

# PRODUCTION AND DISTRIBUTION OF QUALITY SEED SWEETPOTATO

Table With Data Ports And Power



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# Introduction

- Sweetpotato (*Ipomoea batatas* (L.)) Is a high value crop – can be produced with minimal inputs
  - Important as food and feed
  - Can be a good commercial crop - source of income
  - Cheap source of carbohydrates and Vitamin A in OFSP varieties

# Introduction...

- Productivity low (5-7 tons/ha) compared to potential (30-50 tons/ha)
- Inadequate access to timely & sufficient quantities of quality planting materials (vines)
- ✓ Seed is the most important of all inputs
- ✓ Quality seed is crucial for high yields
- ✓ Diseased planting materials are vehicles for spreading serious diseases and pests

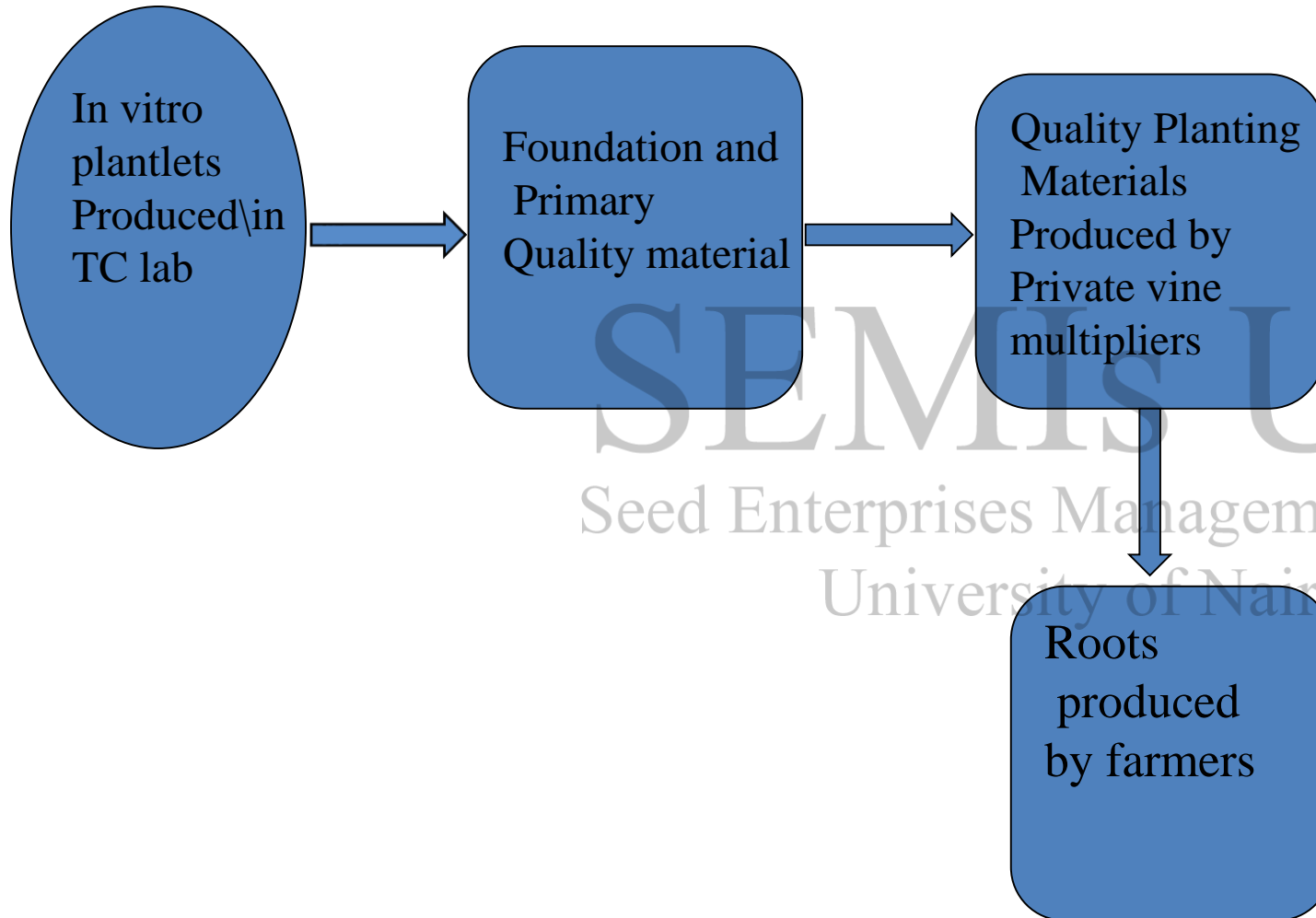
# Introduction...

