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FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

May 2024



The Feed the Future Innovation Lab for Legume Systems Research fosters dynamic, profitable, and environmentally sustainable approaches that contribute to resilience, productivity, and better nutrition and economic opportunities. The lab is managed by Michigan State University.

From the Management Office

Legume Lab publishes FAQ to address questions on call for concept notes

Thanks to everyone who attended the recent informational webinar on the Legume Systems Innovation Lab call for concept notes. We have compiled a comprehensive list of questions and answers that are now posted online. Click the tab below to view the FAQ document.

[FAQs](#)

Legume Lab announces collaboration along with call for research concept notes



On the African continent, legumes are an important component of sustainable farming systems and can play a critical role in achieving the [Sustainable Development Goals](#) (SDGs) by addressing factors such as food waste and loss, climate resilience, and economic empowerment. However, various parts of the legume value chain are challenged by several policy, regulatory, institutional, and environmental factors. These challenges have direct and indirect impacts on diverse legume value chain stakeholders, especially small-scale farmers whose livelihoods are tied to the success of legume production and distribution. The mitigation and eventual resolution of these factors for the benefit of the legume value chain and all stakeholders involved is only possible with awareness and subsequent action.

African research think tank, the International Centre for Evaluation and Development (ICED) and the Feed the Future Innovation Lab for Legume Systems Research have teamed up to address these value chain challenges in 15 countries across East, West and Southern Africa. The duo recently invited legume value chain actors from across the African continent to attend Regional Stakeholder Convenings (RSCs) with the goal of identifying system gaps and research priorities to inform funding opportunities.

The goal of RSCs was to identify systems gaps and research priorities to inform funding opportunities for research projects on the gaps in the legume value chain within each region.

“This collaboration will [achieve several goals, including] providing more financial and technical support to African agricultural research institutions to conduct more impactful research on legumes based on sound evidence. It will also strengthen collaborations between the private and public sectors for more functional seeds systems in each African country,” said Symphorien Agbahoungba, ICED Program Officer and West Africa Legume Regional Hub Coordinator.

“ICED’s experience across the African agricultural sector makes them a key partner for the Legume Systems Innovation Lab,” shares Lab Director Dr. Barry Pittendrigh. “As we embark on new investments across the continent, the RSC concept of engaging diverse players from across the legume value chain will ensure we address the most urgent gaps in the system. ICED’s role in management of these RSCs is critical.”

Based on insights gained through the initial RSC workshops, the Legume Systems Innovation Lab has recently issued a call for concept notes for collaborative research and capacity building projects on legume systems with the potential to generate mutual benefits for both the developing countries and

U.S. agriculture. The focal crops of the Legume Systems Innovation lab are common bean (*Phaseolus vulgaris* L.) and cowpea (*Vigna unguiculata* W.)

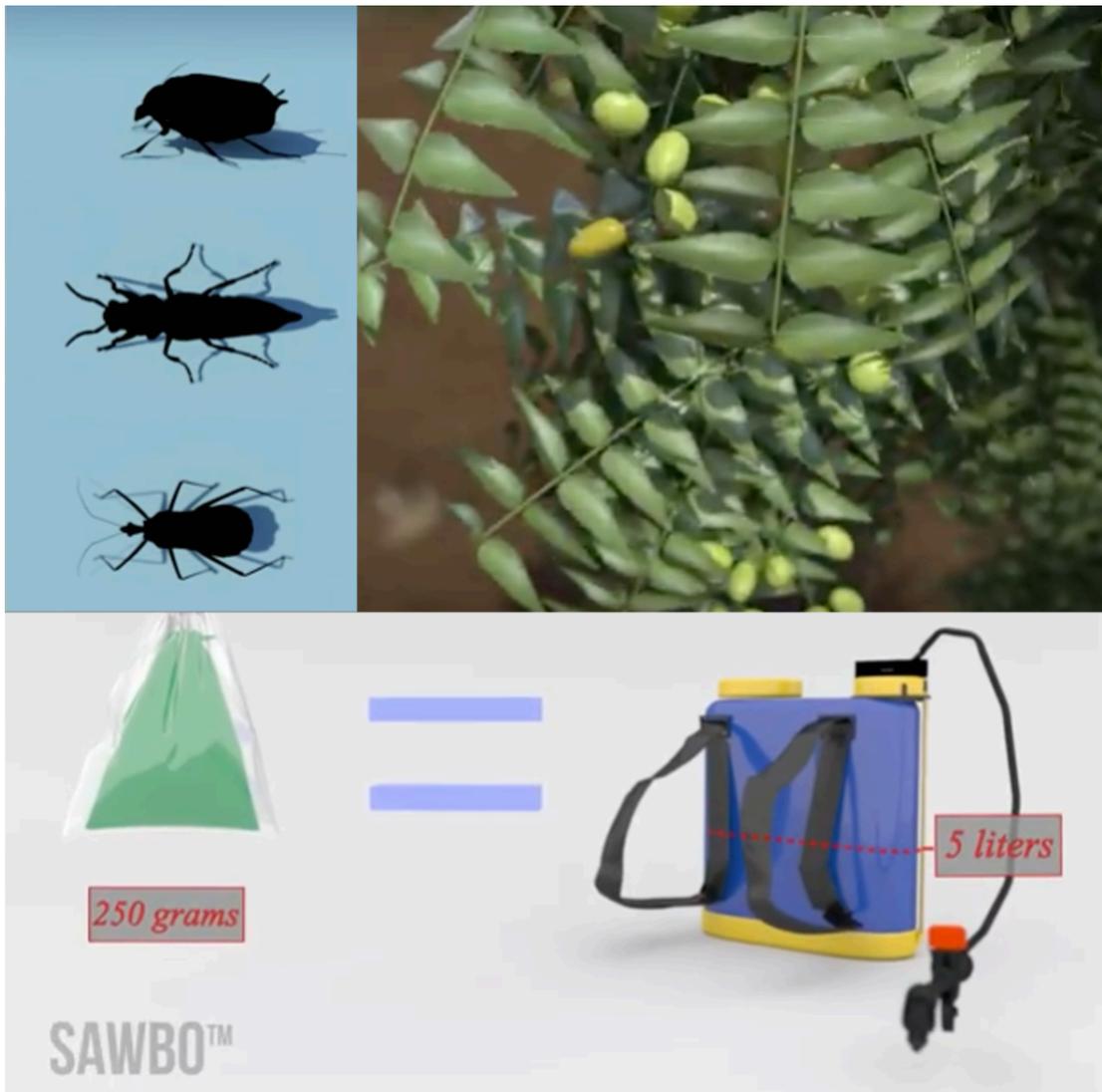
The call for concept notes is also extended to the Central American region.

