

Research Application Summary

**Farmers' perceptions of orange-fleshed sweetpotatoes as a food security crop in central and eastern Uganda**

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**Abstract**

A descriptive study was conducted to ascertain the perception of farmers in eastern and central Uganda on Orange Fleshed Sweet Potato (OFSP) as a food security crop. Major findings indicated that although OFSP and local sweet potato varieties were grown, each had a comparative advantage over the other. Local varieties were preferred for food while OFSP varieties were preferred for income generation from both the tubers and vines. Preferences among the four OFSP varieties varied across individuals and districts. Kakamega was the most preferred OFSP variety while Ejumula was the least preferred. Preference was commonly attributed to resistance to drought and pests. Local sweet potato varieties were seen to be more of a food security crop than OFSP.

Key words: Farmer perception, food security, orange-fleshed sweetpotatoes, Uganda

**Résumé**

Une étude descriptive a été réalisée pour déterminer la perception des agriculteurs de l'Est et du centre de l'Ouganda sur la patate douce à chair orange chair de (OFSP) en tant que culture de sécurité alimentaire. Les principales conclusions ont indiqué que, bien que l'OFSP et les variétés locales de patate douce aient été cultivées, chacune avait un avantage comparatif par rapport à l'autre. Les variétés locales étaient préférées pour l'alimentation alors que les variétés OFSP étaient préférées pour la génération de revenus provenant des tubercules et des vignes. Les préférences parmi les quatre variétés d'OFSP ont varié selon les individus et les districts. Kakamega était la variété d'OFSP la plus préférée pendant qu'Ejumula a été la moins appréciée. La préférence a été communément attribuée à la résistance face à la sécheresse et aux ravageurs. Les variétés locales de patate douce ont été perçues comme étant plus qu'une culture de sécurité alimentaire que l'OFSP.

Mots clés: Perception des agriculteurs, sécurité alimentaire, patate douce à chair orange, Ouganda

## Background

Sweet potato (*Ipomoea batatas* L.) is a common staple food that constitutes over 90% of the diet of many households in Uganda. Uganda is the world's second leading producer of sweet potatoes after China (FAO, 2010). Orange Fleshed Sweet Potato (OFSP) was introduced among the communities in Uganda and other parts of Africa to increase consumption of vitamin A. In Uganda, in spite of the nutritive value of OFSP little was known about the perception of the community about the new type of sweet potato (OFSP). Sweet potato is traditionally known in the country to be a food security crop but very little was known if the OFSP would be treated the same way. How farmers integrated OFSP into their food/farming systems was also not known. This study was therefore conducted to ascertain how OFSP fitted into farmers' food security context and the potential of OFSP in providing food security of the farming communities.

## Literature Summary

Production and consumption of the OFSP varieties, released by the Uganda Sweet Potato Program in Namulonge in 2004 have been promoted countrywide as a means of combating the widely spread vitamin A deficiency (VAD) in Uganda especially among children due to their high vitamin A content (Kapinga *et al.*, 2003; Kapinga *et al.*, 2007; Mwanga *et al.*, 2007a). In promoting OFSP, emphasis was put more on the nutritive value rather than on its contribution to food security status (Low *et al.*, 2001; Miiro and Orum, 2006). Studies show that OFSP is already accepted by the farming communities in Uganda (Yanggen and Nagujja, 2006; Mwanga *et al.*, 2007b) although this is not well documented, especially how it was being integrated into the farming system.

## Study Description

A qualitative study was undertaken in Soroti, Kamuli in eastern Uganda and in Mukono and Kawempe division in central Uganda to get insights into how farmers integrated and perceived OFSP in their farming/food systems. The study was conducted in two phases: Phase I was exploratory and phase II was an in-depth study. Qualitative and quantitative data were collected using individual interviews, focus group discussions, conversations and observations. Priority was mainly given to OFSP farmers (farmer groups that worked with or that were working with OFSP promoting organisations). Non-OFSP farmers from neighbouring villages were also interviewed for comparative purposes. Quantitative data were analysed using excel while qualitative data were analysed by emerging themes as described by Silverman (2006). Weighted ranking was used to ascertain the most preferred varieties.

## **Research Application**

Sweet potato is one of the major food and income generating crops in eastern and central Uganda. In the specific study areas, of the average total area allocated to sweet potato production, more land was put under OFSP (80%) than local varieties (20%). Farmers in Soroti and Kamuli had the biggest OFSP gardens while those in Kawempe had the smallest gardens. In Soroti, OFSP ranked very high as a major income generating crop and very low as a food crop. The vines were the most important sources of income as compared to the root tubers. In Kamuli, OFSP was mostly grown for food rather than for income generation. In spite of being allocated larger hectareage in the sweet potato enterprise, OFSP was generally least preferred for food in comparison to the local sweet potato varieties mainly because of its taste (it is less sweet – the local sweet potato is sweeter), milliness or hardness (it is soft), reportedly undesirable smell that is not liked by many, low storability (shorter shelf-life), susceptibility to drought, weevils and sweet potato virus disease. It was mainly given to the children because they did not mind so much about the above attributes. According to the mothers, OFSP was easier to swallow when being eaten, probably because of its softness. The orange colour was more attractive to the children than the white coloured local varieties. In order to increase the shelf live and commercial value of the OFSP, some farmers processed it into pastries and juice that were sold mainly to school children.

The four OFSP varieties commonly grown across the study districts were Kakamega, Ejumula, Vita (NASPOT 9) and Kabode (NASPOT 10) except in Kawempe division that grew two varieties, i.e., Kakamega and Ejumula. Although OFSP varietal preferences varied across individuals and districts, the general trend showed that Kakamega was the most preferred and Ejumula as the least preferred (Table 1).

## **Recommendation**

The fact that OFSP was allocated the largest cultivable area under sweet potato enterprise is an opportunity that should be exploited. However, efforts should be directed at providing farmers with effective OFSP pest/disease management options as well as vine conservation strategies. There is also need to encourage and support OFSP processing so as to increase its shelf life. These efforts will increase the role of OFSP as a food security and commercial commodity to many households in Uganda and elsewhere.

**Table 1. Preference for OFSP varieties across selected districts of Uganda.**

OFSP variety	Districts			Total weighted scoring	Overall rank
	Mukono	Kamuli	Soroti		
<b>Weighted ranking of OFSP varieties as food</b>					
Kabode	26	26	16	68	2
Kakamega	26	28	22	76	1
Vita	22	26	04	52	3
Ejumula	20	08	00	28	4
<b>Ranking of OFSP varieties as cash crop across districts</b>					
Kabode	18	28	14	60	2
Kakamega	14	26	24	64	1
Vita	16	26	04	46	3
Ejumula	10	08	00*	18	4

\*Farmers who participated in the study in Soroti did not grow Ejumula

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