

“Demand and yield, rather than resistance to diseases and pests”

Our student apprentice investigates the views of Kenyan smallholders

Sophie Sinelle is studying agriculture in France, which she has combined with a three-year apprenticeship at the Foundation. In Kenya, she wanted to understand how smallholders choose ‘their’ varieties of potato. This is what she found out...and much more besides!

Syngenta Foundation: Why did you choose your present degree course?

Sophie Sinelle: I began my studies with a technical diploma in biology, specialising in biological and biochemical analysis, followed by a level 3 degree in the biology of health. I then changed direction into a more concrete area with an interesting variety of career prospects. My father, being a farmer, supported my idea, because agriculture is constantly evolving to respond to the challenges of tomorrow, such as security of food supply, agroecology, etc.

I turned to the Higher College of Agriculture (ESA*) in Angers. The training there is all the more interesting because it offers the opportunity of an apprenticeship route, which is what I chose. I felt the need to learn *practically* how to become a professional. I had always said to myself that one “learns by doing”; I did not want to sit passively in a classroom, but preferred to be active with colleagues. My apprenticeship is on Plant Production and Agroecology.

How did you come to link up with the Syngenta Foundation (SFSA)?

When I changed to agriculture, I already had a rough vision of my professional life. I knew I wanted to contribute to the response to tomorrow’s challenges, namely how to feed the world with constant (or rather, diminishing!) resources and a growing population. The challenge of security of food supply is even more important in Africa. I said to myself that one aim could be to work in the agricultural sector in Africa, even perhaps to take my career there. My college sent out offers of apprenticeships from various organizations, and SFSA was among them. My supervisor there, Camille Renou, responsible for seed programs in Africa, is a former ESA student himself. When I saw the SFSA offer, it was exactly what I wanted to do. After sending off my application, an interview and signing a few papers, there I was, apprenticed to the Syngenta Foundation for 3 years.



Why did you choose potatoes for your assignment? How did you select where to run your investigation?

For my course, I had to do a placement abroad for a minimum of nine weeks. I absolutely wanted to go to an English-speaking country, to improve my English. At SFSA, I was not short of possible locations, but had to find the right host organization. Ian Barker, who heads SFSA’s seeds initiative, suggested CIP, the

International Potato Centre** in Kenya. That was where he had previously worked. Ian helped with the necessary contacts – and I was very happy!

What were your key findings?

My objective was to understand how growers chose their varieties of potato. On what criteria do they base a decision to adopt or change a particular variety? I tested three hypotheses, using three criteria: market demand, sales revenue and the risks attached to the production of potatoes. (Those include difficult weather conditions, diseases and pests).

To find the answers, Kenyan colleagues and I interviewed 289 growers across the counties of Meru, Uasin-Gishu, Elgeyo-Marakwet, Nakuru, Bomet and Nandi. These areas represent 70 % of potato production in



Kenya. The survey showed that growers chose their variety based on market demand, and above all based on what traders are looking for, but that they also want a variety with a high yield. They prefer a variety which responds to market demand and has a high yield, yet is highly susceptible to diseases and pests (involving

additional costs for crop protection), to a resistant variety with a lower yield. This discovery is all the more interesting because my research concentrated on disease-resistant varieties.

What other surprises were there for you?

Working abroad for several months can always bring a few surprises! It is not like just travelling on holiday. You have to get acclimatised to the context, i.e. adopt techniques of working and communication, the daily routines of the country, etc.

In the Kenyan environment, I couldn't just travel around the country as I wished. Road accidents are a major cause of death there, so I was glad to use transport recommended by SFSA. Before my placement, Ian Barker gave me a lot of advice. I think it's very important to have such discussions with someone who knows your host country very well.

What were the particular challenges of this work? Combined with doing the write-up in English, what effect did language issues have on your research?

The first challenge was to spend 100 % of the day working in English! Even more so because within CIP, there are a multitude of nationalities. It took a while to get use to the various accents.

Another challenge in such international teams are the many different ways of working and communicating. What was also hard was that during the field investigations, the growers wanted to have discussions with

me but could not always do so, either because I did not understand their accent, or because they did not speak English.

I also worked with people who were very busy and often away from the site. I therefore had to learn to be independent and to have very short meetings dealing with the most urgent topics. This placement really enriched all aspects of my professional and personal development, of communication and work organisation.

What was the most fun?

The best part of my placement was going out into the field and meeting the growers. They were interested in what I was doing and why I was in Kenya, and it was very enriching to exchange views with them. I tried to learn some words of Swahili from the field team, but it was not very easy. I very much liked learning the customs of the different ethnic groups. I also had some free time to enjoy as a tourist.

Why were the interviews conducted in Swahili, even though the farmers spoke other real mother tongues?

Many Kenyans speak three languages, typically Swahili, English and their own local language. My questionnaire was drafted in English, but most of the surveys took place in Swahili because some of the farmers did not speak English. Others did not know Swahili, either, and could speak only their local language. Fortunately, the staff helping me with the surveys came from different tribes, so we were able to communicate.

What are you going to do with your findings now? Who benefits?

The final report is ready to go to CIP and to interested partners. CIP employees will be able to use this report and the survey database for potential studies. The results will also be useful in setting the direction of research into the new varieties created by CIP.

What happens next in your studies...and ideally your professional life?!

In each year of my course, there is an assignment. In the first year it was this international assignment I did in Kenya; this year it will be on research and development R&D. I'll be doing mine on okra in Senegal. The final year assignment is a six-month engineering project, which I still need to organize. Alongside the the practical assignments, I also have to choose a number of academic options. I'm specializing in plant research and the seed market.

I don't yet know precisely what I would like to do later. I am counting on my various course choices to help me decide. However, I do know that I'd like to continue working with an international dimension and in the seed sector. I also enjoy working in teams, undertaking field work and being close to producers.

If the Syngenta Foundation paid you a bonus to give it one piece of advice, what would that be?

SFSA is multi-faceted. In the seed stream alone, there are a number of projects involving several countries and partners. This is both an asset and a disadvantage. Personally, I think SFSA should focus on one large project before starting another. I also think that in future, the Foundation could add a stream to its activities. Africa has lots of openings in irrigation, storage, and other areas. Renewable energies could be another option, or agricultural technology beyond mechanization.

What can you tell us about yourself?

I come from Vendôme, a small country town two hours' drive from Angers. I'm 23 years old and two older brothers and one younger. I was born into agriculture because my father, uncle and now big brother are all farmers. My first summer jobs were on the farm, on a tractor. My mother also started in farming, but is now a secretary at the town hall. I have never wanted to take over my father's farm, but two of my brothers will move in when he retires.

I have always been very sporty. Despite my 'lofty' 1.6 metres, I have been playing competitive volleyball with a club for several years. Contrary to what one might think, volleyball is not just for tall people - the sport also needs small people to complete the team!

In general, I love meeting people and travelling. And I have to admit that these few months at SFSA have not changed my desire to discover the world! Whenever as I can, I go abroad. I've set myself the challenge of discovering a new country every year.



* <http://www.groupe-esa.com/> ** <https://cipotato.org/>