Soybean Innovation Lab Newsletter
June 2016

How Can We Overcome Low Soybean Yield in Africa?

High demand for soybean provides smallholder farmers an opportunity to produce a profitable cash crop. But smallholders lack access to quality seed, inputs, and technology, resulting in low yield. The Soybean Innovation Lab produces the knowledge, innovation and technology to improve yield. Click here to watch.

Final Report Released: Gender Equality in Soybean Production in Rural Ghana

The Feed the Future Innovation Lab for Soybean Value Chain Research (Soybean Innovation Lab, SIL) recently released a final report titled Women’s Empowerment in Agriculture Index (WEAI). Gender Equity in Soybean Production in Rural Ghana. The purpose of the WEAI is to collect culturally relevant data on socioeconomic and gender-specific outcomes among men and women smallholder farmers in rural agricultural communities.

The original WEAI was developed by the United States Agency for International Development’s (USAID) Feed the Future Initiative, the International Food Policy Research Institute (IFPRI) and the Oxford Poverty and Human Development Initiative.

SIL adapted the survey tool to develop the WEAI+, which has a special emphasis on soybean production and other agricultural-related issues. The WEAI+ retained all the original WEAI modules to which minor adaptations where made to improve cultural relevance for implementation in Ghana and Mozambique and added four soybean-related modules. The WEAI+ (WEAI + Soybean Modules) is part of the Soybean Innovation Lab’s Socioeconomic and Gender Equality Research (SGER). The goal of the SGER team, led by Dr. Kathleen Ragsdale (Mississippi State University) in Ghana and Dr. Jill Findies (University of Missouri) in Mozambique, is to better understand how gender equality and other socioeconomic factors within the agricultural sector impact men and women smallholder soybean farmers. The WEAI+ contributes knowledge on how to help transition rural women, families, and communities towards better food security, health, and economic development.

In Ghana, the SIL Mississippi State University-based team administered the WEAI+ to men and women smallholder soybean farmers in nine villages in four districts of Ghana’s Northern Region. The SIL University of Missouri-based team administers the WEAI+ concurrently in Mozambique.

Data was collected in partnership with Catholic Relief Services in Ghana and with the Mozambican Institute of Agricultural Research (IIAM) in Mozambique.

Click here to read the full report from Ghana.

Soybean Thresher Contest Winners Announced

In the Fall of 2015 Dr. Kerry Clark, a Soybean Innovation Lab (SIL) researcher and University of Missouri soybean specialist, launched a [thresher design contest to aid in improving food security for smallholder farmers in Ghana. Dr. Clark has seen first-hand the struggles smallholder farmers face pulling dry mature plants by hand and then hand threshing to separate the grain from the pods. The work is difficult and time consuming, with high grain losses which can result in poor quality seed. Low cost mechanized threshing provides a solution.

The contest brought together University engineering students in Africa and the United States to design a low cost, locally mass producible soybean thresher. The contest was judged by equipment engineers at ALMACO, a leading manufacturer of agricultural research equipment in Nevada, Iowa. Prizes awarded were $750 USD for first place, $500 USD for second place, and $250 USD for third place.

The first place winning design went to Rashid Mohammed Dinsariga, an engineering student at the University of Development Studies in Tamale, Ghana. Team INJA from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana took second place. Team INJA is an acronym for the names of its team members, Ignatius Xenyah Kwaku Awutey, Nathaniel Kwaschie-Madjrie, Jeffrey Boakye Appiaiyei, and Akendola Frederick Abangba. The members of Team INJA are undergraduate agricultural engineering students.

The third place design went to Brandon Leung and Austin Hullmark, mechanical engineering students from University of Illinois, Urbana-Champaign (UIUC).

The winning designs will be put into production this summer (2016). The winning motorized thresher design will be produced for a cost of $773 USD, while the human powered version will cost $281 USD. The Soybean Innovation Lab, with its partner Catholic Relief Services (CRS), will then train local blacksmiths to build three threshers, which will be distributed to villages in the Northern Region of Ghana. SIL and CRS are using a train-the-trainer model to enable local blacksmiths and manufacturers to share the knowledge and skills needed to ensure continued production of the threshers locally.

This program is part of the Innovation Lab’s effort to build an African threshing network where designs, knowledge, and technology are shared to aid in increasing smallholder farmer productivity.

