

Sweetpotato seed certification: how do we bridge the implementation gap?

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Quality assurance for sweetpotato planting material



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Quality declared planting material

Protocols and standards for vegetatively propagated crops



- Quality sweetpotato planting material (pest and disease free, of known source and varietal purity) can contribute to **higher productivity**
- An **inspection process** can:
 - Provide assurance to farmers & “protection” from unscrupulous seed dealers
 - Reduce risk of spread of disease and pests if PM is moved between different locations
 - Provide recognition to multipliers
- As sweetpotato seed systems move towards commercialisation & the “formal” sector – **what are the issues?**
 - What is an **appropriate** level of regulation for sweetpotato seed?
 - When do costs outweigh benefits?
 - What other interventions are required to improve availability & access to quality seed?
 - Breeding for host resistance and farmer seed management practices

Crop and seed characteristics & implications for certification



- Seed, vegetatively propagated, common good,
 - For clonal crops: **phytosanitary health** is more critical than genetic purity
 - Sweetpotato **seed** low value compared to yam, potato, cassava
 - Limited interest from seed companies, due to perceived low profitability
- Vines are **bulky and perishable**
 - **Decentralized** seed production: small scale, scattered producers – more difficult and costly to inspect
- Farmer demand for seed quality is driven by market for the product/commodity – roots
 - Cost and benefit for ware producers to buy & use quality seed;
 - Value of sweetpotato root production compared to potato, cassava, yam
 - Root producers' interest: **varietal** vs seed health characteristics
- **Seed certification procedures based on seed for grain crops:**
 - High value crops – high value seed
 - Large scale centralised production
 - Laboratory testing
 - Rationale for isolation distance – cross pollination
 - **What is different about VPCs** – and how should regulations reflect this?



Status of official approval of sweetpotato seed standards (June 2018)



Country	Formal (Basic, Certified)	QDS	Implementation status
Ethiopia	Gazetted	Gazetted	Under national roll-out, but limited capacity
Uganda	Drafted and tested. Awaiting accreditation by MAAIF.	Included	Under implementation, using private seed companies (e.g. BioCrops)
Kenya	Gazetted	Not allowed, but discussions on definition of “standard” seed in progress; discussion on separate regulations for VPCs	Seed inspectors are inspecting registered seed merchants only
Tanzania	Gazetted	QDS is not a seed <i>class</i> but a category of seed. Ready. Gazetting of QDS will be done for all crops	With some DVMs with project support. Capacity required
Rwanda	Gazetted	Included	With support from projects .
Mozambique	Gazetted	Only C1 (& C2)	Internal inspections. Capacity required.
Malawi	Draft prepared; awaiting gazetting.	Awaiting gazetting	In progress with project support. Inspectors trained in collaboration with Roots & Tuber Crops Trust (2017).
Zambia	Existing sweetpotato seed standards, have been revised and approved	QDS is a <i>class</i> of seed, produced from QDS or higher class (green label)	Training in inspections implemented annually and inspections conducted.
Nigeria	Drafted, under review by NASC. Expected ratification	QDS not allowed as class so treated as C2.	Not started
Ghana	Drafted with Jumpstarting project support.	Officially the regulatory body does not certify vegetatively propagated materials.	With some DVMs with project support. Capacity required
Burkina Faso	Under review	Included	Limited testing in Eastern Region

Lessons



- Focus on building capacity for **production & use** of quality seed – not “policing”;
- Focus on **quality assurance** – and ensure high quality seed starts off in the system
 - Document source of starter seed
 - Replenish at least every 2-3 years
- **Decentralize** authority for inspections
 - Kenya: authorized private inspectors but costly to implement
 - Tanzania: delegated to District Crop Protection Officer
- **Minimize costs:**
 - Focus inspections on fewer medium to large scale multipliers
 - Registration and inspection
 - Tanzania: scapped cost of registration
 - Keep number of inspections to minimum

Production of Quality
Declared Planting Material
(QDPM) of Sweetpotato,
Ethiopia

Reference Book for an Informal Seed
Inspection System for Sweetpotato Vines



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Thinking about the implementation challenge



Training of multipliers

- By NARI & regulatory body
- Refresher training every 3 years
- Target: 1 "Certified 1" multiplier in each district

Registration of multipliers with regulatory body

- Multiplier registers using SMS linked to ICT platform
- Multiplier commits to source foundation seed from NARI at least every 3 years; verified through NARI sales records
- Multiplier issues **receipt to customers with:** Multiplier name, Contact details, Variety, Date of Harvest
- Customer can provide feedback to multiplier (& **regulatory body** on seed quality.

Random inspections by regulatory body

- If fails inspection - registration suspended until undertakes refresher training

Continuous promotion and farmer awareness of benefits of quality seed

Rolling out quality seed assurance



- **Focus on upstream i.e. EGS (fewer facilities;)**
 - When are lab-tests appropriate & when is visual inspection appropriate
- **Documenting source of seed (i.e. EGS)**
- **Capacity building to identify & manage pests & diseases**
 - Emphasis on learning rather than policing?
 - Focus on multipliers and build farmer awareness
- **On-going stakeholder dialogue and feedback**
 - What level of quality are farmers willing-to-pay for
 - Review and adjust standards
- **View – “informal” and “formal” seed systems as interlinked and interdependent – whole plant health system**



Conclusions



- Ensure that over-regulation and bureaucracy do not stifle emerging seed entrepreneurs at birth;
- Increased yields are important, but only if farmers have access to output markets;
- A multi-pronged strategy is needed:
 - breeding efforts are continuing to develop virus resistant varieties;
 - strengthening the efforts of farmers to maintain seed quality;
 - advocating for formal inspection processes to focus on the up-stream seed chain where pre-basic and basic planting material is produced.

