

Soybean Innovation Lab Newsletter

March 2016

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Our Mission

The Feed the Future
Innovation Lab for Soybean
Value Chain Research is
USAID's only
comprehensive program
dedicated to soybean
technical knowledge and
innovation. Our
international team of
tropical soybean experts
provides direct technical
support to researchers,
private sector firms, non-
governmental organizations,
extensionists, agronomists,
technicians and farmer
associations tasked with
soybean development.

Contact Us

Dr. Peter Goldsmith
Principal Investigator
pgoldsmi@illinois.edu
(217) 333-5131

Courtney Tamimie
Program Manager
tamimi@illinois.edu
(217) 333-7425

Website:
www.soybeaninnovationlab.illinois.edu

Tropical Soybean
Information Portal (TSIP):
www.tropicalsoybean.com

Twitter: @TropicalSoyLab

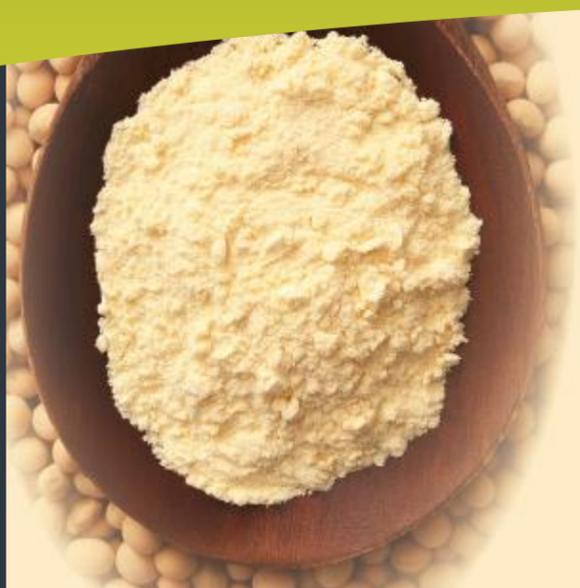


Photo credit: National Soybean Research Laboratory (NSRL)

Two Success Stories, One Mission

Soy as a Nutritious Food for the Household: Training Is Key

A key to sustaining or increasing soybean production in regions where soybean is a new crop may in part include knowledge of how to use this protein rich resource for household consumption. There are financial and nutritional benefits if such adoption is successful. Yet soybean processing for human consumption requires basic knowledge of small-scale soy processing and how to incorporate soy ingredients into local food applications to ensure acceptability.

The Soybean Innovation Lab (SIL) provides intensive village level trainings and workshops focused on soy processing, soy nutrition and soy integration in local cooking applications through interactive and hands-on workshops in three villages in Mozambique. These villages were also the recipients of SIL Soybean Success Kits, a starter pack for soy production including seed, fertilizer, inoculum and extension.

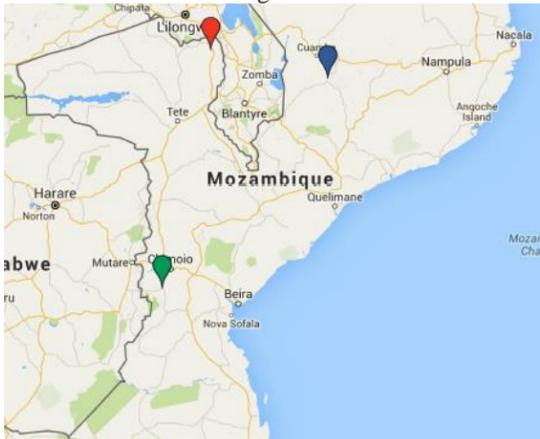
SIL seeks to understand if soybean processing and utilization education, in combination with production extension using the Soybean Success Kits, improves the adoption and sustainability of soybean production at the household level. The approach focuses on the integration of soybean into local diets and recipes through the use of at-home soy processing methods to produce both enhanced food for the family as well as value-added food products for sale.

