

Quality Assurance in Sweetpotato Seed Systems TOWARDS A FUNCTIONAL AND SUSTAINABLE SWEETPOTATO

SEED SYSTEM IN MALAWI:



SWEETPOTATO SEED STANDARDS

Sweetpotato seed regulations were reviewed and incorporated into the countries' draft Seed Policy and Act in 2016. They are being piloted whilst awaiting for government approval.

Seed classes: Nucleus; Prebasic; Basic; Certified; and Quality Declared Seed (QDS). Table 1 outlines minimum thresholds for some key parameters for basic seed and QDS

Initiated as a key activity under CIP and DARS sweetpotato seed multiplication projects, seed inspection has gained importance and is being adopted by government and donor funded programmes to ensure that quality vines are distributed. The projects pay registration and inspection fees for vine multipliers. The Seed Services Unit (SSU) conducts inspections with technical assistance from sweetpotato experts.

Complementary approaches for quality assurance include: bulking of early generation seed classes; training of para-seed inspectors and CIP Project staff at district level as well as conducting stakeholder meetings.

Table 1: Summary of key parameters, and threshold for basic seed and QDS

Seed Class	Isolation	Off-types	SPVD	Alternaria	Weevil
Basic	10m	0.5%	0.0%	0.0%	≤1.0%
QDS	10m	1.0%	≤1.0%	0.0%	≤5.0%



Figure 1: Clean and vigorous "basic seed" cuttings

CAPACITY BUILDING & ROLL OUT STRATEGY

Capacity building initiatives include

- Personnel: Training in rapid vine multiplication (including micro-propagation); indexing and virus testing; and seed inspection
- Infrastructure: maintenance of laboratories; screen-houses; lab equipment and chemicals

At policy level, RTCDT was formed to facilitate and coordinate policy dialogue as well as advocacy with different actors to create an enabling environment for development of value chains within the root and tuber crops sector. Some of key actors and their roles are: Ministry of agriculture-DARS/SSU; CGIAR centres-CIP/IITA; and Universities: Technical expertise

- RTCDT: Policy advocacy and coordinating platform
- Donors: Financing
- Private sector-Vine multipliers; root producers and processor: Production of good
- NGO's: Extension services, buyers and distribution of planting materials

There has also been socio-organizational changes as a roll-out strategy such as: initiation of business plans and revolving funding mechanism; transforming vine multiplication into profitable agribusiness ventures; stakeholder meetings to link vine multipliers and buyers; awareness creation on importance of using clean seed of appropriate varieties; facilitating product development and commercialisation to ensure readily available for root producers; training of para seed-inspectors at district level.

END USERS AND BENEFITS

- Vine multipliers:** Quality vines; Increased revenue and business integrity
- Root producers:** High yields; food and nutritional security and increased income
- Processors:** Consistent supply of quality roots
- Donors/NGO's:** Value for money

Appropriation of benefits will like differ depending on gender. For instance in Malawi, a huge proportion of large scale vine multipliers are males while majority of root producers are females. This is attributed to monetary incentives and subsistence needs of the two gender groups respectively.

LEVEL OF USE OF SEED STANDARDS

The level of usage of seed standards and certification for sweetpotato in Malawi based on geographical locational is to a large extent influenced by root production and severity of adverse climate effects. The major sweetpotato root production sites as well as drought prone districts are in the Southern region. Hence has a large number of seed producers who require inspection and certification services. The inspection and seed verification exercises are normally conducted by DARS, CIP as well as Crops' officers at district level (Table 2).

Table 2: Number of seed inspectors, extension worker and seed producers

Service provider	Inspectors (Para-inspectors)	Extension Workers	Producers	Producers inspected
DARS (SSTP, SASHA, ASWAp)	46	145	184	25
CIP (RTC-Action, MIST)	-	-	148	-
Total	46	145	332	25

CRITICAL GAPS, CONCERNS AND NEXT STEPS

- Limited number of qualified seed inspectors (para-seed inspectors used).
- Limited quantities of early generation seed classes (Setting up of private screen-houses)
- Small land holdings that make vine multiplication unprofitable (mobilizing multipliers into clubs and associations)
- Vine procurement procedures for NGO's that favour vendors/middlemen at the expense of vine multipliers. These vendor prefer to source low quality vines to increase their profit margins. (Facilitate linkage and interaction between NGO's and vine multipliers. Where vendors/middlemen are used, ensure that vines are sourced from registered and inspected sources)



Figure 2: Early generation seed classes like "Pre-basic seed" are available in limited quantities

KEY PARTNERS FOR QUALITY ASSURANCE

RTCDT: Policy advocacy; facilitation of development of standards and training workshop for seed inspectors

DARS & CIP: Variety releases, seed multiplication, development of standards and protocols, training of extension workers and vine multipliers; facilitation of inspections

SSU: Seed quality control (inspection and certification)

Vine multipliers: Vine multiplication and marketing

NGO's: Large buyers, and distribution

Donors: Provision of funds (Irish Aid, Bill & Melinda Gates, USAID, World Bank)

