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

What's not in this case?:
From the Breeding Pipeline ToC:

- Farmer managed seed production and dissemination
- Varietal testing and seed production capacity building for farmers
- Promote seed policies that encourage cultivars for specific niches
- Variety testing and release systems that test varieties under targeted conditions

"Many donors have funded sweetpotato breeding but none was 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://c-crp.org/sites/default/files/ofsp_case_study.pdf

Take an integrated long-term perspective

Informating practice and policy with **evidence and analysis**

Publications: Since 1995, **30 journal articles**, 15 book **chapters,** 20 papers in **conference /workshop** proceedings, 50 technical **reports** and posters.

Participatory research

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.)

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**

Equity; connect to other development institutions & initiatives

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 resistence, 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

East Africa Community of Practice

Project Partners

National Crop Resources Research Institute

Natural Resources Institute, University of Greenwich

North Carolina State University

National Ag Research Institute

University outside of Region

START HERE

The Need:

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

LEGEND:
Results
CCRP Principles

COLLABORATIVE CROP RESEARCH PROGRAM

THE McKNIGHT FOUNDATION