

FEED THE FUTURE
INNOVATION LAB FOR HORTICULTURE

Horticulture Innovation Lab



Building international partnerships for fruit and vegetable research that improves livelihoods in developing countries

Why growing fruits and vegetables matters

What horticulture can do:

Improving livelihoods — through higher profits and diversified, nutrient-rich diets — is a major goal of the Horticulture Innovation Lab's research efforts around the world.

The *Global Horticulture Assessment*, an in-depth, collaborative, global analysis identified these opportunities and challenges for horticulture development:

• Enrich diets:

Horticulture — growing fruits and vegetables — provides critical nutrients for a balanced diet. Diets low in fruits and vegetables contribute significantly to some of the world's most widespread and debilitating nutrient-related disorders.

• Increase incomes:

Farmers growing high-value crops, such as fruits, vegetables, flowers or herbs, consistently earn more than those growing other commodities. Horticulture can be an engine for agricultural and economic diversification.

What horticulture needs:

Gender equity, technological innovation, and information access are critical themes in all projects of the Horticulture Innovation Lab.

• Gender equity:

Vegetables, fruits and cut flowers are often grown and marketed by women, but women often have less access to markets, land, inputs and education. Addressing these constraints places women growers on the path to increasing productivity and expanding horticultural markets.

• Technological innovation:

Given the complexity of horticulture, innovative “leapfrog” technologies can reduce constraints and input costs that limit the ability of smallholder farmers to achieve maximum profitability.

• Access to information and research capacity:

Commercial success in horticulture depends on locally adapted research on tools such as improved cultivars, management tools, market knowledge and effective postharvest practices. Sustained horticultural growth requires access to reliable information, a well trained workforce and local capacity to conduct both original and adaptive research.





The Feed the Future Innovation Lab for Horticulture — also known as the Horticulture Innovation Lab — is managed by a team at the University of California, Davis, in the College of Agricultural and Environmental Sciences, under the Department of Plant Sciences and the International Programs Office.

Funding for the Horticulture Innovation Lab is provided by the U.S. Agency for International Development as part of Feed the Future, the U.S. government's global hunger and food security initiative.

Dr. Elizabeth Mitcham is the director of the Horticulture Innovation Lab. She is also a UC Cooperative Extension postharvest specialist and pomologist at UC Davis.



Elizabeth Mitcham,
Director

History:

In 2009, the Horticulture Collaborative Research Support Program (Hort CRSP) was established at UC Davis by USAID, to help the world's poorest people break out of poverty through the production and marketing of high-value crops.

Now called the Horticulture Innovation Lab, the program was awarded funding for an additional five years in 2014. The Horticulture Innovation Lab is one of five Feed the Future Innovation Labs currently led by UC Davis.

Where we work:

The Horticulture Innovation Lab has research projects in:

Kenya	Guatemala
Rwanda	Honduras
Uganda	Bangladesh
Zambia	Cambodia
Burkina Faso	Nepal
Guinea	Tajikistan

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OUR WORK ALONG THE HORTICULTURE VALUE CHAIN

Collaborating across borders for research

The Horticulture Innovation Lab has supported collaborations with more than 200 organizations and universities on projects for smallholder farmers around the world. In the program's first 5 years, these partnerships trained more than 38,000 individuals, including more than 14,000 farmers who improved their farming practices.

Most projects include partners from a U.S. university and from an organization in a developing country in Africa, Asia or Latin America, according to the U.S. government's "Feed the Future" global food security strategy. The program's research projects span the horticultural value chain:

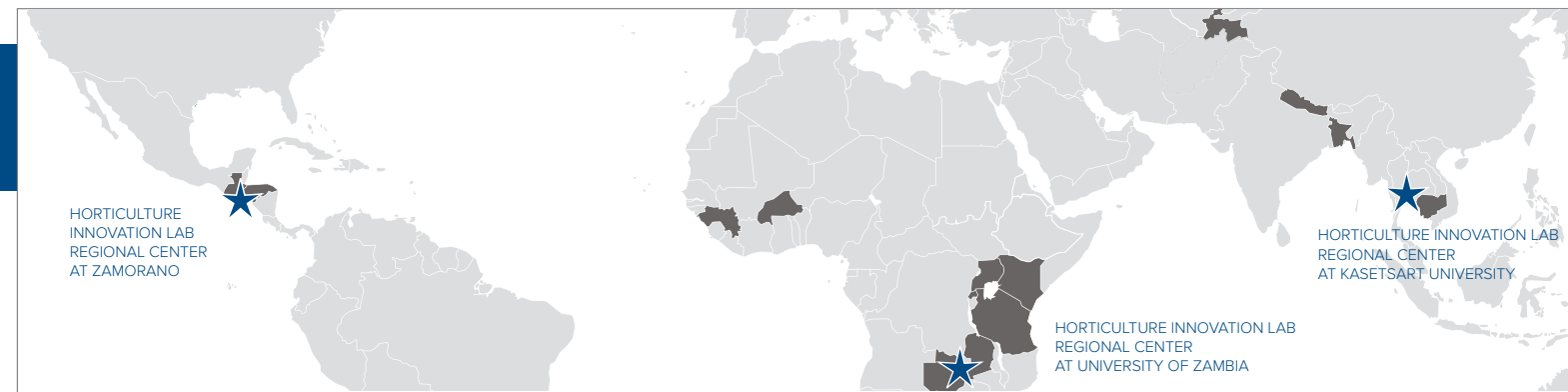
Seed systems and germplasm

- Scaling up drying technologies for seed in Bangladesh
- Expanding tomato grafting for entrepreneurship in Honduras and Guatemala



Sustainable production

- Managing nematodes and soil health in Guatemala
- Promoting conservation agriculture for vegetable growers in Cambodia and Nepal
- Developing farmer-led irrigation solutions in Uganda
- Promoting drip irrigation and climate resilience in Guatemala
- Assessing feasibility of nets for pest-exclusion in Kenya



REGIONAL CENTERS AS HORTICULTURAL HUBS

Building local capacity, supporting innovation

The Horticulture Innovation Lab supports Regional Centers at local institutions to bring together key players for horticultural development activities in nearby countries.

The program has two established centers — one at the Panamerican Agricultural School, Zamorano, in Honduras and one at Kasetsart University in Thailand — and is establishing a new center in Zambia at the University of Zambia.

The centers focus on adapting innovative technologies, training farmers and exchanging information with Horticulture Innovation Lab projects and partners.

Reducing postharvest losses

- Reducing postharvest losses in Rwanda
- Improving practices for dried apricots in Tajikistan
- Establishing a horticulture training center in Guinea
- Improving postharvest practices for tomatoes in Burkina Faso
- Increasing postharvest capacity and cold storage in Tanzania

Improving food safety

- Building safe vegetable value chains in Cambodia
- Investigating integrated vegetable crop-livestock systems in Cambodia



Advancing nutrition

- Improving nutrition with African indigenous vegetables in Kenya and Zambia
- Examining nutrition impacts of horticultural innovations in Bangladesh

Improving extension

- Empowering women through horticulture in Honduras
- Designing for horticulture development with D-Labs



TRELLIS FUND MAKES NEW CONNECTIONS

Engaging graduate students in development

In addition to major projects, the Horticulture Innovation Lab has funded dozens of smaller Trellis Fund projects, which pair a U.S. graduate student with an organization in a developing country.

In the first 47 completed Trellis Fund projects, 7,396 farmers participated in 219 field demonstration plots and more than 238 training meetings.

Though smallholder farmers are the focus of Trellis Fund projects, the program also builds new relationships with organizations and provides development experience to tomorrow's agricultural researchers.