Seeing is Believing: Soybean Field Days

On Friday, February 5th soybean farmers, breeders, seed companies, processors, NARS researchers, government agencies, NGOs, inoculum producers, farmer cooperatives, CG institutions and more joined together at the Thika Practical Training Centre in Kenya to assess and benchmark first-hand the performance, adaptability and market acceptance of 23 tropically-adapted soybean varieties.

Why is this important? Unlike in the U.S. and other developed countries, soybean field days in Africa are a new phenomenon. Yet these unique events accomplish four critical objectives for the growth and development of soybean in SSA.

First, field days establish linkages between the diverse soybean value chain players that provide risk mitigation support for breeders, smallholder farmers and local seed enterprises. Second, these linkages provide justification for the registration and commercial release of varieties, guidance on protection of intellectual property rights, and direction on regulatory matters. Third, linkages allow local seed companies to see high performing and locally adapted pre-release varieties that would justify commercialization. Fourth, variety trials and field days bring transparency as locally available commercial varieties are evaluated by a third party and the results are published.

The Soybean Innovation Lab (SIL) is working with the operators of the five SIL-supported Soy Cow systems in Ghana and Mozambique to conduct a cost of production analysis specifically addressing equipment utilization, economic performance, income generation, volume of product produced and number of people served.

Soy Dairy Microenterprises and Sustainability

The introduction of household scale soybean processing units, such as the Soy Cows are thought to provide smallholders and communities with new market opportunities that support both economic growth and nutrition. However, the sustainability of small scale soybean-based enterprises is a challenge. There has been significant research on the nutritional benefits of soy milk, but very little research, especially utilizing primary data, on the economic sustainability of local soymilk enterprises.

In response, the Soybean Innovation Lab (SIL) is working with the operators of the five SIL-supported Soy Cow systems in Ghana and Mozambique to conduct a cost of production analysis specifically addressing equipment utilization, economic performance, income generation, volume of product produced and number of people served.

SIL welcomes aboard a new team member to assist with this analysis. Krystal Montesdeoca is the new SIL Soybean Nutrition Specialist, collaborating directly with the SIL nutrition leads at the National Soybean Research Laboratory (NSRL). Krystal is a recent Master’s graduate of the University of Illinois and has almost a decade of development experience working with the Soybean Innovation Lab (SIL) is working with smallholder soy milk enterprises.

Two Success Stories, One Mission

Stakes show a blind evaluation of the 23 varieties planted near Nairobi, Kenya at the Thika Practical Training Centre where SIL, SFS & AATF held a Soybean Field Day on February 5th to allow attendees to assess the performance, adaptability and market acceptance of the tropically-adapted soybean varieties. 

Photo credit: Dr. Peter Goldsmith

Sign displaying the planting date, number of varieties and row spacing used in the variety trial.

Photo credit: Dr. Peter Goldsmith

Attendees at the Soybean Field Day tour plots showing the 23 soybean varieties. Variety names were not displayed to allow for an unbiased evaluation of performance.

Photo credit: Dr. Peter Goldsmith
Engineering Innovation to Improve Food Security for Smallholder Farmers

Announcing an open competition for engineering students at
Kwame Nkrumah University of Science and Technology • Mississippi State University University of Ghana • University of Illinois at Urbana-Champaign University of Development Studies • University of Missouri

1st Place $750  2nd Place $500  3rd Place $250

Letter of Intent Due: February 29, 2016 (email a note to Kerry Clark, clarkk@missouri.edu)
Final Submittal Due: May 1, 2016 (email to Kerry Clark, clarkk@missouri.edu)

Many crops in sub-Saharan Africa are hand cut and threshed by beating with sticks. This is very hard labor and limits the amount that can be planted and harvested, creating food insecurity for many subsistence farmers. The Soybean Innovation Lab (SIL) is sponsoring a contest between three universities to design a small thresher for use by smallholder farmers in sub-Saharan Africa. The winning design, if functional, will be built by SIL and distributed to three districts in the Northern Region of Ghana. Local blacksmiths will be invited to attend training on construction of the thresher thus the design and construction requirements should be as simple as possible, with the materials to build the thresher costing less than $1,000 USD. The thresher should have two wheels so that it is transportable, a tow bar that would allow it to be pulled using a bicycle or small motorcycle and handles like a wheelbarrow so it can be hand pushed. It should be designed to thresh a small armload of whole soybean plants per load and so farmers can easily capture seeds in a 50-100 kilo bag and post-harvest loss should be minimized. Low cost as well as functionality will be a factor in the winning design. Designs will be judged by an equipment manufacturing firm specializing in small agricultural research equipment. More information on the thresher design specifics and contest rules can be found on the SIL website here [http://soybeanimalnovationlab.illinois.edu/sites/soybeanimalnovationlab.illinois.edu/files/SIL%20Thresher%20Design%20Contest.pdf].

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.

Dr. Dan Reynolds is a Professor and the Edgar E. and Winifred B. Hartwig Endowed Chair in Soybean Agronomy at Mississippi State University (MSU). Dr. Reynolds leads the SIL agronomic research at the SMART (Soybean Management with Appropriate Research and Technology) Farm in northern Ghana. Dr. Reynolds collaborates with Dr. George Awuni, an MSU postdoctoral researcher based in northern Ghana, to conduct production trials evaluating best practices across a range of soil types including fertilizer rates, inoculum use, pest management strategies, variety selection, planting date, dual and succession cropping, sowing depth and plant population densities. Dr. Reynolds and Awuni’s research provides critical knowledge on the role of agronomics in tropical soybean development. Watch a video about Dr. Reynolds’ SMART Farm research platform here.

Dr. Steve Boahen is a Legume System Agronomist with the International Institute of Tropical Agriculture (IITA) in Mozambique. Dr. Boahen’s research includes developing improved crop management technologies for legume-based cropping systems with a focus on identifying physiological and management constraints to productivity, developing efficient nutrient management and inoculation methods for enhanced nodulation and N2 fixation as well as community-based seed systems. Dr. Boahen collaborates with SIL on soybean adaptability research by evaluating long juvenile and low canopy genotypes, and Maize. Dr. Boahen is actively working to expand its collaboration with the IITA-Mozambique team as well as with the Mozambique Institute of Agricultural Research (IHAM). Watch a video from Dr. Boahen about smallholder soybean production in Mozambique here.

www.soybeanimalnovationlab.illinois.edu
www.tropicalsoylab.com
@tropicalsoylab

Above & right photos: Example of a locally-produced thresher built by a village blacksmith in northern Ghana. This thresher was likely produced using small threshers imported from India or China as a model. While this thresher can be pushed it is somewhat unsteady due to having only one wheel. The motor on this thresher is also slightly underpowered. However the size and price were favorable to smallholder farmers. The contest described below seeks to build a thresher prototype costing less than $1,000 USD for use in smallholder farming communities. A “Vogel” thresher design, produced in the 1950s for harvesting small grains, is suggested as a potential starting point as its construction was intended to be easily replicated. Photo credit: Dr. Kerry Clark