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## FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

June 2021



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*

#### **Beating the Bean Bruchid in Southern Africa – Using Gender Responsive Breeding to Empower Women**

During the process of variety development, some anecdotal information about gender product/variety preferences is collected and acknowledged by breeders and agronomists; however, in most cases, this information does not contribute significantly to the decision-making process that leads to releasing a new variety.

In response, the Legume Systems Innovation Lab has funded a collaborative award through ongoing work led by North Dakota State University. The collaborative project is entitled, **Strategic Collaborations: Implementing a Gender-Responsive Genetic Improvement Program for Bruchid Resistant Dry Beans in Southern Africa.**

This funding will expand the multinational team of researchers to include both regional teams in Zambia, Malawi and Mozambique and U.S. gender specialists and will provide research-based evidence on the role of women in the bean value chain.



*Bruchids are small beetles that bore holes into beans. The photo above shows a bruchid resistant bean variety in the center surrounded by beans with bruchid damage. Photo courtesy of Kelvin Kamfwa.*

“In our product profiling of the varieties we are developing we have relied on anecdotal evidence on what women would like to see in a bean variety. Through this additional funding we have an opportunity as breeders in Malawi, Mozambique and Zambia to develop research-based evidence on what women would like to see in the product and also how to best interface with women at various stages of variety development,” explains Dr. Kelvin Kamfwa, University of Zambia bean breeder and Principal Investigator of the collaborative project. “My expectation is that this would likely enhance variety adoption especially by women.”

To learn more about this new award and how it will compliment ongoing research click on the Read More button below.

[Read More](#)

## ***From the Field***

## **Project Final Reports**

*To kick start activities the Legume Systems Innovation Lab awarded six initial project grants. These short-term non-competitive awards were selected based on their research concepts and alignment with overarching innovation lab*

research goals. All six of these projects have concluded and submitted final reports which we will share over the next several months.

## **Evaluating Spatial Resolution of Remote Sensing Imagery to Monitor Crop Growth in Legume-Based Cropping Systems: how Much Information is Lost Due to Coarse Spatial Resolution?**

*Led by Dr. Bruno Basso, Michigan State University*

The goal of this project was to implement a systems research approach to scaling out technologies, through a test case of the suitability niche for pigeonpea and mung bean.

These two crops are not yet grown on any significant scale in West Africa, yet both fill unique cropping system functions. Pigeonpea as a long-duration, multipurpose crop; in addition to food, this crop provides vegetation for fodder and has unique ability in association with the root biome to enhance soil nitrogen and phosphorus availability. Mung bean as an early duration crop can be grown in relay and intercrop systems for a 'hungry season' food source and novel income generation.

Through crop model simulation and geospatial analysis, the project investigated and mapped the biophysical and socioeconomic niche for introduction of pigeonpea as a novel species in West Africa. The project also explored the geospatial niche potential for mung bean. Read the full report by clicking the Read More button below.

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## ***In the News***

**Stories, blogs, papers & publications by legume lab researchers and their colleagues**

**[Feed the Future Innovation Lab for Legume Systems Research Annual Report, Fiscal Year 2020](#)**

## ***Featured Legume of the Month***

### **COMMON GREEN BEANS**

Green beans are easy to grow and are often found in home gardens.

According to [Michigan State University Extension Services](#), green beans are ready to harvest between 45 to 72 days. The bush variety type is often popular in smaller



gardens because they require no support structures.

These beans are eaten fresh or cooked and are a good source of vitamins A, C, and K.

## Cooking with Green Beans... Green Beans and Red Potatoes

Green beans are great steamed and mixed with herbs, and spices.

In this quick and easy recipe from the [American Heart Association](#), fresh green beans are steamed with potatoes then mixed with parsley, tub margarine, salt, pepper and paprika to create a flavorful side dish. Or, toss in some cooked chicken or baked tofu for a complete meal. Fast, easy and nutritious!



[Get recipe here](#)

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

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