

**Response of Tissue Cultured Giant Cavendish Banana to Inoculation with Kenyan
Isolates of Arbuscular Mycorrhizal Fungi**

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ABSTRACT

Mycorrhization of tissue cultured bananas is known to improve their growth and establishment under field conditions. Studies were carried out to evaluate the effects of inoculating tissue cultured Giant Cavendish banana with Kenyan isolates and *Glomus etunicatum*. Performance of inoculated plants in conventional nursery medium and sterile sand was also evaluated. A crude inoculum comprising of about 400 spores in 20 g soil was put into each tray cell during the weaning phase of tissue cultured banana plantlets. The content of each cell was emptied into a polythene sleeve containing 800 g of the respective medium eight weeks after inoculation. The experiment was laid out in Split-plot Design in the screenhouse. Plant growth parameters including height, number of leaves, leaf length and width were measured on a weekly basis for four months. Four destructive samples were taken at monthly intervals beginning at eight weeks after inoculation. Shoot and root fresh and dry weights, leaf surface area, number of spores per 100 g of medium and plant tissue nutrient analysis was assessed at each sampling stage. Results showed that indigenous isolates enhanced growth and nutrient uptake more uniformly in both media. *Glomus etunicatum* enhanced growth and nutrient uptake better than the indigenous isolates for plants established in conventional nursery medium. However, the isolate was less effective in sterile sand medium than indigenous isolates. Root colonisation had a direct impact on uptake of the three primary elements (N, P, and K) analysed. It is therefore evident that *Glomus etunicatum* is more preferable for inoculating tissue cultured bananas in conventional medium whereas the indigenous isolates can perform satisfactorily in both media.