Student Profile

SASHA
Sweetpotato Action for Security and Health in Africa

Abel Sefasi

PhD in Plant Breeding and Biotechnology
Makerere University
Associated with the Weevil Resistance (RP2) SASHA component

Malawian Abel Sefasi, 34, is one of the SASHA project's veterans, having been working with the SASHA Weevil Resistance project since August 2009. Abel has been completing his PhD in Plant Breeding and Biotechnology, exploring the efficient regeneration and transformation systems for improving resistance to weevils in Ugandan sweetpotato cultivars in close collaboration with the National Crops Resources Research Institute (NaCRRI).

Abel's program with Makerere University has been supported by the SASHA project and by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) brought him, his wife and their two children to Uganda. This was not his first excursion outside of Malawi for the pursuit of higher education. After graduating from Bunda College, Malawi, with a degree in Crop Science, Abel's interests in debates about genetically modified foods (GMOs) grew. In 2005 he traveled to Kenya where he earned his Master's of Science in Biotechnology at Kenyatta University. Commenting on his travels, Abel remarks, "I have benefited a lot from seeing different institutions, under different conditions. Although administratively, the places might be different, people are the same. As they say, 'All villages are the same in Africa'."

Uganda's sweetpotato production ranks as third in the world, but is threatened by two species of weevils. Abel's role within the SASHA project has been to extend the work of CIP biotechnologists who have been working to select protein-producing genes to increase weevil resistance and facilitate the transformation process with the support of Dr. Ghislain of CIP, Dr. Mukasa of Makerere University, Dr. Ssemakula of NaCCRI and Dr. Kiggundu of the National Agricultural Research Lab. With a strong team behind him, Abel has been experimenting with different media to insert the selected genes into the sweetpotato cultivars using Agrobacteria method for transformation. The crux of the project was overcoming the obstacle of regeneration, but after long months of trials, Abel made a breakthrough in his research by testing different plant growth regulators in tissue culture media for the different cultivars. "The breakthrough happened after months of nothing happening. Seeing plants emerging from unorganized mass of cells on media was the best feeling!" The resulting protocol for plant regeneration, which Abel will finalise by November 2011, can be used within sweetpotato breeding as soon as genes resistant to the viral and bacterial diseases, are identified.

Abel has substantial experience working with private sector, government institutions, Non-governmental Organisations and donors of agricultural development projects. After his BSc, he worked as an Agricultural Research Officer (Seed services) and later as a Horticultural Officer with the Ministry of Agriculture and Food Security in Malawi. After his MSc, he worked as a Research and Development Manager with a progressive chemical company in Malawi before joining a Malawian Government/European Union Programme as District Programme Coordinator for Farm Income Diversification Programme (FIDP). He has, therefore, amassed valuable experience in project planning and monitoring, budget design, financial control, coordination and working with rural communities, field staff, development partners like NGOs, the private sector, Community Based Organisations (CBOs), district assemblies, the World Food Program (WFP) and donors like the European Union. Abel comments that working on sweetpotato consistently throughout his career has made him become attached to the crop, "You start making jokes regularly saying, "Promote my project - eat sweetpotato!"