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Standard Seed in Kenya



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DISCLAIMER

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Feed the Future Consortium Partners in the Feed the Future Global Supporting Seed Systems for Development activity:



ACRONYMS

BHA	Bureau for Humanitarian Assistance
CRS	Catholic Relief Services
KEPHIS	Kenya Plant Health Inspectorate Service
MIS	Management Information System
NGO	Non-Governmental Organization
OPV	Open-Pollinated Variety
QDS	Quality Declared Seed
S34D	Supporting Seed Systems for Development
STAK	Seed Trade Association of Kenya
ToT	Training of Trainers
USAID	United States Agency for International Development

INTRODUCTION

In December 2016, Kenya revised its Seed Regulations to include a change in the definition of the standard seed class. Previously, standard seed had been defined as “emergency seed as declared by the Cabinet Secretary”, i.e., during an emergency, the Cabinet Secretary could permit the use of grain as seed. The new definition of standard seed is “seed that has met the minimum laboratory and post control standards for categories of crop as set by Kenya Plant Health Inspectorate Service (KEPHIS) and is a progeny of certified 2nd generation or certified standard seed or by declaration by the Cabinet Secretary”.

Kenyan seed companies produce high volumes of certified maize seed, especially hybrid varieties. However, certified volumes of other crops such as legumes, small grain cereals, and root and tuber crops are very low, hardly reaching 500 MT annually, as shown in **Figure 1**.

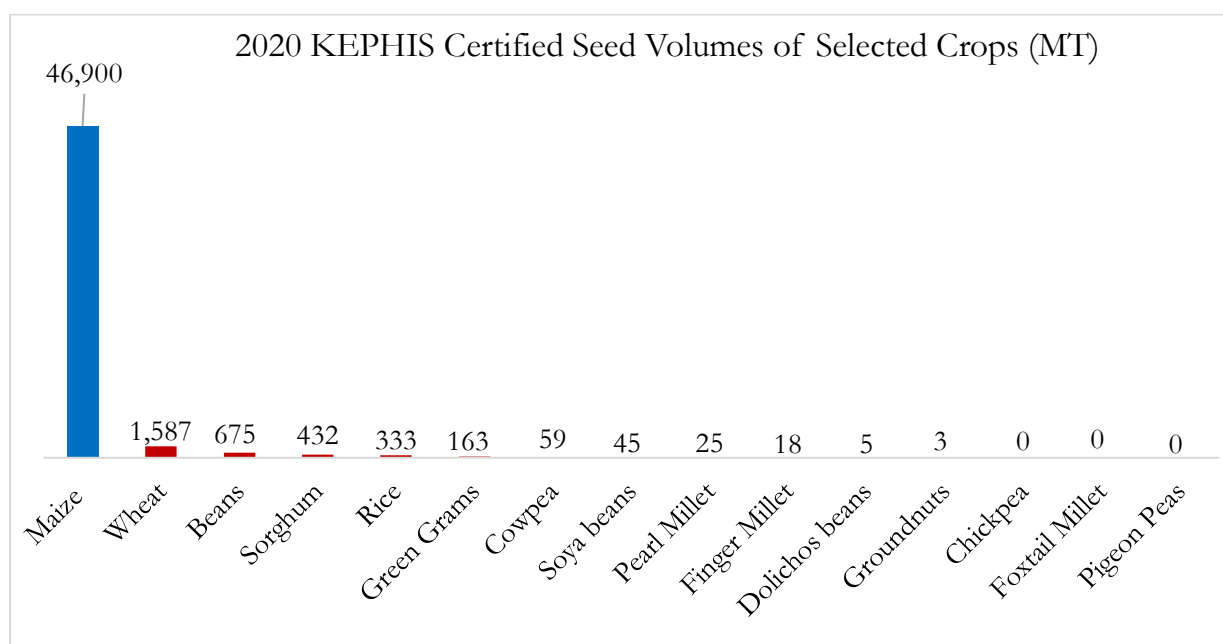


Figure 1. Volumes of maize seed compared to non-maize seed¹

Under the umbrella of the Seed Trade Association of Kenya (STAK), officials from the Ministry of Agriculture and Livestock Development, KEPHIS, and seed companies discussed their concern about the low volumes of non-maize crops, given their nutritional value and climate smart attributes; legumes are also increasingly being sought after for crop rotation. Additionally, a blending proposal has been introduced which, if adopted, would require maize millers to add blends of other crops (e.g., sweet potato, sorghum and millet). After undertaking learning trips to South Africa and Zambia and careful review, Ministry of Agriculture and Livestock Development, KEPHIS, and STAK officials recommended the addition of a new certified seed class that would have less rigor in field certification as compared to hybrid maize, but that would meet the same laboratory purity standards.