Interested researchers can view the call for concept notes full details at <https://legume.piestar-rfx.com/opportunities/all/rfp/140>. Deadline to submit concept notes is June 17, 2024.

In the Field

Project Final Reports

The Legume Systems Innovation Lab awarded competitive and commissioned project grants to support research activity during the first five years of the lab. These projects, now concluded, have submitted final technical reports which we will feature in our monthly newsletter. This month we feature a project that worked to develop and deploy climate-resilient, environmentally friendly, and economically profitable integrated pest management tools and approaches to minimize the impact of insect pests in cowpea cropping systems. This project worked in Burkina Faso, Niger, Nigeria.



Science-Driven and Farmer-Oriented Insect Pest Management for Cowpea Agro-Systems in West Africa

Led by Dr. Manuel Tamo, International Institute of Tropical Agriculture (IITA) Benin

Cowpea is one of the most important grain legumes in West Africa, but its production remains threatened by insect pest which can severely reduce grain yields. To minimize their impact in cowpea cropping systems in Burkina Faso, Niger and Nigeria and redress yields, in this project we have been developing and deploying climate-resilient, environmentally friendly and economically profitable integrated pest management approaches and tools - easily implementable by women and men farmers. The project has been articulated around the following objectives:

1. **Discovery objectives**, to provide new knowledge on factors improving the performance of biocontrols and assess the pest status of emerging, climate-driven insect pests, along with the investigation into novel bio-pesticides.

2. **Piloting objectives**, to screen available or new biopesticides with potential to be commercialized by community-based groups and/or private sector operators, and to validate locally-specific IPM baskets.

3. **Scaling objectives**, to carry out mass-releases of biocontrol agents, and to scale out the community-based production of neem tea-bags.

4. **Capacity development objectives**, to implement training and educational programs at all levels, including farmer, technician and graduate training, and short-term attachments for researchers, to develop educational materials towards scaling of content, and to develop and validate ICT decision making tools.

The research approach has been anchored on seven pillars:

i) assessment of **ecological interactions** between the target pest organism (the legume pod borer), the released exotic biocontrol agents, and the cultivated (cowpea) and wild host plants flowering both during the cropping season and during the dry season;

ii) investigations of the **in-field host finding capacity** of the biocontrol agent *Liragathis javana*;

iii) **biodiversity studies** targeting emerging pests such flower thrips, in order to establish early-warning and rapid response approaches;

iv) screening of available and new isolates of **entomopathogenic fungi** to assess their efficacy on a range of cowpea pests, including those identified above as emerging ones;

v) **socio-economic adoption, gender and impact studies** to get better insight into determinants influencing IPM decisions at the household level, and to flank the scaling activities (with regard to biocontrol agents and neem tea-bags) in Burkina Faso and Niger;

vi) **Sensitization campaigns** at the locations where we carried out experimental (Nigeria) and mass releases (Burkina Faso and Niger) of hymenopteran parasitoids against the pod borer;

vii) development and validation of **novel communication, education and decision-making approaches and tools** to empower low-literacy farmers to take their own decisions with regard to cowpea pest control.

Click the link below to read the project achievements and complete final technical report.

[Read the full report](#)

Featured Legume of the Month

Yellow Beans

Yellow snap beans, or wax beans as they are also known, are similar to the more popular common green bean in taste and texture.



According to the [USDA](#), raw yellow snap beans contain 3.4 grams of total dietary fiber, less than .2 grams of fat, and a mere 31 calories per half cup serving.

Cooking with Yellow Beans...

THREE BEAN SALAD

It's a fresh and light "three" bean salad that actually includes four beans! This recipe by Heidi at [foodiecrush.com](https://www.foodiecrush.com) mixes yellow beans, green beans, kidney beans, and chickpeas with onion in a vinaigrette with a just a touch of sweetness.

Great as a side dish or as a quick snack or easy lunch, whip up a big batch of this quick go-to salad and enjoy all week long!



[Get the Recipe](#)

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Feed the Future Innovation Lab for Legume Systems Research**

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