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About/Introductory statement

I am a Professor of Plant Breeding and Genetics and teach both Under and Post graduate students.

Goal: Develop technologies and advance knowledge and skills that help Africans to be more self-reliant and technically independent in a context of mutual partnerships with others

Research

Team Leader, Makerere University Centre for Soybean Improvement and Development (MAKCSID). I have extensive knowledge and skills in Genetics, Plant breeding, Biotechnology, Seed Science and Technology, and Intellectual Property management. Have conducted research on the genetics of resistance to soybean rust disease, and the development of varieties that are resistant to soybean rust, groundnut leaf miners, and Adzuki bean bruchids. Have also pioneered the development of glyphosate-tolerant soybeans in Africa, in containment at MUARIK. Led a team of local and International scientists in the development of 8 soybean varieties and 5 climbing bean varieties all widely grown in Uganda, and in the region. I have also published widely and been recognized for impact-oriented research.

Qualifications

Makerere University, PhD (Doctor of Philosophy),2000
University of Bath, MSc in Crop Production, 1988
Makerere University, BSc (Hons), 1985

Biography

Prof. Phinehas Tukamuhabwa is a Ugandan, holding a Bachelor of Science Degree (Makerere University), Master of Science (University of Bath, UK), and a PhD in Genetics and Plant breeding (Makerere University). He has acquired extensive knowledge and skills in Genetics, Plant breeding, Biotechnology, Seed Science and Technology and Intellectual Property management. He worked with the Ministry of Agriculture and Forestry as a Scientific officer and with NARO as a Research officer before joining Makerere University. His current research thrust is on the Genetics of resistance to soybean rust, and the development of varieties that are resistant to soybean rust disease, groundnut leaf miners, and bruchids. These efforts are integrated with the adaption of soybean genotypes to farmers' conditions, and research on Soybean seed systems. He has pioneered the development of glyphosate-tolerant soybeans in Africa, in containment at Makerere University Agricultural Research Institute, Kabanyolo. He has worked as a consultant to seed companies in Uganda, and to some countries in East Africa, helping them understand their soybean value chain. He has also worked very closely with Soybean Africa Limited and helped an in developing an MOU with Soybean Africa Limited to facilitate the commercialization of soybean Technologies developed by Makerere University. He is also team leader of the Makerere University center for soybean improvement and Development.

Other Activities

Current membership

i) Chairman of Uganda Soybean Development Agency.
ii) Consultant at Soybean Africa Limited
iii) Fellow, Uganda National Academy of science (UNAS)
iv) National seed board member, Uganda

v) Intellectual Property Management Committee, NARO
vi) Uganda Plant Breeders association

Past membership

i) African Crop Science Society (ACSSA)
ii) Intellectual property management committee, BIOEARN
iii) Intellectual Property management Committee, Makerere University
iv) National Biosafety Committee

Teaching

i) Plant Breeding Technologies
ii) Plant Breeding Methods
iii) Advanced Plant Breeding
iv) Plant Genetic resources and Utilization
v) Plant Genetic resources and Development
vi) Plant Breeding and Field Experimentation

Research

Research and Development: Team Leader, Soybean Breeding and Seed Systems Program. I work with a team comprised of researchers and development workers from Ministry of Agriculture and NGOs and our focus is on: 1. Breeding soybean for resistance /tolerance to soybean rust disease. 2) Adapting soybean varieties to farmers conditions, 3) Breeding Market class soybean varieties. 4) and Breeding climate-smart soybean varieties and 5) Development of glyphosate-tolerant soybean varieties.

Capacity building for Yam bean Research: With support from the Belgium Technical Cooperation through CIP, I coordinated a multi-disciplinary Capacity building initiative for yam bean research in Central Africa. This component has three BSc, seven MSc and two PhD students registered at Makerere University. The student's work encompasses field trials in Uganda, DRC Congo, Rwanda and Burundi focusing on genetic resources, Genetics and Plant Breeding, and Agronomy. The approach adopted by this project has resulted in several synergies and is highly recommended for effective management of Research among CGIAR centers, National Research Institutes, Farmers and Universities.

New Varieties Bred and Developed: I have lead a team of local and International Scientists in the development of 9 soybean varieties (Maksoy 6N, Maksoy 5N, Maksoy 4N, Maksoy 3N, Maksoy 2N, Maksoy 1N, Namsoy 4M, Namsoy 3, Nam 2) and 6 climbing bean varieties (Nabe 12C, Nabe 9C, Nabe 8C, Nabe 7C, Nabe 6C) all widely grown in Uganda and some in the region.

Control of Soybean Rust Epidemic and Restoration of Soybean Production in Uganda: Through the release of superior soybean varieties which are resistant to soybean rust disease, the soybean sub-sector in Uganda which had collapsed due to soybean rust has steadily picked up in the positive direction. Because of reduced losses to soybean rust disease and increased productivity and profitability resulting from the use of these varieties, the farmers have been greatly motivated to grow soybean extensively. Soybean is now among the four strategic crops adopted by Government to boost Agro Industrialization in Uganda.

Technology Transfer: 20 the last nine of years the soybean project I coordinate, we have produced over 600 tons of breeders and foundation seed of the new improved varieties. As a result, the stakeholders involved in seed production, such as seed companies, have been boosted in their businesses through the multiplication and dissemination of our varieties using the basic seed we provided.

Development of Technology Exhibition Center for Makerere University: I pioneered the coordination and establishment of exhibition facilities for Makerere University at the national agricultural showgrounds. We have at all occasions earned awards offered by show organizers in recognition of the excellent work showcased by the University in form of demonstration plots of new varieties and other agricultural related techniques and technologies. Due to good planning, commitment and high quality showcases exhibited in 2011, Makerere University was ranked overall best exhibitor amongst several organizations including private companies, government, and nongovernment organizations that participated in the show.

Local seed Business establishment

Have Supported several farmer groups to grow improved soybean varieties in Uganda; either as grain or seed. Some of these include; Bala Women and Youth (Kole), Alito Joint Multi-Purpose Cooperative (Kole), West Acholi Cooperative (Gulu), Dokolo Young Oil Seeds Cooperative (Dokolo), Kwera Young Oil Seeds Cooperative (Dokolo), Gang Dyang (Agago)

Research groups and

i) Makerere University centre for soybean improvement and Development

Centres

ii) National Oil Seeds Consortium member
iii) Pan-Africa soybean group
iv) Soybean Africa Ltd, https://soybeanafrica.com

Community based work

Through an African Highland Initiative sub project, I lead a group of Scientists and Development workers from different Institutions to develop and disseminate new climbing bean varieties between 1998 – 2000 in South Western Uganda. Since then the technology of climbing bean production has been embraced by the region. Climbing beans have significantly contributed to the improvement of food security and household income in the region. NABE 12 C known as *Masavu*, an output from the project is the most highly sought after climbing bean variety in Uganda.

Mak LUO soybean production Song
https://www.youtube.com/watch?v=jyu1XTQHkHI

Mak LUGANDA soybean production song

Awards or special recognitions received

Biotechnology award by Uganda Biotechnology and Biosafety Consortium (2018); Presidential Golden Jubilee medal (2018); CAES service award as Director MUARIK (2013-2015); Faculty of Agriculture, Makerere University in recognition of exemplary service to the Faculty of Agriculture (2011); RUFORUM (1st position) in recognition of Outstanding Impact Oriented soybean research (2007); The Vice Chancellors award (1st Position) for developing soybean varieties that are resistant to soybean rust disease (2006)

Publications

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