

# Progress towards harmonizing definitions for sweetpotato seed classes in various African countries

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Community of Practice (SSCoP)**

**SPHI Monitoring, Learning and Evaluation Community of  
Practice (MLECoP) Annual Meeting  
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# Sweetpotato Seed Systems and Crop Management Community of Practice



Established in 2012 to facilitate:

- **Networking and exchange of experiences and learning**



In order to:

- **Generate new knowledge about how to tackle crucial constraints in sweetpotato seed systems across SSA**



- 6 consultation meetings held since 2012
- 11 online D Group discussions
- Learning journeys during face-to-face meetings



# Activities conducted jointly by SSCoP and MLECoP



- **DVM mapping**
- **The 1<sup>st</sup> Cross-CoP online discussion**
- **Dissemination of planting material to beneficiaries**
- **Participation in joint meetings e.g. SPHI**
- **Some colleagues are active members of both CoPs**





# Seed certification



- **Quality assurance process whereby seed intended for domestic or international markets is controlled and inspected by official sources in order to guarantee consistent high quality for consumers (OECD).**
- **Quality attributes tested include; genetic purity, limits on seeds of other crops and weed species; germination capacity; limits on moisture content; limits on seed-borne diseases and pests; seed size and weight; seed vigour; seed viability**
- **Highly advanced for cereals compared to VPCs**
- **In sweetpotato the term ‘Seed’ refers to quality cuttings not just “any vine”; or botanical seed which is used for breeding.**

# Why certification?



- Ensures that farmers receive high quality seed
- When seed is sold it is part of the formal system and the producer/multiplier has to adhere to legislation in relation to trade, and seed standards
- Root production increasingly becoming commercial hence demand for quality seed and obligation to adhere to legal requirements likely to increase

# Seed classes – example of cereals in Tanzania



Seed class	Definitions
Breeder	Original source of all classes of seed. Must be 100% genetically pure. The Tanzania Official Seed Certification Institute (TOSCI) has no obligation to inspect or certify <b>Responsible: Breeder.</b>
Pre-basic	Progeny of breeder seed <b>Responsible: breeders at agricultural research institutes. Certification by TOSCI; Ministry of Agriculture can licence private sector to multiply under supervision of breeders</b>
Basic	Materials taken from breeder after being released. <b>Responsible: Registered seed companies</b>
Certified 1 and 2	Produced from basic seed in the first generation. When C1 is used resulting seed becomes C2 <b>Responsible: Registered seed companies</b>
Quality Declared Seed	Produced from either basic or certified under the guidance of TOSCI. <b>Responsible: Registered farmers</b>



# Quality Declared Seed (QDS) and Quality Declared Planting Material (QDPM)



- In 1993, FAO published its first *Quality Declared Seed System (QDS) Manual – Technical guidelines on standards and procedures*; captured 92 crop species reproduced by means of true seeds
- Updated in 2003
- One of the recommendations from the 2003 meeting was the need for an expert consultation on a quality assurance scheme for VPCs
- FAO proposed to collaborate with CIP & other VPC experts in developing standards for quality declared planting material (QDPM) for VPCs
- An Expert Consultation was held at CIP headquarters in Lima, Peru, from 27 to 29 November 2007 with the participation of 12 international experts and several national experts for VPCs
- Participants agreed upon the common principles and structure of the protocols as well as standards for quality declared planting material (QDPM) for the different VPCs



# Why focus on QDS for sweetpotato



- *NB: Why QDS not QDPM? – need to align the terms used with those already in the national seed laws*
- QDS standards are less demanding than full quality control systems
- Therefore can be more easily implemented in situations where resources are limited
- Sweetpotato seed production is yet to be fully commercial. Registered seed companies not interested - **don't see commercial value, bulkiness, high perishability**
- Mainly produced by smallholder farmer-multipliers and targeting farmers within the same localities

# Status of SP seed standards in select African countries



- **Some countries have made good progress towards developing standards for different classes of sweetpotato seed**

<b>Country</b>	<b>Status</b>
Ethiopia	QDS gazetted, other classes submitted
Tanzania	Awaiting ministerial assent
Rwanda	Under consultation
Uganda	Under consultation

- **Other countries have old sweetpotato seed standards which need to be/are in the process of revision**

## Proposed SP seed standards for Tanzania

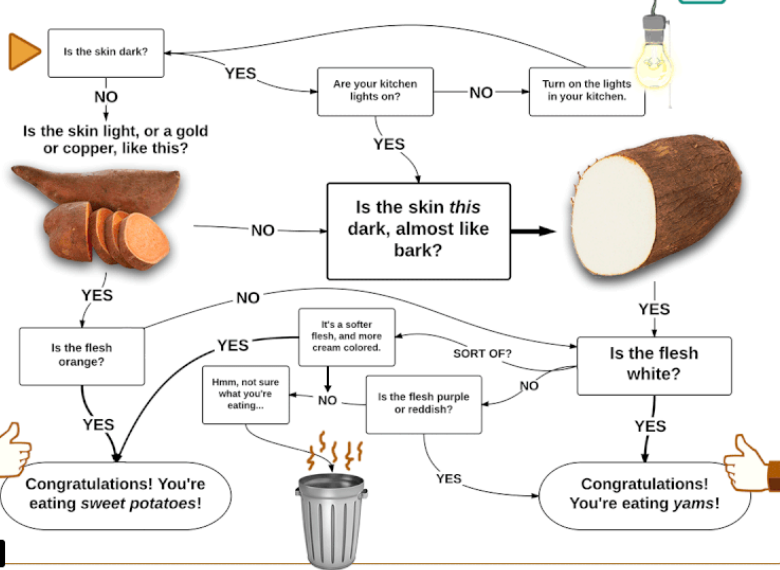
Element	P	B	C1	C2	QDS
<b>(a) Land history</b>					
<b>Field rotation/Tissue culture number of cycles</b>	-	6 seasons	4 seasons	4 seasons	2 seasons
<b>Maximum permitted ratoons</b>	3	2 (16 if net tunnel)	1	1	1
<b>Isolation distance (Meters)</b>	-	50	20	20	20
<b>Number of inspections (Min.)</b>	1	Twice a season	2	2	1
<b>Off-types (No. in 100 plants)</b>	0	0	1	1	2
<b>(a) Diseases</b>					
<b>SPVD, SPCSV, SPFMV, SPMNV, SPLCV (Laboratory testing) (Maximum %)</b>	1	-	-	-	-
<b>Virus symptoms</b>					
<b>a) Mosaic and stunting</b>	-	0	2	3	5
<b>a) Leaf curl</b>	-	0	2	5	5
<b>a) Other (purpling, chlorosis, vein clearing)</b>	-	0	2	5	10



