young children and women, through increased consumption of beans and cowpeas.

Improving Outcomes of Research and Capacity Building. To assess the impacts of investments in research, technology dissemination, and institutional capacity strengthening to improve program effectiveness. Based on understanding the pathways for impact of the research, analysis provides valuable information on technology diffusion and the factors that affect how farmers and others approach and use new varieties, new storage methods, and other innovations.

International Country Partners of the Legume Innovation Lab

Eastern/Southern Africa

Malawi, Mozambique, Tanzania, Uganda, Zambia

West Africa

Benin, Burkina Faso, Ghana, Niger, Senegal

Latin America

Guatemala, Haiti, Honduras



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