The objective of standard seed was two-fold:

- i. To encourage more seed entities to produce non-maize, non-hybrid seed by taking advantage of standard seed class, so as to increase certified seed volumes of focus standard seed crops.
- ii. Once sufficient volumes of certified standard seed were available, it was hoped that farmers would get into the habit of purchasing certified seed since it would be readily available at agro-input shops.

¹ Source: KEPHIS Annual Report

Box 1. Standard seed description

Standard seed differs from Quality Declared Seed (QDS), which is used in countries such Tanzania and Uganda in the following ways:

- Standard seed is a certified seed class which is marketed with affixed labels clearly showing the variety, lot number, producing company, and date tested (similar to certified 1 and 2).
- Standard seed undergoes 100% certification both in the field and lab by the regulator or authorized entities – only the number of field visits are reduced to at least one.
- Standard seed can only be produced by a registered seed entity, i.e., registered seed company
- Standard seed can be sold anywhere in the country, unlike QDS in Tanzania, whose sale is restricted in the district where the seed was produced.

ACCOMPLISHMENTS FROM THE PILOT PHASE

Several meetings were held where stakeholders came up with a criterion to select crops for inclusion in a standard certified seed class. The KEPHIS Board of Directors was also very supportive and prioritized standard seed operationalization. The initial list of twenty crops was narrowed down to ten pilot crops, for which protocols for certification were developed, as shown in **Table 1**.

Table 1. Standard seed crops for which certification protocols were developed

#	2019	#	2023
1	Cowpea	11	Pigeon pea
2	Common bean in dry areas	12	Garden pea
3	Finger millet	13	Chick pea
4	Green gram	14	Dolichos (lablab)
5	Groundnuts	15	Pasture grasses*
6	Open-pollinated variety (OPV) sorghum		
7	Soybean		
8	Cassava		
9	Sweet potato		
10	Indigenous vegetables (African Nightshade, Crotalaria, Spider Plant, Jute Mallo)		

**Draft protocols need refinement by breeders and KEPHIS before being released*

Through S34D support, three community seed producer groups were registered as seed entities and went on to register fields for standard seed production. Two of the groups produced and sold certified seed of cowpea, green gram, and OPV sorghum. Unfortunately, the third seed entity lost all its groundnut seed crop due to drought stress. By the second crop season, a total of five seed companies had produced standard certified seed, three being established seed companies that all produced common bean seed, as shown in **Table 2**.

Table 2. Standard Seed Producing Companies

Company	2021/22	2022/23	Comments
Inyamandu	Y	Y	Produced cowpea and green grams
Tegemeo	Y	Y	Produced green grams and sorghum in 2021/22, and green gram in 2022/23
TANAFACO	Y*	Y*	*2021/22 groundnut crop was affected by drought, while the 2022/2023 green gram crop was rejected due to lack of white labels showing source of the parent seed
Barton and Bamber	Y	N	Produced sweet potato, which was not inspected due to an issue with KEPHIS certification (Management Information System)
Faida Seeds	Y	Y	Produced common beans
Leldet	Y	Y	Produced common beans
Simlaw Seeds	Y	Not known	Produced common beans

KEPHIS' regulations allow growers of cassava and sweet potato to grow standard seed without the need to register as seed entities. However, due to the configuration of the certification management system, which is modeled after the conventional crop seed certification, it was not possible to bypass the registration process. Two fields of sweet potato seed crop, therefore, could not be inspected and certified as standard seed. KEPHIS is addressing this issue with their MIS developer. KEPHIS has also gone further to start drafting Regulations for Root and Tuber seed crops, supported by the International Potato Center.

At the end of the pilot, it was clear that there was potential to grow volumes of standard seed. Stakeholders requested that KEPHIS consider including more crops under standard seed certification. It was also apparent that the newly registered entities needed a lot of training in seed production, marketing, business finance, etc. Seed certification and training on good agronomic practices were particularly important for the simple fact the reducing field inspections to a minimum of only one posed a high risk for seed crop rejection for inexperienced producers during the critical one-time field inspection, in case something (such as allowable off-types) was overlooked prior to the field inspection.

