

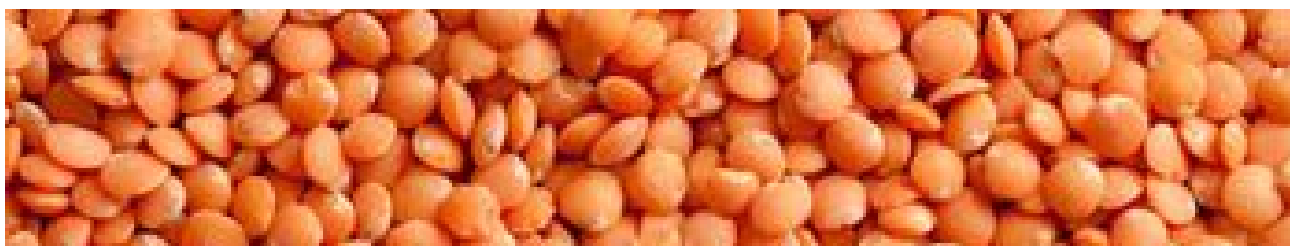
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FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

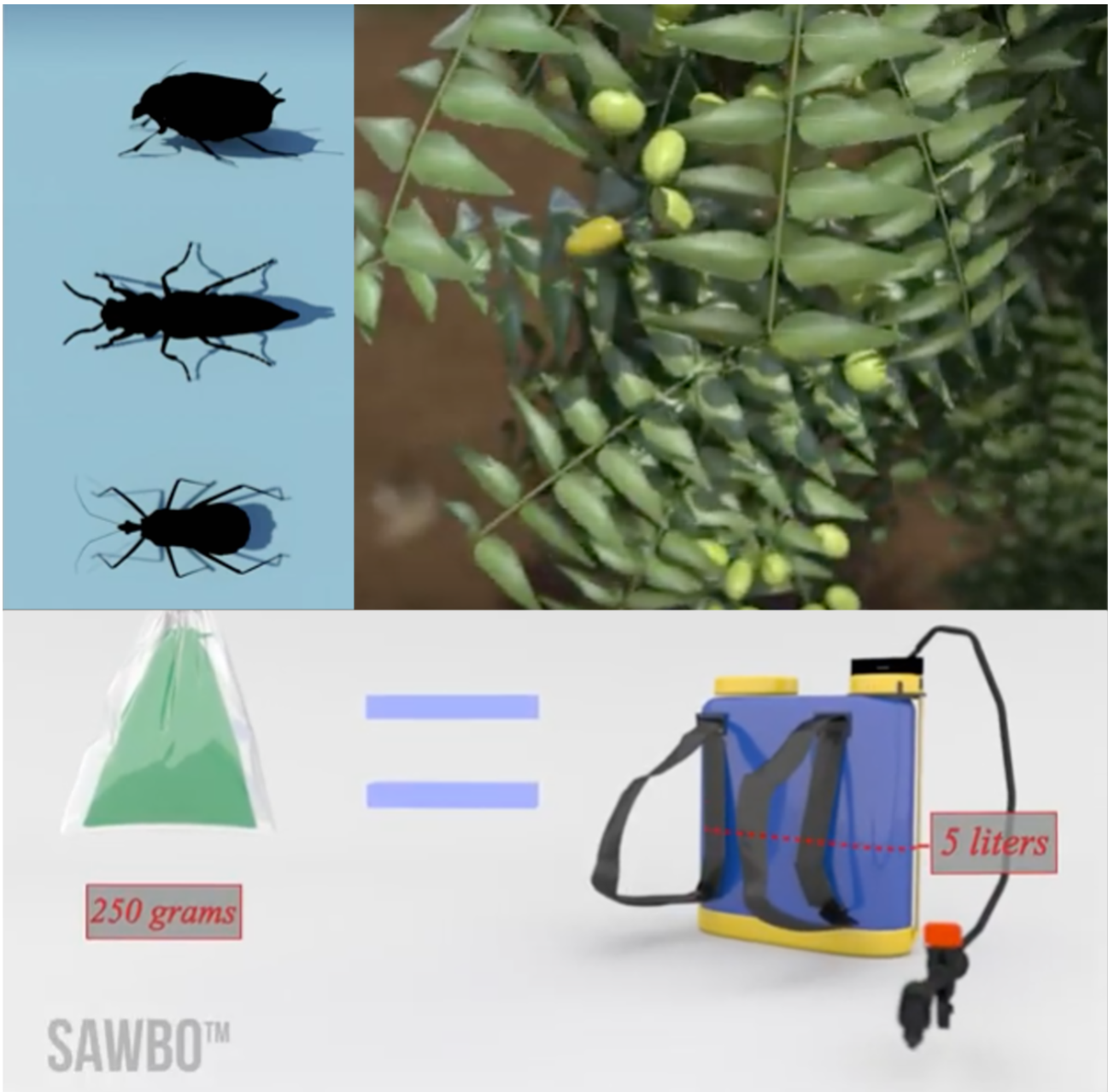
August 2022



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 projects develop SAWBO animations
to promote adoption of innovative IPM
and cropping processes**



Scenes from the new animation, "Neem Tea Bags" - Images courtesy of SAWBO

Two Feed the Future Innovation Lab for Legume Systems Research projects have recently released educational intervention animations designed to increase adoption of innovation agricultural solutions.