Training will be carried out in August 2016 in three provinces of Mozambique: 1) Angonia District in Tete Province (Northwest Region), 2) Sussundenga District in Manica Province (Central Region), and 3) Gurue District in Zambezia Province (Northeast Region).

Specifically the training will cover: basic nutrition, the role of protein in growth and development, soy nutrition, the basics of soy processing of whole beans, roasting beans, and producing soy grits, soymilk, and tofu. Participants will process soy and prepare soy-enhanced local dishes through hands-on training to learn the many ways in which soy ingredients can be used in Mozambican cooking.



Children at St. Monica's School in Tamale in the Northern Region of Ghana, hold up their glasses of soymilk provided by the SOYPLUS Natural Soymilk Processing and Training Centre based at the Savanna Agricultural Research Institute (SARI). The SOYPLUS Centre provides free soymilk to over 1,000 school-aged children in the region. Photo credit: Flora Amagloh



Locations where SIL village-level training on soy nutrition, soy processing and soy utilization in local dishes will be carried out in Mozambique. Participants learn how to process soy and prepare soy-enhanced local dishes to see first-hand how soy ingredients can be used in Mozambican cooking.



Soy processing training uses established at-home methodologies developed by SIL researchers at the National Soybean Research Laboratory (NSRL) including how to process and cook whole and roasted beans, soy grits, soymilk, and tofu. Photo credit: National Soybean Research Laboratory

SoyCow in Northern Ghana Feeding Students of all Ages

One of five SoyCows installed and supported by the Soybean Innovation Lab (SIL) is reaching over 1,000 school-aged children in Northern Ghana, ranging from preschoolers to primary students to high schoolers. Flora Amagloh, a trained food scientist, manages the SOYPLUS Natural Soymilk Processing and Training Centre in Northern Ghana, based at the Savanna Agricultural Research Institute (SARI), a member of the National Agricultural Research System and an institute within the Ghanaian Council for Scientific and Industrial Research (CSIR).

SIL, along with partners at the World Initiative for Soy in Human Health (WISHH) and Malnutrition Matters (MM), installed and provided training on the SoyCow system in 2015. Since then, Flora has created a branded soymilk product called "Soy 4 Life" and produces 330ml bottles for sale in the local market. Her facility produces soymilk 4 times per day, 3 days a week, producing a total of 35 liters of soymilk per day.

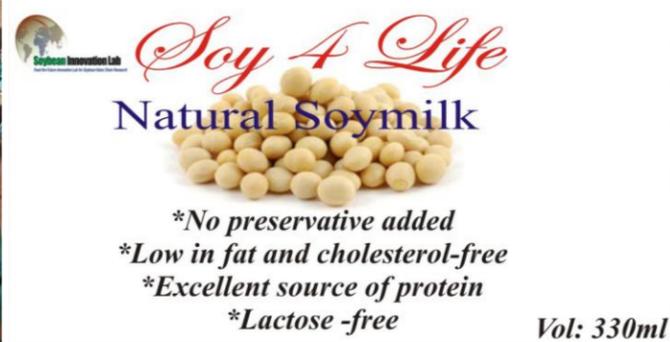
Flora is creating a soymilk aware community in Tamale where her facility is based in Northern Ghana. To do so, she provides soymilk for free to local schools, with the goal of creating awareness about the nutritional benefits of soymilk for growing children and to demonstrate the acceptability of the product in the local diet. Over 1,000 school aged children are being served, including 237 preschoolers, 552 primary students and 307 high schoolers.

The SOYPLUS Natural Soymilk Processing and Training Centre also conducts research focused on the effect of different soybean varieties on soymilk and tofu yields as well as their effect on sensory qualities of the products. Flora's team, comprising 5 full-time staff including 2 women and 3 men, is also researching different cow milk and soymilk composites to produce soy-based yoghurt, with varying incubation times. If you are interested in supporting the SOYPLUS Centre's school feeding efforts, contact SIL at soybeaninnovationlab@illinois.edu.



