Breeding pipeline: Orange Fleshed Sweet Potato, EAf 1995-2013

“Many donors have funded sweetpotato breeding but none as consistent as McKnight. Because the funding was consistent and for a long time, it produced impact. This is a lesson for all donors”

Breeder from OFSP case study http://ic-crp.org/sites/default/files/ofsp_case_study.pdf

Informing practice and policy with evidence and analysis

Availability of high quality seed
• Demand for planting material of NASPOT11 increasing
• Seed: worked with vulnerable populations on planting material mgt. (HIV/AIDS organizations; internally displaced persons in N. Uganda)
• Links with many NGOs and projects to deliver vines
• HarvestChoice REU and many others also disseminated varieties

More appropriate variety testing and release systems
• 20 SP varieties released between 1995 and 2013

True seed produced for the Ugandan SP breeding program and for many African countries (typical year: 1188,300 kilos were sent to Burkina Faso, Ghana, Kenya, Nigeria, Rwanda, Tanzania, and Malawi to provide base populations.)

The Need:
In Uganda, weevils can destroy 60-100% of sweet potato production, an important staple crop high in vitamin A.

Characterizing agrobiodiversity
Germplasm with resistance to weevils and viruses
• 22 lines with moderate resistance to Alternaria blight
• 11 with low & stable reaction to SP Virus Disease (SPVD)
• 9 stable clones had high yields.
Database with 946 accessions fully described.

Multi-functional varieties
In collaboration with participatory varietal selection, advanced clones were selected that combined high vitamin A, pest & disease resistance, and high dry matter and yield.

Modern breeding tools
• Genetic mapping of populations
• Molecular genetics of resistance to weevils and viruses
• Mechanisms of resistance: Hydroxycinnamic acid esters and caffeic acid found to influence insect resistance
• Screening methods developed and utilized

START HERE

Project Partners
National Crop Resources Research Institute

East Africa Community of Practice

LEGEND:

Results
CCRP Principles

Participatory research

Equity; connect to other development institutions & initiatives

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