Mainstream companies also slowly started producing standard seed, as they realized that the field visits from KEPHIS would be fewer and hence advantageous to them. Most of these seed companies had been uncertain about the extent of differentiation required on seed packets for standard seed as compared to certified 1 and 2, which may give farmers the false impression that standard seed was of inferior quality. This is not the case and standard seed is marketed similar to any other certified seed.

Lastly, we noted that the new seed entities used very good production techniques, having previously been seed outgrowers. However, they were struggling with marketing, as they had to have linkages and create relationships with agro-dealers and other seed buyers. There have been offers by NGOs and county governments to purchase large quantities of seed of some crops, such as green gram. These offers are very tempting for the fledgling seed companies, which are struggling with working capital challenges, climate change effects, and uncertain markets. However, taking the route of selling mainly to large institutional buyers does not help build the brand, and becomes a big risk when such buyers are no longer available. Rogue NGOs have also been using the new term to encourage informal planting material as viable seed, which is illegal.

We therefore proposed activities in the final phase to address the challenges of creating demand from farmers, creating awareness on the importance of using certified seed even for non-traditional crops, and bringing agro-dealers on board. **Table 3** below provides a list of varieties produced and sold from the pilot of standard seed. It is to be noted that we had a limited time to implement the last set of activities and had to carefully chose what could be of most value in that time.

Table 3. Varieties produced and sold under standard seed

#	Crops	Varieties	Volume produced in 2021/22 (MT)	Volume produced in 2022/23 (MT)	Volume Sold (MT)
1	Cowpea	K 80	0.838	7.2	2.88
2	Green grams	(1) Karemba	1.445	11.9	5.4
		(2) N 26	57.521	36.6	21.9
		(3) KS 20	ND	ND	ND
3	Sorghum	(1) Mtama 1	47.008	36.5	20
		(2) EUS 10	ND	ND	ND
4	Groundnuts	DOVE	ND	ND	ND
5	Common beans	KK8	ND	ND	ND
		Chelalang	ND	46	ND

		CLP2	ND	ND	ND
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FY23 ACTIVITIES

1. Awareness Creation

During the final year of S34D support, the intervention strategy focused on creating awareness among farmers that seed of is available from agro-dealers. Farmers were encouraged to shift from planting farm-saved seed indefinitely to replenishing a small portion of the planted acreage with certified seed.

In this multi-pronged approach to raising farmers' awareness, agro-dealers were involved by receiving posters to display in their shops and being linked to the seed producers who had seed of the focus crops. This step included direct linkages to the newly registered seed entities close to the agro-dealers' location. Therefore, Inyamandu was linked to 17 agro-dealers (13 male, 4 female), whereas Tegemeo was linked to 15 agro-dealers (9 male, 6 female).

Seed companies were encouraged to include specific messages on customized posters of the particular varieties they were marketing to be displayed in their own shops as well as at agro-dealer shops. The companies shared in the cost of producing promotional materials. The campaign involved five seed companies: Tegemeo Cereals and Inyamandu CBO, both from the pilot; and established companies, including Faida Seeds, Leldet Seeds, and Dryland Seeds. Both Leldet and Dryland are female-led seed enterprises focusing on orphan crops.

In summary, awareness messaging focused on fostering behavior change among farmers and encouraging them to replenish a portion of their planting material with certified seed purchased from a reputable agroveter. This was done by supporting:

1. the production of posters, banners, and fliers with behavior-change messages both for seed entities and agro-dealers;
2. the packaging of smaller, 1 kg packs by pilot seed entities, as opposed to the traditional 2 kg pack, to allow farmers making this shift to experiment with a smaller volume of seed; and
3. two 3-week radio campaigns encouraging farmers to replenish their planting material with certified seed.

2. Capacity Building

Extensive training was also offered to seed outgrowers in good agronomic practices, in an effort to address the issue of low yields of seed production for focus crops. In addition, selected farmers and agronomists undertook a very practical training of trainers (ToT) course on seed production and the process of certification. The objective of the ToT was to capacitate this group with skills to train other farmers in future. Finally, training was offered to seed company managers in business training, with a focus on business finance, book-keeping, brand awareness and development, sales and marketing, etc. **Table 4** shows the different training courses offered to seed companies and outgrowers producing standard seed through S34D support.