Students at St. Monica's School in Tamale, Ghana, receive a serving of soymilk provided for free by the SOYPLUS Natural Soymilk Processing and Training Centre based at the Savanna Agricultural Research Institute (SARI) in Northern Ghana. St. Monica's school is one recipient of the SOYPLUS Centre's free distribution which creates awareness about the nutritional benefits of soymilk.

Photo credit: Flora Amagloh



A label for the 330ml packaged serving of soymilk produced by the SOYPLUS Centre. Packaged servings are intended for the local retail markets and individual consumers. The SOYPLUS Centre's free distribution doesn't require storage as the soymilk is produced and distributed on the same day.

Photo credit: Flora Amagloh

This infographic shows the ingredients used in the SOYPLUS Centre's soymilk production and the Centre's distribution and research focus. Photo credit: Krystal Montesdeoca



Ghanaian Soy Foods Highlighted at “The Knowledge Café”

Soybean Innovation Lab (SIL) partners at Catholic Relief Services (CRS) and the Food Research Institute (FRI) attended the USAID Multi-Sectoral Nutrition Strategy Global Learning & Evidence Exchange (MSN-GLIEE) “Knowledge Café” event held in Accra in January 2016. The Knowledge Café is a venue for engaging conversations on specific topics, innovations, products and processes. Each attendee focused on a particular feature/theme to engage visitors at their tables. The CRS/FRI/SIL team focused on the adaptability of soy foods in local Ghanaian dishes.

Participants tasted tofu ‘kebabs’ and chilled servings of soymilk produced using the SoyCow processing equipment housed at FRI in Accra, Ghana. Dr. Mary Glover, who manages the SoyCow installation at FRI, spoke to participants about the role of soy in human nutrition and how soy can be processed and utilized in the household to improve protein intake and address issues of malnutrition. A banner showed attendees how the SoyCow processing equipment works. Mawuli Asigbee, CRS Agricultural Program Manager, shared with attendees the versatility of soybean in local diets thanks to its economical nature, its chameleon-like ability to take on local flavors and spices, its high protein content and the high quality of protein contained in the bean.



Far left: Tofu ‘kebabs’ and soymilk produced from the SoyCow at FRI are sampled at the Knowledge Café event in Accra, Ghana in January 2016.

Left: Participants at the Knowledge Café read the label of the FRI-produced soymilk and review the product's nutrition profile.

Meet a SIL Researcher & Collaborator

The Soybean Innovation Lab brings together U.S. and African researchers to address the most challenging issues facing soybean production, adoption and utilization in Sub-Saharan Africa. Here we introduce U.S. and African experts committed to developing the technical knowledge and innovation needed to successfully develop the soybean value chain in Sub-Saharan Africa.



Krystal Montesdeoca is a member of the Soybean Innovation Lab's human nutrition research team. She holds a Master's of Science degree in Agricultural Economics from the University of Illinois and conducted her graduate level research in soybean economics in Brazil. A fluent Portuguese speaker and native English and Spanish speaker, she has worked in program management and research in developing countries for over five years. Krystal collaborates with SIL researchers at the National Soybean Research Laboratory (NSRL) to implement the soy human nutrition efforts focused on soy dairy microenterprise sustainability research; soy nutrition, processing, and utilization training; soy for early childhood nutrition research; and efforts to develop and test a low-processing soybean to reduce labor, energy and time requirements for household utilization.



Dr. Mary Glover-Amengor is a Senior Research Scientist and Head of the Food Nutrition and Socio-Economics Division (FNSD) of the Food Research Institute (FRI), within the Ghanaian Council for Scientific and Industrial Research, based in Accra, Ghana. The core mandate of the FNSD is to conduct nutrition and food utilization studies and socio-economic research. Dr. Glover manages the Soybean Innovation Lab (SIL)-supported and installed SoyCow processing center at FRI. Dr. Glover manages a team of three employees at her center and conducts, on average, 2 processing runs per day, averaging 25 liters per run. Dr. Glover's team packages their products in 250ml, 500ml and 1 liter containers. The products are primarily sold to individual buyers surrounding the FRI headquarters in Accra.



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