



PROGRESS ON SWEETPOTATO BREEDING IN RWANDA

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PROGRESS ON SP BREEDING IN RWANDA

Overall breeding objective:

To develop sweetpotato varieties with:

- ❑ High yield
- ❑ Quality traits (mainly DMC, B-carotene)
- ❑ Tolerant to pests and diseases
- ❑ Suitable for specific or wide adaptation, farmer preferred)





PROGRESS IN BREEDING (CONT'D)

TARGETTED AREAS



Targetted areas
are low, mid
and high
altitudes of
Rwanda

Low altitude:
Bugesera and
Ngoma Districts

Mid-Altitude:
Huye, Muhanga
Districts

High altitude:
Rulindo and
Gakenke
Districts





PROGRESS IN BREEDING (CONT'D)

There are 3 methods we obtain improved sp cultivars for distribution to farmers:

- ❑ Collecting, evaluating and selecting from the local germplasm
- ❑ Importing cultivars that have been bred in other countries and evaluating them under our conditions
- ❑ Breeding cultivars in our own research programme





PROGRESS IN BREEDING (CONT'D)

Progress to-date:

- ❑ Germoplasm: 154 accessions
- ❑ A crossing block with 60 parents was established at Rubona. The aim is to combine these parents and select the WFSP and OFSP varieties needed through participatory breeding





PROGRESS IN BREEDING (CONT'D)

- ❑ An observational trial was conducted in three locations (Rubona, Ngoma and Karama) using 5380 genotypes in each location
- ❑ Nine entries have entered advanced trials:
: 5-214, K51/3261, 4-160, 5-090, 8-1038, 9-466, 4-055, 8-1687, 7-584.





PROGRESS IN BREEDING (CONT'D)

- ❖ Preliminary yield trials conducted(3 locations)
- ❖ Participatory variety selection conducted



Preliminary yield trial at Karama station
(above photo)



Participatory variety selection



PROGRESS IN BREEDING (CONT'D)

- ❖ On-farm trial conducted in 3 main growing areas
- ❖ 25 promising varieties for dual purpose use planted on – farm (5 varieties+ 1 local check for each farmer)
- ❖ In total 42 farmers handling on-farm trials (High altitude: 12, Mid-altitude: 15; Low alt & semi-arid: 15)





PROGRESS IN BREEDING (CONT'D)

Advanced trial: Mean yield of top 5 promising genotypes at Karama and Rubona, 2011 A

Genotype	Mean yield (T/Ha)		Aver. mean (T /Ha)
	Rubona	Karama	
2002-154	27.90	11.61	19.76
2002-155	19.85	18.92	19.38
2002-134	20.85	15.89	18.37
2002-166	17.31	18.95	18.13
2002-131	20.85	14.93	17.89



THE WAY FORWARD

- ❖ Planting on-farm trials for selected varieties-
Confirm results for the previous season
- ❖ At least 5 varieties to be recommended for release





SWEETPOTATO PROGRAMME STAFF

Names	Institution	Discipline	Training level	Time (%)
Damien Shumbusha	RAB	Plant Breeder	MSc	100
Jean Ndirigwe	RAB	Plant Breeder	MSc (under PhD)	10
Lydie Kankundiye	RAB	Agronomist	BSc	100
Anastasie Musabyemungu	RAB	Extensionist	BSc	100
Phanuel	RAB	Technician	Technician	100
J.B Shingiro	RAB	Food scientist	MSc	10
G. Night	RAB	Entomologist	PhD	10



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