Table 4. Training undertaken with S34D support for standard seed production and marketing

#	Description of training	Date	Location	No. of participants
1	Seed merchants' training on requirements for seed entity registration	21 st October 2020	KEPHIS HQ Nairobi	9
2	Training Inyamandu CBO outgrowers on certification requirements for standard seed	29 th January 2021	Kitui	17

#	Description of training	Date	Location	No. of participants
3	Training of Tegemeo outgrowers on certification requirements for standard seed	18 th March 2021	Tharaka Nithi	30
4	Training NAFKA outgrowers on certification requirements for standard seed	13 th May 2021	Taita Taveta	32
5	Training INYAMANDU farmers good agronomic practices for seed production	4 th May 2021	Kitui	18
6	Training TEGEMEO farmers good agronomic practices for seed production	4 th June 2021	Tharaka Nithi	32
7	Business management training of standard seed company managers producing standard seed, focusing on in business management skills and marketing	12 th June 2023	Nairobi	17
8	Elite farmers and seed company agronomists training on legume seed production	29 th May 2023	Kitale	20
9	Training by KEPHIS on seed certification process and requirements, and Agri Experience training on good agronomic practices for optimal seed production	Between 29 th April and 14 th May 2023	Nairobi	100

3. Authorization of the Seed Trade Association of Kenya as a private field inspection entity

While standard seed production has allowed for different types of focus crop seed producers to participate and benefit from production activities, such producers tend to own relatively small landholdings, which becomes logistically challenging during field inspection. This is because an inspector has to visit many small fields, which are often far from each other. Some of the fields are also not accessible by vehicles due to poor road infrastructure.

KEPHIS has been encouraging the use of authorized inspectors to carry out such seed inspections, due to insufficient capacity. STAK, on the other hand, had stated in its strategic plan (2023-2027) its intention to have a technical department that would offer inspection services at a fee to members who do not have their own private inspectors. STAK would like to grow this service to serve as an income generating activity.

Standard seed certification offered a perfect opportunity to pilot the ability of STAK to carry out authorized inspections. S34D supported the purchase of furniture, small testing equipment, a laptop, and tablet. S34D also supported emoluments for a seed inspector for three months and transportation to the field. It was envisaged that two seed companies would take advantage of this service.

STAK carried out inspections on 200 of the 252 fields that had applied for in three counties: Kitui, Machakos, and Makueni. **Table 5** shows the acreage of standard seed inspected by the authorized inspector attached to STAK.

Table 5. Acreage of seed inspected by STAK authorized inspector

Crop species	Acres		Total
	Basic	Standard	
Green grams	222.5	40	262.5
Cowpea	129	79	208

Source: STAK Field Data 2023

The fact that the STAK inspector acting on behalf of KEPHIS adhered to the set standards and rejected fields that did not measure up to KEPHIS' requirements demonstrates that this model of carrying out inspections is not only viable but will maintain the same standards as shown by KEPHIS inspectors. The 52 fields not inspected were withdrawn by the applicants due to drought stress.

The inspector also rejected fields where the farmers failed to produce evidence of the source of parent seed (through the white label). KEPHIS carried out investigations to find out what happened with the large number of uninspected fields. Their findings pointed to some unscrupulous practices by some organizations, including NGOs, breeders, and seed producers trying to circumvent the system by multiplying seed whose parent seed's origin is unclear. Such entities will face more stringent oversight from KEPHIS.

