



Progress of sweetpotato breeding in Madagascar (2009 - 2014)

Objectives

- To identify high yielding varieties
- Planting material production
- Food security
- Nutrition security



Most important SP landraces in Madagascar country



Name of landrace	Root yield (t/ha)	Flesh color	Dry matter	Earl	SPVD	Alt	Remarks
Galona	10 - 15	w	36	L	-	-	dry matter
Rakotozafy mijoro	8 - 10	w	25	L	-	-	
Vony	8 - 10	y	27	L	-	-	
Votavo	6 - 8	y	35.6	L	-	-	dry matter

Most important bred SP varieties in Madagascar country



Name of variety	Root yield	Flesh color	Dry matter	Earl	SPVD	Alt	Remarks
Naveto (440131)	24	cr	22.	L	-	-	released 2001
Riba (420027)	23	o	24.52	E	-	-	2007
Mendrika (199004.2)	24	o	26.14	E	-	-	2007
Bôra (199062.1)	25	o	28.15	E	-	-	2008

Summary of progress 2009- 2014



Type of trial		Details	2009	2010	2011	2012	2013	2014
Crossing block	1	No. of parents in crossing block						
	2	No. of seed collected from OP						
		a. Total no. of families of OP seed						
	3	No. of seed collected from crosses						
		a. Total no. of families of controlled crosses						
Seedling nurse-ry	1	No of seeds planted	5000		7027			2500
	2	No of seedlings established	1883		1286			
	3	Total no. of families planted	5		7			12

Summary of progress 2009- 2014



VARLEDADE-06081-61 et MUSG-01621-13

Summary of progress 2009- 2014



Type of trial		Details	2009	2010	2011	2012	2013	2014
Observation trial (OT)	1	No of clones planted	798		955			
	2	No of checks (check clones) planted	1		1			
	3	No of locations	2		2			
Preliminary yield (PT)	1	No of clones planted	-	153	153	671	671	
	2	No of checks (check clones) planted	-	1	1	1	1	
	3	No of locations	-	4	4	4	4	
Advanced yield trial (AT)	1	No of clones planted	-			25	25	12
	2	No of checks (check clones) planted	-			1	1	1
	3	No of locations	-			4	4	4

Summary of progress 2009- 2014



Type of trial	Details	2009	2010	2011	2012	2013	2014
On farm trials							
	1	No of farms/farmers per region/district/province					
							3
	2	Total no of trials whole country					
							12
No of varieties released				3*			
No of clones in pipeline for release by 2014							4
Package used for analysis:							
2009 - 2012	GenStat / MSTAT C	X	X	X	X	X	X
2013/14	GenStat	X	X	X	X	X	X

**Ukerewe, Zambezi and Ejumila*

Sweetpotato Foundation Seed system



Tissue culture lab:	Response (a)	Response (b)
No. of lamina flow benches (a)	3	
No. of CVs maintained in tissue culture (a)	35	
No. of screenhouses/need repair (a)	1	
No. of good screenhouses (a)	5	
No. of in vitro plantlets wined:		
a) Every 3-4 months (b) every year)		6 000
No. of vine cuttings:		
a) Distributed every 4-5 months (b) every year)		
a) Sold every 4-5 months [(b) every year]		40 tons
How long does it take to breed a variety (years)?		
How long does the variety release process take? (Assuming all data is available)/1 season/1 year (a)?	> 5 years	

Sweetpotato Foundation Seed system (material / facilities)



Linkage to Vine multipliers for further multiplication



Linkage to vine multipliers	Proportion	Comment
Government institutions (list):	40 %	
FIFAMANOR		
NGOs (list):	15 %	
CRS/SANTENET		
Farmer multipliers	40%	
Maitso ririnina/Mandoto		
Others (list them)	5%	
Primary school / etc.		

Status of AGRA grant (delete what is not applicable)



Project title:	Response
Approved but has not started	
Funded since	year?
Amount	USD
Expiration date	year?
Renewal proposal (delete what is not applicable):	
Not yet written/ In process of writing	Yes/No
Written but not submitted	Yes
Submitted, waiting for feedback	Yes
2 nd phase funded since (year), amount (USD)	Yes
Other information on AGRA grant:	

Number of SP varieties released 2009 - 2014



No. of varieties released		No. of release document(s)*	No. of release papers /Manuscripts**
Non-orange	Orange		
1	3	0	0
No. of clones in pipe in pipeline for release (final tests/data already compiled)			
Non-orange	Orange		
3	4	0	0

* Document submitted to Variety Release Committee/Authority; Each release has a separate document (several varieties released at the same time have one document)

**Papers published in journal(s) or manuscript for journal/submitted/to be submitted

Detailed information of variety release documents (2009-2014)



- *Document submitted to Variety Release Committee/Authority
Author(s), Title, Year of submission, Organization, City, Country
- **Papers published in journal or manuscript for journal submission
Give details, author(s)., year, title, journal (target journal if not submitted yet), page number(s)/where applicable

Papers published/Manuscripts (2009-2014)



**Papers published in journal or manuscript for journal

Give details, author(s)., year, title, journal, page number(s) (for manuscript(s) indicate target journal

Current staff on sweetpotato research (replace example with yours)



Sweetpotato (SP) Staff Category	No.	Gender (M/F)	Age <35 / > 35 years
Full/Part time on SP (%) (indicate qualification):			
PhD (Plant breeder,)	0	-	-
Researcher (Engineers: 20% and 100%)	2	M	>35 and <35
Technicians:			
Field technician 100%	1	M	>35
MSc (tissue culture, 10%)	1	F	<35
Diploma (breeding & seed systems, 50%)	0	-	
Certificate (breeding, 100%)	0	-	
Total	4	(3M:1F)	
Comment:			

Update Other Project Information



Funding source/amount /duration

- CIP (USD 3000 for 2 years), gouvernement

Constraints

- variety release process takes long time (> 5years)
- the storage of vine (planting material) during the dry and cold season is difficult
- lack of technique for the storage of tubers
- no processing factory
- weevils
- lack of training

Proposed future activities

- scarification, OT, PT, AT, on farm trial
- storage

THANK YOU FOR YOUR ATTENTION!