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The U.S. Government's Global Hunger & Food Security Initiative

FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

September 2019



Legume Systems Innovation Lab Update from Dr. Cynthia Donovan, Deputy Director



Greetings,

We at the Feed the Future Innovation Lab for Legume Systems Research (Legume Systems Innovation Lab) have been very busy in recent days, reviewing Concept Notes and now reviewing Full Proposals for the different Areas of Inquiry under our competitive grants. Our Technical Management Advisory Committee as well as our USAID Agreement Officer's Representative have done an excellent job in working with us to select the Concept Notes to move forward and our legume systems research portfolio is starting to emerge.

Due to USAID funding restrictions on Northern Triangle Countries in Central America, we recently learned that we cannot use our funding in Central America for any of the competitive projects. We hope that there are future opportunities to collaborate with the national research and educational institutions including ICTA (Guatemala), DICTA (Honduras), and Zamorano University (Honduras), among others. This is a region where grain legumes, especially common beans, are so important to food security, incomes, resilience, and nutrition.

I had the opportunity to work with a group of five Legume Scholars, PhD students from five African countries, here in the US pursuing PhD degrees. They are all reaching the end of their programs, and two scholars have already returned home, successful in obtaining their PhD. This accomplishment was made possible by a collaboration between ICRISAT, Peanut and Mycotoxin Innovation Lab, and Legume Innovation Lab with funding from USAID Bureau for Food Security, the efforts of their advising professors in the US and host country collaborators in many of the countries.

-Cynthia Donovan

Legume Scholars Program

Aggrey Gama Returns to Malawi to Further Research After Receiving Doctorate from University of Georgia



Aggrey Gama (left) poses with his advisor, Dr. Koushik Adhikari, on graduation day at the University of Georgia, Athen, GA, U.S.

Aggrey Gama is nuts about peanuts. The recent doctoral graduate from the University of Georgia (UGA) developed a peanut-based beverage that he hopes can address undernutrition in his home country of Malawi.

Using a straw might not be the first thing that comes to mind when you think about consuming peanuts, but for Aggrey Gama, it's the best way.

"Considering that the sensory appeal of food is one of the dominant food choice motives, the goal was to develop a nutritious and acceptable peanut-based beverage to promote peanut consumption and help in the management of undernutrition in Malawi and possibly in other countries where undernutrition is also a challenge, says Dr. Gama. "A beverage was chosen because compared to solid or semi-solid foods, beverages are convenient, easy to digest, appeal to all age groups, and can be delivered in multiple flavor options."

Aggrey is a Legume Scholar, one of only five elite global researchers selected for doctoral programs at U.S. universities. The program is managed by Michigan State University under the Feed the Future Legume Innovation Lab. Aggrey says it was his belief in the crop that attracted him to apply to the program. *"I believe that legumes, if well utilized, have the potential of ensuring food and nutritional security in both developed and developing countries",* says Gama.

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From the Field

Dr. Bruno Basso Uses Innovative Approaches to Capture Plant Growth Variation and Productivity

The Legume Systems Innovation Lab has funded six initial activity projects focused on creative legumes systems research. One of these activities includes using remote sensing imagery to monitor crop growth. The project is led by Dr. Bruno Basso from Michigan State University and investigates spatial resolution in legume-based cropping systems in West Africa and Honduras.

Satellites, drones and precision GPS systems all sound more like something out of a James Bond spy movie than a farmer's day at the field. However, precision agriculture is bringing these space age technologies to the farm where they are ushering in a new "smart ag" era.

Dr. Basso and his team is studying the optimal spatial resolution by comparing three different satellite platforms with differing resolutions in two 10 km X 10 km areas in both Northern Ghana and Honduras. "Understanding what the optimal satellite platform is can enhance results



Dr. Bruno Basso with one of his drones. Visit his [website](#) for more information.

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Featured Legume of the Month

COWPEA



Cowpea, also known as black-eyed peas, are a highly nutritious protein source. They are popular in the Southern US, Africa and Asia. Originally used as food for cattle, this legume has gained in popularity from a "poor man's protein" to a mainstream popular dish. Cowpeas are also good for the soil as they release nitrogen aiding in soil health.

Cooking with Cowpeas

Dr. Manuele Tamò from the International Institute of Tropical Agriculture in Benin, focuses on sustainable insect pest management techniques for cowpea in West Africa and is a Legume Systems Innovation Lab researcher. He shares that his favorite way to enjoy cowpea is **Ghanaian Red Red**, a spiced porridge traditionally served with fried plantains.

Cowpeas are the star of this stew flavored with onions, tomatoes, red pepper and bouillon. The name "red, red" comes from the color of the dish which uses red palm oil and red pepper.

This is a great vegetarian dish which packs protein, fiber and B-complex vitamins. Try this recipe that includes instructions on how to prepare the fried plantains for a truly traditional red, red.



Red, red with fried plantains is popular throughout Ghana and South Africa. Photo credit Tom Neuhaus, Project Hope and Fairness.

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Legumes!

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ADZUKI
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PIGEONPEA
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