

Enabling smallholders to succeed with soy

SIL helps create markets, correct misconceptions and empower women

We partner with the Soybean Innovation Lab (SIL*) to improve smallholders' access to good varieties. SIL's Principal Investigator, Dr. Peter Goldsmith, was recently in Europe. We asked him about challenges, progress and lessons so far.

***Syngenta Foundation:** Of all the crops you could have worked on, you chose soybean. Internationally, soy is fairly controversial, and typically not associated with smallholders. What's the attraction?*

Peter Goldsmith:** For me, it's a combination of personal history, present needs and future possibilities.

What does that mean, in rather more detail?

A lot of my early professional experience was in livestock. I helped pioneer artificial insemination in Ecuador, for example, and worked in the dairy industry. That brought me to the topic of feed, and with my language fluency and regional experience, particularly to Argentina and Brazil. That led to a long career conducting research on the soybean economy. [USAID](#) saw great opportunities in soybean as a 'development crop', and asked the SIL team to join them. Soybean could be an excellent smallholder crop, but in Africa growth has been hampered by a number of factors, including a lack of improved seed varieties.



Soy has been successful in many regions around the world, and African consumption is rapidly growing. What's the problem?

With respect to improved seed varieties, the market incentives are weak. Soy is self-pollinating, and nobody yet knows how to hybridize it. Farmers can easily save seed, so there is little motivation for commercial breeders to invest here. This problem is compounded by NGOs providing seed to smallholders at no cost. Free seed meets their immediate needs, but in the long run limits market incentives for breeders to improve seed. This vicious cycle continues significantly to limit the quantity and quality of seed, and thus keeps yields and profitability low.

SIL aims to change that. But realistically: How can an organization in Illinois help smallholders in Malawi?

We are a 'Tier 1' institution, with world-class facilities, great faculty, and a strong focus on developing countries. But that, of course, isn't good enough on its own. We do great research, yes, but in support of development. What is really important is that all of our work is thoroughly grounded in African [countries](#), and based on local needs.

So how do you proceed?

We work in partnerships, in Africa. We ask our partners and collaborators about their needs and the local hurdles they face. One common answer is: "Smallholders can't get good seeds". So our next step is to address that gap in a country by bringing 30-50 possible new varieties. Local industry partners and organizations receive training and seed, and host formal trials to identify the most suitable varieties. We then work with these companies on how to register, multiply, and commercialize the most promising choices. Our fast-track approach is proving successful: trial partners use irrigation, and can apply for registration within three seasons. Just last month a new variety was approved in Malawi, and

last year we saw a registration in Ghana. Many more are in the pipeline across the 14-country, 72-location Pan-African Soybean Trial network.



You also work with local breeders on future varieties. But where do you get the ones that are needed today?

The trials we run are pan-African and international in scope. This allows breeders and companies to explore new markets and evaluate performance against great competition. It also enables the creation of a sustainable network looking to develop the soybean seed industry across Africa.

SIL's [Newsletters](#) often contain African recipes. How much soy do you cook and eat yourself?

I do a lot of both! However, many people have misconceptions here. One is that soy in Africa is often thought to be purely for human consumption. Soy is not only a 'food', but an ingredient for human and livestock consumption. For example, soy flour can play a big role in cost-effectively fortifying school lunches, as part of local recipes and supporting the local cuisine.

Why is 'Gender' one of your ten focus areas?

Men and women both grow soy. Our Gender Impacts program tackles topics like female empowerment in commercial crop production, and identifies constraints on women integrating soybean into their farming, diet and income generation. So we also work on making tools and technologies more beneficial for women. A recent example is a multi-crop thresher and associated fabricator-training course. Many of the tools associated with metal fabrication can be large and heavy for women trainees. Our Mechanization Lead found inexpensive lightweight cutters that women can operate much more easily. Focusing on gender issues in agriculture helps us and our partners to address these early on when developing technical solutions.

As the leader of a USAID program, what is your advice to those U.S. politicians keen to reduce overseas development spending?

President Obama used to talk about "the three D's" of foreign policy. He saw Defense, Diplomacy and Development as streams of the same river. Development helps countries stand on their own and move away from donor dependency. Development can be extremely cost-effective in building safe, productive and healthy societies, and avoiding the costly interventions associated with emergencies and conflict.

What do you know now that you wish you'd known at the beginning of this partnership?

Personally, I completely underestimated the importance of communications for building strong and sustainable networks. I naively just saw communication as 'avoidable overhead', and thought resources should go exclusively into R&D. That was so wrong! Fortunately, we've come a long way in a short time. Thanks to all the good work of our communications staff, and many others, USAID now sees us an example of good practice. And I've become quite a student of communications myself!

What do you do when you're not working on soybean?

Another great passion is marathons. I've been running with the same group for about 15 years, and seem somehow to be getting faster with time, much to the amazement of my friends. I've run about 20 marathons competitively, and for my age I'm pretty fast. Last month I finished 14th out of 1285 in my age-group. But unlike some of my running-mates, I can't talk all the time we're training!

*SIL's full name is the Feed the Future Innovation Lab for Soybean Value Chain Research. It is the only comprehensive program by the United States Agency for International Development (USAID) dedicated to soybean research for development. Our Foundation pushed for partnership from 2014, and has collaborated formally with SIL since 2016. We continue to be instrumental in building the Pan-African Trials program, and in developing commercially viable models to ensure that local seed multipliers take up successful varieties.

Based in Urbana, Illinois, SIL aims to improve the knowledge, innovation and technologies for successful soybean production in Africa. As part of [Feed the Future](#), it works to reduce poverty and hunger by accelerating agricultural growth through better smallholder productivity. soybeaninnovationlab.illinois.edu

**For Peter Goldsmith's C.V., see

soybeaninnovationlab.illinois.edu/sites/soybeaninnovationlab.illinois.edu/files/Peter%20Goldsmith_0.pdf