- Production of good quality Planting materials is therefore critical for high root yield



- This will improve sustainable root production by the farmers

# General Seed flow to producers



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# Draft protocol for formal seed system

□ The requirements are derived from the Seeds and Plant Varieties Act, CAP 326 and the plant protection Act, CAP 324 as follows:

- Enable farmers access the best varieties as they become available

- To prevent the introduction of pests

Ensure right seeds are offered to the farming community

- To facilitate safe trade in plant and plant products.

# Draft protocol...

## □ Responsible for;

- Producing clean source materials(Foundation materials)
- Maintaining germplasm
- Introducing new materials

## ○ Private sector responsible for;

- Mass multiplication
- Distribution of planting materials to sweet potato producers

# General Procedure

- ❑ Virus indexing – diagnostic lab
- ❑ In vitro plantlets production - TC Lab
- ❑ Plantlets transferred to green house for acclimatization (hardening) ( 2-3 months)



# Production of Br, Pb, & B

- ❑ Produced using KEPHIS guidelines- isolation distance and spacing
- ❑ Done in the primary nursery – in the screen house or field
  - single plants (seedlings) – single rows
  - single rows – single plots
  - Plots - mother blocks
    - ✓ Spaced 50 cm by 30 cm
    - ✓ Isolation distance is 10m

# Seed classes

	<b>Seed parents</b>
Breeders (Br)	Progeny of parental stock
Prebasic (PB)	Progeny of parented stock or certified breeders seed
Basic (B)	Progeny of certified breeders or certified basic seed
Certified (CI)	Progeny of certified Pre-basic or certified basic seed
C2- C4	Subsequent classes of certified basic seed

# Rapid multiplication

- A system used to increase planting material rapidly
- Done in beds of 1m by 5m and raised 20cm above ground
- Spacing 20 cm by 10 is used
- Spacing between beds is 50 cm
- Use of minicuttings – 10 cm (3 nodes)



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# Management in the nursery

- Periodically removing weeds by hands
- Checking carefully for any diseased plants and rogueing them out
- Filling any gaps with new cuttings to try and maintain optimum population density of 250 plants per sqm
- Periodically watering if in screen house or when rainfall is not sufficient

- Weeding
- Rogueing-negative selection
- Spraying against pests/weeds
- Fertilization (top-dressing)
- Irrigation; among others

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# Inspections:

- Done by **KEPHIS – at every stage**
- Two field inspections are undertaken to verify varietal purity and identity, designated diseases and pests and isolation distance.
- **1<sup>st</sup> inspection** done during the early part of the growing season, (approximately 5 -6 weeks after establishment).
- **2nd inspection** to be completed before harvesting of roots commences

# Standards

FACTOR	BREEDER SEED	PRE-BASIC	BASIC	C1 – C4
<b>Off types</b>	None	None	None	1 plant per average count
Sweet potato weevil	None	None	None	None
Stem rot ( <i>Fusarium hyperoxsporum f. batatas</i> )	None	None	None	1 plant per average count
Wilt	None	None	None	None
Mosaic virus	None	None	None	None
Sweet potato feathery mottle virus	None	None	None	None
*Soil rot ( <i>Actinomyces ipomoea</i> )	70 plants per acre	70 plants per acre	70 plants per acre	140 plants per acre

\*A vine crop may be rejected on the basis of serious field infestations by other pests such as nematodes and beetles.



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# Seed labeling

	<b>Seed parents</b>	<b>Color of labels</b>
Breeders (Br)	Progeny of parental stock	White
Prelatic (PB)	Progeny of parented stock or certified breeders seed	White
Basic (B)	Progeny of certified breeders or certified basic seed	White
Certified (CI)	Progeny of certified Pre-basic or certified basic seed	Blue
C2- C4	Subsequent classes of certified basic seed	Pink

# Seed Dissemination and Distribution

## ❖ Dissemination

- To create/raise the demand for seed
- Have been done through:

- Agricultural Shows
- Fielddays/Demos
- Documentaries



# Seed nurseries

- Primary seed nurseries – Research managed
  - KALRO-Njoro, Nakuru County
  - KALRO-Marigat, Baringo County
  - University of Kabianga, Kericho County
  - Lukenya, Machakos County

➤ Secondary nurseries – managed by others stakeholders- ministry, Seed companies, NGOs

- ATC Bomet

- ATC Kericho

- Tarakwai farm (Oletrai), Narok County

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# Seed distribution



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