Sweetpotato Breeding Activities for 2012 at the NRCRI Umudike, Nigeria.

SWEETPOTATO ACTION FOR SECURITY AND HEALTH IN AFRICA

Main objective

- Development of new sweetpotato varieties that satisfy the agronomic, processing and nutritional requirements of various end users.

Specific Objectives

- Development of OFSP populations through OP and controlled crosses;
- Evaluation of promising progenies at various yield trial stages for yield, SPVD resistance, dry matter and carotenoid content;
- Conduction of on-farm trials with farmers for enhanced selection process and varietal adoption;
- Nomination and release of new OFSP and WFSP varieties.

Most important landraces in ..country

Country/	Root yield	Flesh	Dry matter	Earl	SPVD	Alt	Remarks
Name of landrace	t/ha	color	(%)				
Country							
Ex-Igbariam	20	Yellow	32	E	S	R	Unregistered cultivar, high adoption, susceptible to Cylas spp
Atsak pupu	15	White					
Butter milk	20	Yellow					
Dan Zaria	20	Yellow					
Landrace5							
Landrace6							

Flesh color: White (w), cream (cr), yellow (y), light orange (lo), orange (o),
Earl (Earliness: Early (E) (about 4 months), late (L) about 5 or more months
SPVD resistance (r: resistant, s:susceptible)
Alt (Altenaria blight resistance, r: resistant, s: susceptible

Type of sweetpotato trials 2012/13

Type of trial		Details	2009	2012/13
Crossing block				
	1	No. of parents in crossing block		15
	2	No. of seed collected from OP		3,179
		a. Total no. of families of OP seed		15
	3	No. of seed collected from crosses		520
		a. Total no. of families of controlled crosses		8
Seedling nursery				
	1	No of seeds planted		2,514
	2	No of seedlings established		1,541
	3	Total no. of families planted		10

Type of sweetpotato trials 2012/13

Type of trial		Details	2009	2012/13
Observation trial				
(OT)	1	No of clones planted		521
	2	No of checks (check clones) planted		2
	3	No. of locations		2
Preliminary yield (PT)				
	1	No of clones planted		140
	2	No of checks (check clones) planted		2
	3	No. of locations		3
Advanced yield trial (AT)				
	1	No of clones planted		15
	2	No of checks (check clones) planted		3
	3	No. of locations		7

Type of sweetpotato trials 2012/13

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Type of trial		Details	2009	2012/13
On-farm trials				
	1	No of states		7
		province		
	2	Total no. of trials whole country		48
No of varieties released				2
No. of clones in pipeline for realease by e.g. Oct. 2013				3

Other Project Information

Funding source/amount /duration

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- **AGRA…$39,050… 1 year**

• No. of scientists in program	**• Sweetpotato breeders:** **•Entomologist** **•Weed scientist** **•Agronomist** **•Food scientist** **•Microbiologist**	**2** **1** **1** **1** **Collaborator** **1**
No. of Technicians	i. skilled technician ii. casual (unskilled) staff	2 6

Constraints

- Lack of funds for breeding activities outside AGRA
- Lack of technical know-how and equipment for effective high throughput beta-carotene and sugar determination and SPVD phenotyping.
- Irrigation problems for dry season nursery activities.

Proposed future activities

Activity	No. of lines	No. of locations	Remark
On-farm evaluation of advanced breeding.	5	i. Locations: 6 states ii. No of farmers per state: 8	Fund not yet available.
Preliminary (and advanced) yield trials of promising breeding lines	33 (15)	No. of Locations: 3-4	Fund not yet available.
MET of elite lines for yield stability	10	No of locations: 8	Fund not yet available.

Activity	No. of lines	Remark
Storability of fresh sweet potato roots		1. M.Sc or Ph.D students 2. NRCRI breeding program
Molecular characterization of newly collected landraces and farmer cultivars	200	Fund not yet available.
Sexual compatibility tests among genotypes in the germplasm		Fund not yet available.

Thank you!!!