<b>Element</b>	<b>P</b>	<b>B</b>	<b>C1</b>	<b>C2</b>	<b>QDS</b>
<b>Alternaria blight (%)</b>	-	-	2	5	5
<b>Black rot (Maximum %)</b>	0	0	0.5	0.5	0.5
<b>Wilt (bacterial) (Maximum %)</b>	0	0	0.5	0.5	0.5
<b>Scurf (Maximum %)</b>	0	0	0.1	0.5	0.5
<b>SSR-Pox (Maximum %)</b>	-	0	10	10	10
<b>(a) Insects</b>					
<b>Sweetpotato weevil (<i>Cylas puncticollis</i>) (Maximum %)</b>	-	5	5	5	10
<b>Wire worm (Maximum %)</b>	-	5	10	10	10
<b>Root knot nematodes (Maximum %)</b>	-	1	2	2	3
<b>Mites/Thrips (Maximum %)</b>	5	5	5	5	5
<b>Caterpillars (Maximum %)</b>	5	10	10	10	10
<b>Aphids &amp; whiteflies (Maximum %)</b>	0	5	5	5	5

# Why harmonize definitions of SP seed classes

## ARE YOU EATING YAMS OR SWEET POTATOES? H



- Different names; same object. Same seed class name but different generations – does it matter?
- National seed laws stipulate different seed classes and their definitions

- However, it is important to be on the same page even when using different terms
- This makes it easier to communicate amongst ourselves



**BRINJAL - EGG PLANT**

# Progress towards harmonizing definitions for different SP seed classes



- A working group was established to look at the definitions of terminologies used for sweetpotato seed classes in different countries



- **Aim: Reach a consensus on the definitions for easy communication amongst ourselves**
- **Met three times during SSCoP meetings**
- **Online exchange of information**



<b>Class</b>	<b>Proposed definitions</b>
<b>Breeder</b>	<ul style="list-style-type: none"> <li>• Handled by breeder after variety release</li> <li>• Maintained in small plots with maximum possible quality</li> <li>• Should be true to type</li> <li>• May or may not necessarily be clean (no need for virus indexing)</li> </ul>
<b>Pre-basic</b>	<ul style="list-style-type: none"> <li>• Generation directly derived from breeder seed multiplied under the control of research centres or private sector that is accredited by the breeder</li> <li>• Should be clean (virus indexing required)</li> <li>• Multiplied in protected screen-houses/net tunnels in research centres</li> <li>• Level of protection is very high</li> </ul>
<b>Basic</b>	<ul style="list-style-type: none"> <li>• Generation derived from pre-basic and multiplied in net tunnels at the farmer's level</li> <li>• In open field in isolation/in areas with low pest and disease pressure</li> </ul>
<b>Certified 1</b>	<ul style="list-style-type: none"> <li>• Generation derived from basic seed &amp; multiplied in open field with legally registered and approved seed companies</li> </ul>
<b>Certified 2</b>	<ul style="list-style-type: none"> <li>• The generation derived from certified-1 &amp; multiplied in open field with legally registered and approved seed companies</li> </ul>
<b>Foundation</b>	<ul style="list-style-type: none"> <li>• Generation derived from certified (Ghana)</li> </ul>
<b>QDS/QDPM</b>	<ul style="list-style-type: none"> <li>• Generation derived from basic/certified and produced in open field by trained and registered farmer-multipliers</li> </ul>
<b>Emergency</b>	<ul style="list-style-type: none"> <li>• Any seed that is distributed to farmers to mitigate disaster</li> </ul>

## Way forward



- **Further discussions on key outstanding issues e.g. number of generations & ratoons**
- **Share with SGA pre-basic seed PIs, NARI breeders and seed system specialists for their inputs**
- **Refine and popularize use of the definitions across countries and CoPs**
- **Understanding the definitions will make it easier for MLE colleagues to collect data on the quantity of different seed classes produced in various countries & to map multipliers as per the seed class produced**

# What can SSSCoP learn from MLECoP



- Use of ODK to collect data on seed production – *budgetary implications (tablets)*
- Crop cut method for root yield estimation



**Need for synergy in seed production and dissemination activities**

*- Seed system specialists focusing on production of quality seed and capacity building for the same; MLE specialists tracking progress towards achieving the*

*set targets*





**Thank you**