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Yam (*Dioscorea* sp.): how will this crop be revived to enhance food security in East Africa?

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Abstract

Yams (*Dioscorea* sp.) are a rich source of carbohydrates and other human nutritional elements. The major production areas for yams are in West Africa on a belt stretching from the Congo basin tropical forests through Cameroon and westwards to Ghana and beyond. In east Africa, yams traditionally constituted an important part of dishes and were a highly valued crop in past generations. In addition to food value, yams had cultural application in many communities. Presently, due to low production and scarcity in markets, yam tubers are one of the most expensive food commodities in the region.

Considering the important food security role being fulfilled by yams in West Africa, a pertinent question would be as to why the crop is negligible and has almost disappeared from east Africa? Although agroecological conditions and the cultural importance attached to yams varies greatly between regions, for example, Nigeria and Kenya, it is important to examine the factors that have led to the decline in productivity of this crop in east Africa, and look into means of reviving production. Towards this end, the Crop Seeds Unit of FaCT Limited has recently initiated activities aiming to revive yam production. FaCT is a private company based in Kenya and working in the East African region.

Preliminary information indicates that in Kenya there is a large market for good quality yam tubers, for immediate consumption or planting, both in the urban and rural areas. This market is currently not being satisfied since production is far below demand, and also because the few remaining production areas are distant from the key urban markets.

The major factors affecting production include lack of knowledge on appropriate production methods, poor germplasm that is highly susceptible to pest damage, chronic lack of healthy planting material and lack of supporting policies. In the Central highlands of Kenya where considerable yam production still occurs around Mt. Kenya, yams are grown in a near perennial manner, leaving the mother tuber in the soil for prolonged periods before new yam is planted on fresh ground. This practice results in poor quality vines, low yield, and serious attacks especially by soilborne pests and pathogens. Policies tilted in favour of cereal grains, especially maize and cash crops, e.g coffee or tea are other factors that have led to a decline in productivity. Yam, compared to maize, is less vulnerable to variations in climate effects, e.g. rainfall, and therefore food security would not be so heavily compromised when rains fail. Yam harvesting, unlike maize, can also be staggered to varying times of the year without seasonal limitation, thus assuring households of some reliable source of food.

Figure 1: Old yam tuber with shriveled roots reserved for planting. Use of poor quality seed limits productivity in Kenya.

Reviving yam production in Kenya and the East African region will require focused attention on systems to provide healthy planting materials of high yielding, agro ecologically suited and pest-disease tolerant varieties. FaCT Ltd has commenced plans to introduce minituber production technology as one way of addressing yam seed shortages. The first major challenge is limited access to good varieties, since little research has been done on this crop within the region.

Figure 2: Fresh yam tubers fetch high prices in both rural and urban markets in Kenya. Consumption of the few available tubers reduces availability of seed yam.

A poster on the same topic with more images is accessible for free download through the IeCAB 2008 web portal.