



Implementing banana macropropagation in Kenya - potential and challenges

Maina Mwangi and Sarah Muthoni. BioSciences Business Units, FaCT Limited, P.O. Box 967 Post Code 00217, Kenya. [Poster presented at the International e-Conference on Agricultural BioSciences 2008.](#) Author email; m.mwangi@elewa.org Tel. +254710860550.

Introduction: Banana farming can be a highly profitable undertaking if organized and carried out as a business. Bananas provide food, income, stabilize the environment, protect soil from erosion, provide habitats for biodiversity, feed animals and increase the aesthetic appeal of landscapes. In Kenya, the major traditional markets are for dessert types, though cooking varieties are increasingly demanded. The major constraints to productivity are germplasm of poor quality, pests and diseases, poor soil fertility and agronomic practices, restricted market access, price instability and lack of healthy and affordable planting seedlings. To start or expand banana farms, farmers often rely on suckers from existing farms, which are inadequate and are also associated with higher risks of pests and disease spread. Tissue cultured seedlings have been introduced in efforts to address this gap. However, due to the large capital investments required for tissue culture capacity, the plantlets are fairly expensive and beyond the resources available to many small scale farmers.

New technology: To address the gap in provision of affordable healthy planting bananas, a cheaper seedling production technology has been introduced. In Africa, the pioneering trials and validation of the macropropagation technology have been done in Cameroon and Nigeria, and recently spread to other West African countries including Ghana and Ivory Coast, and to Uganda, Rwanda and Tanzania in East Africa. Macropropagation is a simpler and more cost effective technology that could be easily implemented after brief training and requiring only little resources. Since 2007, FaCT Limited (a private company) has been implementing the macropropagation technology on a pilot basis in Kenya. Initial activities have focused on assessing the potential and challenges to implementation as well as to gauge market response. Banana seedlings produced by macropropagation in Kenya have been availed to the market since early 2008 with marketing intensified during the long rain season that commenced around March 2008.



A



B



C



D

Fig. A: treating corms in a mix of insecticide and fungicide.

Fig. B: Corms are placed in nursery made of affordable materials that are easily available locally.

Fig. C: Detached suckers in a shed.

Fig. D: Healthy macropropagated suckers hardened and ready to transplant.

Outcomes: The uptake of macropropagated banana seedlings has been high in all locations where the seedlings are sold. Due to the low cost involved in production, the seedlings are priced at 40- 50% less than the cost of competing products produced through tissue culture. This price can be easily sustained or even lowered especially if the production nurseries are located near the marketing areas, thus eliminating transportation and other marketing costs. Farmers are increasingly valuing bananas as a source of food and income with women farmers being particularly eager to grow cooking varieties. Typically, majority of farmers purchase few seedlings at any one time, a likely indicator of the increasing involvement of small-scale growers in the banana sector. In addition to purchases, numerous requests for training in the macropropagation have been received.

Conclusion: Macropropagation has potential to significantly increase access to healthy high quality banana seedlings. Opportunities for further spread and uptake of this technology could be through training of micro entrepreneurs, NGO technical staff as well as community groups.