Focus group discussion with women soybean farmers in Tolon District, Ghana who received SIL Soybean Success Kits in March 2015. (Photo Credit: Dr. Kathleen Ragsdale)

Rashid Mohammed Dinsariga, first place winner of the SIL thresher design contest talks about his design while showing a drawing of his thresher. (Photo Credit: Elizabam Buan/CRS)
Watch the May 27, 2016 Webinar
Building the Network of Soy Dairy Processing Enterprises

Krystal Montesdeoca, the Soybean Innovation Lab’s (SIL) soybean food business economist led this webinar focused on developing sustainable and successful soy dairy processing enterprises. Krystal works closely with food businesses within SIL’s international soy food network to promote strong administration practices such as effective business planning, good cold chain management and appropriate packaging solutions.

Dr. Marilyn Nash from the National Soybean Research Lab at University of Illinois spoke on the benefits of soy for human nutrition. Dr. Nash is the lead researcher for the Soybean Innovation Lab’s soy for human nutrition efforts. Dr. Nash and Krystal work together on implementing soy dairy systems in Ghana and Mozambique.

Second to present was Hart Jansson, the president of Malnutrition Matters, a Canadian non-profit dedicated to sustainable low-cost food technologies for malnutrition. Malnutrition Matters has over 270 soy cows installed around the world with the majority in Africa and Asia. Mr. Jansson spoke on soy processing technologies and the soy cow system.

Last to speak were Elizabeth Parisi and Pedro Manrique from Programa Nutricional Basado en Soya, (PNBS, a soy-based nutritional program) on soy dairy entrepreneurship. PNBS is a Columbia-based non-profit dedicated to diminishing malnutrition levels in Columbia with a highly efficient and self-sustainable model. PNBS achieves success by implementing and continually optimizing their soybean based nutrition program in targeted malnutrition communities. PNBS currently has over 140 soy cows in Columbia with expanding markets in El Salvador, Guatemala and Peru.

This webinar is the first in a series produced by the Soybean Innovation Lab on soy dairy processing. Click here to watch the recording and view resources from the webinar.

Meet the Soybean Innovation Lab Graduate Researchers

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 the Soybean Innovation Lab’s Graduate Researchers who assist in developing the technical knowledge and innovation needed to successfully develop the soybean value chain in Sub-Saharan Africa.

Edward Martey is a PhD student in the Agricultural and Applied Economics program at the University of Illinois Urbana-Champaign (UIUC). Edward’s areas of research are smallholder agricultural commercialization and agricultural innovation systems for value-chain development. Prior to his PhD program at UIUC, Edward worked as a socio-economist with the Council for Scientific and Industrial Research-Savanna Agricultural Research Institute (CSIR-SARI) in Ghana, where he coordinated socio-economic and development research. This research ranged from management of innovation platforms, farming system research, agricultural commercialization, evaluation of agricultural technologies and business development of smallholder farmers. While at CSIR-SARI, he worked in collaboration with international organizations including Alliance for a Green Revolution in Africa (AGRA), International Institute of Tropical Agriculture (IITA), Africa Rice Center (AfricaRice), International Food Policy Research Institute (IFPRI), and Japan International Cooperation Agency (JICA).

Edward is currently working with smallholder soybean farmers in Ghana to assess their adoption practices and profitability.

Armand Dagbegnon Tosou was born and raised in Benin, a French speaking country in West-Africa. Armand earned a Bachelor’s and a Master’s degree in Management at the Universite d’Abomey-Calavi in Benin. After graduation, he worked for eight years as a Finance & Accounting Specialist for Maersk Line, a global leader in maritime shipping. In 2013, Armand earned a Fulbright scholarship and came to the U.S. to complete the Global, Social and Sustainable Enterprise (GSSE) MBA at Colorado State University. In fall 2015, he joined the Department of Agricultural and Consumer Economics (ACE) at the University of Illinois as a PhD student. Armand is a first year PhD student under the supervision of Dr. Peter Goldsmith. Currently, Armand coordinates the U.S.-based internship for students enrolled in the new SIL-developed M.S. Program in Agricultural and Development Economics at the West Africa Centre for Crop Improvement (WACCA) at the University of Ghana. His research interests lay at the intersection of smallholder agriculture and technology adoption as related to development issues.

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Child drinks soy milk produced from soybeans processed using a soy cow system. (Photo Credit: Dr. Marilyn Nash)

A farmer from programa nutricional basado en soya in Ometepe, Nicaragua. (Photo Credit: Armand Tossou)

Armand with Don Louis, a member of a farmer-based organization that grows and processes coffee in Isla de Ometepe, Nicaragua. (Photo Credit: Armand Tossou)