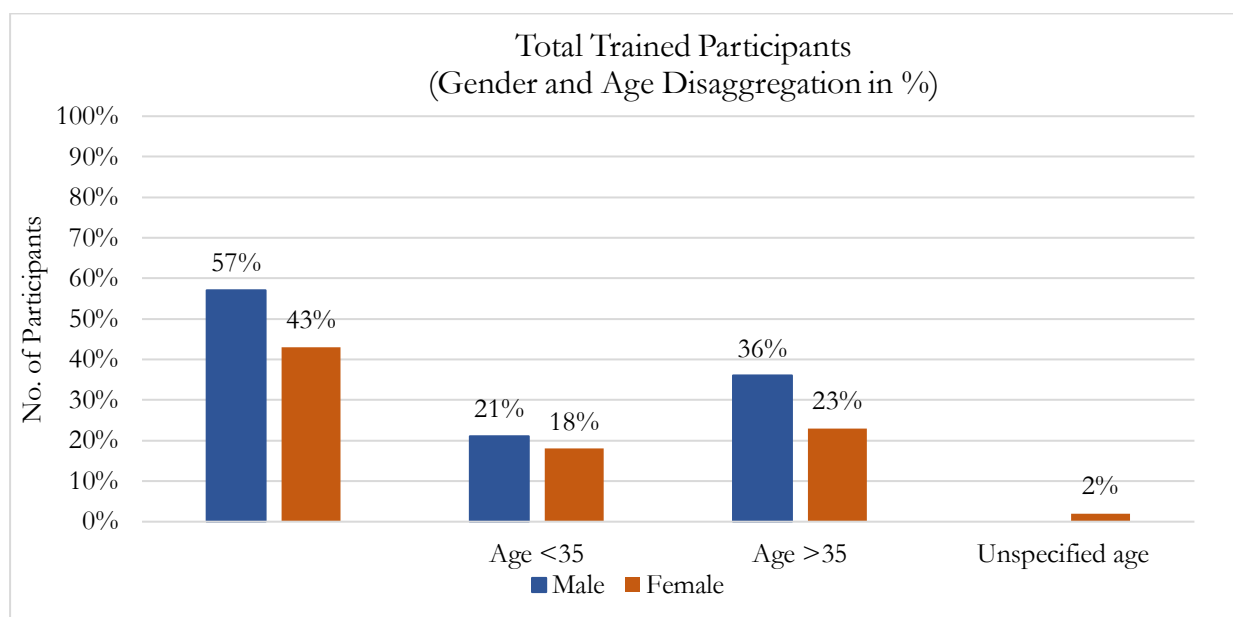
4. Expansion of number of crops eligible of standard seed certification

Stakeholders recommended the addition of at least three crops to standard seed certification, and a meeting to draft the certification protocols of pigeon pea, pearl millet, and pasture grasses was held in June 2023. Two other crops, chickpea and dolichos (lablab), were also added. The protocols were validated with a wider group of stakeholders in July 2023, and all protocols except for pasture grasses were accepted. This means that seed producers can now grow standard seed of pigeon pea, pearl millet, chickpea, and dolichos (lablab). For pasture grasses, the validation team agreed to review additional data from breeders so as to agree on the final protocols. This addition of new crops will allow more seed companies to produce standard seed, eventually adding to seed volumes and the number of crops and varieties produced.

5. Youth and women farmer representation

During the pilot, strong results from women outgrowers indicated their ability to grow high quality seed. Of the six seed companies involved with standard seed, three are either women-owned or led. These are Leldet Seeds, Dryland Seeds Limited, and Bubayi. **Figure 2** below shows the disaggregation by age and gender of all standard seed growers who received training supported by S34D.

Figure 2. S34D trained standard seed producers by age and gender



LESSONS LEARNT

1. Standard seed has the potential of being adopted widely by seed companies interested in marketing seed of the focus crops, both for the local and export market. However, this will take time, as seed companies typically wait to assess how the market reacts to new innovations before going into full production. More companies are now engaged in standard seed production and, with the additional new crops, the number of companies producing standard seed will increase.
2. KEPHIS shared concerns about some NGOs and county governments that are using the new term “standard seed” to imply seed that is not certified and are using that misinformation to introduce counterfeit or low-quality seed into the market. Some development partners do not take time to understand the requirements for seed production and have falsely promised farmers that they would buy their produce, which is really grain since it did not undergo certification as seed. Some form of awareness creation campaigns, coupled with careful monitoring by KEPHIS, is required.
3. There was relative success with the effort of using STAK as an authorized private inspection service provider. Many seed farms were registered for inspection, and close to 80% of these fields were inspected. KEPHIS also concurred with the results of the inspections, showing credibility with the STAK authorized inspector. There is great potential for growing this service to an increased STAK membership and other registered seed producing groups. It is worth noting that the roots and tuber planting materials regulations are being developed, and this could potentially add to the pool of certified crops that STAK private inspection could target.

CONCLUSION

S34D has supported the operationalization of standard seed as a new certified seed class in Kenya. Through the pilot and subsequent interventions, we continue to see growth in the number of seed producers, number of crop varieties grown, and volume of seed produced. Seed production is slow; real progress, and the originally intended objective of increasing seed volumes of non-maize and non-hybrid seed, may only be realized in years to come.

However, standard certified seed is a good lesson on how a country can create local solutions to deal with its seed challenges, by amending the law to allow for flexibility while maintaining high seed quality based on that country’s needs. Other countries could learn important lessons from standard seed as a certified seed class in Kenya.