Insect pests are a constant threat to farmers and greatly reduce crop yield. The animation, "[Neem Tea Bag](#)" promotes the making, use and selling of a natural insecticide using neem tree seeds. The video teaches, step-by-step, how to harvest, process, package, and use neem tea bags as a natural pesticide on crop fields.

The Legume Lab project, "[Science-Driven and Farmer-Oriented Insect Pest Management for Cowpea Agro-Ecosystems in West Africa](#)" led by Manuel Tamo from the International Institute of tropical Agriculture (IITA) in Benin,

developed the animation after having success teaching the process to women's groups in Niger. The neem tea bags provided the women not only access to insecticides, which they often cannot afford, but also created female-led community based production units which sold the tea bags to local farmers for profit. Through the deployment of the video the team hopes to expand the reach of the innovation to thousands more.

A second animation was developed by the Legume Lab project, "[Optimized Shrub System: Improving Cowpea Yields and Strengthening Smallholder Resilience](#)" led by Richard Dick from The Ohio State University. This research team has found that two West African indigenous shrubs, when left integrated into cropping fields have a dramatic increase in crop yields and aid in soil health. The animation, "[Using Native Shrubs to Increase Soil Health and Crop Yield](#)" demonstrates how native shrubs help to irrigate surrounding crop plants by drawing water up towards the soil surface through their deep root systems. Soil health is also increased when farmers integrate cut shrubs stems and leaves back into the soil. Traditionally farmers have viewed these shrubs as a nuisance, often cutting them out of their fields and burning them.

Both animations were created by [Scientific Animations Without Borders](#) (SAWBO) which is a University-based program currently housed at Purdue University. SAWBO transforms extension information on relevant topics such as agriculture, disease, and women's empowerment, into 2D, 2.5D and 3D animations, which are then voice overlaid into a diversity of languages from around the world to provide educational equality across diverse populations, literacy levels, and geographic divide.



Scene from "Using Native Shrubs to Increase Soil Health and Crop Yield" - Image

courtesy of SAWBO

GLOBAL VIRTUAL CONVENING 2022

Over 100 global legume researchers and stakeholders attended the two-day public forum virtual event in March which featured Legume Systems Innovation Lab project research updates.

Each month we will highlight a recorded presentation from one of these research projects.

This month we feature the project, **"Quantifying the Scale and Scope of Nutritious Cowpea Products in Local Markets."** The project is led by Dr. Veronique Theriault, Michigan State University and works in Mali and Senegal.

Click on the image below to view the presentation, which is recorded in the French language, on YouTube.



Innovation Lab for Legume Systems Research

Quantifying the Scale and Scope of Nutritious Cowpea Products in Local Markets of West Africa

Global Convening February 2022



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In the Field

Recent paper outlines impact of USAID investment in agricultural research through U.S. universities



A recent paper details the cost and benefit of USAID international agriculture research and development projects funded through its Collaborative Research Support Program and Feed the Future Innovation Labs which is largely led by U.S. land grant universities.

The research looked at USAID projects representing an investment of \$1.24 billion to support agricultural development and improve food security around the world. Those projects returned \$10 billion in economic impact, according the authors, Kansas State University agricultural economist Timothy Dalton and USDA's Economic Research Service economist Keith Fuglie. This represents a return of \$8.52 in economic impact for every dollar invested.

The paper, "Costs, Benefits, and Welfare Implications of USAID Investment in Agricultural Research through U.S. Universities is published by Cambridge University Press.

[Read Paper](#)

In the News

Ahmad, S., Smale, M., Theriault, V. & Maiga, E. (2022) **Input subsidies and crop diversity on family farms in Burkina Faso**. *Journal of Agricultural Economics*, 00, 1– 18. Available from: <https://doi.org/10.1111/1477-9552.12504>

Brick, Mark & Kleintop, Adrienne & Echeverria, Dimas & Kammlade, Sara & Brick, Leslie & Osorno, Juan & Mcclean, Phil & Thompson, Henry. (2022). **Dry Bean: A Protein-Rich Superfood With Carbohydrate Characteristics That Can Close the Dietary Fiber Gap**. *Frontiers in Plant Science*. <https://doi.org/10.3389/fpls.2022.914412>

Featured Legume of the Month

Lentils



To learn all about the versatile and nutritious lentil, visit lentils.org. There you can view several videos, get some great recipes, and learn a bit more about this pulse, which means it is the edible seed of a legume.

Lentils are high in protein and low in fat and calories. They also include potassium, folate, and iron.

Pick up some lentils during your next shopping trip and give them a try!

Cooking with Lentils...

World's Largest Bowl Of Lentil Chili

In celebration of the [National Lentil Festival](#), which is held annually each August in Pullman Washington, we are sharing the festival's recipe for the largest bowl of lentil chili.



The festival gives away thousand of bowls of their famous lentil chili cooked in a massive pot stirred by boat oars. Don't worry if these items aren't in your pantry, the recipe posted here has been scaled down to feed an average family of four with a few leftovers, if you want to share with your neighbors.

In addition to the expected ingredients like lentils, carrots, celery, and onions, this recipe includes a few surprises, like cinnamon and Mexican chocolate!

[Get recipe here](#)

**For More Information on the
Feed the Future Innovation Lab for Legume Systems Research**

[Visit our website](#)



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