

A Baseline survey of Orange-fleshed sweetpotato in Western Kenya.



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INTRODUCTION

Sweet potato is among traditional food crops grown by small-scale farmers for subsistence in Western Kenya although commercialization of the crop is growing in importance.

It is also considered a food security crop because it has a short maturity period of 3-5 months and can be harvested piecemeal as needed and also provides income to rural households.

KARI Kakamega and partners have distributed Orange fleshed sweet potato (OFSP) varieties to farmers in Busia and Bungoma districts in 2008. However the extent of farmers uptake were not known.



Objectives:

- To describe sweet potato farming system and uptake of orange fleshed sweet potato varieties.
- Farmers' criteria in choice of the varieties
- To evaluate farmers' perceptions of constraints and opportunities in sweet potato production in Western Kenya.

METHODOLOGY

The study was carried out in Bungoma and Busia of western Kenya. A multistage sampling procedure was used to select the study sample. The random sample of 204 farmers was selected from sites shown in Table 1.

District	Divisions	Locations	Sub-locations	Number of farmers interviewed
Busia	Butula	Lugulu	Bulwani	40
		Marachi Central	Bukhalalire	34
	Matayos	Bukhayo West	Mundika	40
Total Busia				114
Bungoma	Kanduyi	Bukembe	Bukembe	11
			N. Sang'alo	7
	Nalondo	Luuya	Luuya	21
				30
	Webuye	Webuye	Maraka	21
Total Bungoma				90
All households				204

Source: Survey data, 2009

A sketch map of each of the six sub-locations was drawn and the major landmarks in each sub-location marked out on the map.

Each landmark was then given a number 0, 1, 2, 3, up to a maximum of 9.

To identify transects for each sub-location, two pairs of landmarks were randomly selected on the sub-location map using a table of random numbers.

Transect lines were therefore drawn joining the pair. Sampling thereafter was done following the marked transect.

Every fifth or fourth household first on the left of the transect and then on the right, and back to the left was interviewed alternately. The data was analyzed using mainly descriptive statistics.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Households Growing Orange fleshed Sweet potato (OFSP) versus those not growing

Of the 204 households interviewed, 50 had heard of the OFSP, whereas 154 had not heard about it. Farm size and distance to the market was similar for farmers who had heard about OFSP and those who had not heard.

The socio-economic characteristics of those who had not heard of OFSP and those who had heard of OFSP are summarized in Table 2.

Table 2: Socio-economic characteristics of those who had not heard of OFSP and those who had heard of OFSP - continuous variables

Variable	Those growing who had heard of OFSP - continuous variables OFSP n=50		Not growing OFSP (n=154)	
	Mean	Standard deviation	Mean	Standard deviation
Age of the farmer (years)	50.7	13.6	48.0	16.5
Number of years in school	2.38	0.67	2.30	0.66
Distance to input market (km)	2.59	1.42	3.41	2.54
Distance to output market (km)	2.62	1.28	3.28	2.17
Distance to a tarmac road (km)	5.83	4.83	6.33	5.26
Size of the farm (acres)	3.30	2.81	3.19	3.51
Number of cattle	1.98	1.72	2.03	2.53

Production, Cropping Patterns and Practices of sweet potato

Majority of farmers (80.4%) grew sweet potatoes two times in a year (first and second seasons). The second season was the most important for growing sweet potatoes.

In about 86% of the cases women were the ones responsible for sweet potato production, 1% of the cases men and in 12.7% of the cases both men and women.

Varieties grown

Table 3 below gives the major varieties grown by the sample households

Variety	Number of farmers	Percentage of farmers
Bungoma	92	45.3
Mar ooko	59	29.1
Mwezi mbili	12	5.9
Njiayake	9	4.4
SPK 004	8	3.9
Kampala	6	3.0
Mwezi tatu	6	3.0

Planting methods of sweet potato vines

Nearly 99% of farmers indicated that a good cutting (vine) for planting is at the tip of the plant. The size ranged from 15cm to 60 cm. Majority of the farmers (61.3%) did not plant the vines the same day they cut them, vines were left for between 1 and 7 days. The main reason given for not planting vines the same day, was to harden them. Over 95% of households planted between 1 and 4 vines per hill.

Sweet potatoes were mainly grown as a pure stand as indicated by over 98% of the sample. None the less it was usually relayed or grown in rotation with other crops.

During the long rains most of the farmers planted potatoes on mounts (62%), or on flat ground (22%). The rest of the farmers combined mounts and ridges, mounts and flat and ridges and flat. About 40% of the farmers weeded sweet potatoes twice, whereas about 37% weeded once. Interestingly, there was a 10% who did not weed sweet potatoes at all.

Harvesting of sweet potatoes took place throughout the year.

Orange fleshed sweet potato

About 24% sample households had heard of OFSP whereas about 76% had not heard. Majority (40.3%) first heard of orange fleshed sweet potato in 2008. Majority of the farmers heard about OFSP from neighbors/family members results which is consistent with the findings of Salasya *et al* 2007.

Sources of OFSP planting Material

About (11.4%) received the OFSP vines as members of a farmer group, 2.9% received from KARI and from ministry of Agriculture staff, whereas 5.7 received from an NGOs

Constraints to sweet potato production

Table 4 below summarizes the constraints to sweet potato production as mentioned by the sample farmers.

Constraint	Number of farmers	Percent of farmers
Pests and diseases	168	84.5
Bad weather	73	36.7
Low yielding varieties	54	27.1
Lack of planting material	38	19.0
Lack of market	17	8.5
Lack of labor	9	4.5

CONCLUSIONS

About 24% of sample households had heard of OFSP whereas about 76% had never heard.

About 38.5 % households that had heard of OFSP planted them while those who had never planted OFSP mentioned "no access to planting material" as the main constraint.

A Majority of the farmers heard about OFSP from neighbors/family members and the first varieties of OFSP heard of and planted were SPK 004 and Saliboro.

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