

## Abstract

The effectiveness of phytosanitation in managing cassava mosaic disease (CMD) was studied in a post-epidemic area of western Kenya. Four varieties [MM96/4466 (resistant), TMS 30572 (Migyera, moderately resistant), Bukalasa 11 (Serere, moderately susceptible) and Karemo (susceptible)] and four phytosanitation approaches (roguing, cutting selection, roguing plus cutting selection, and none) were studied at two sites (Alego and Ugunja) for two seasons. With no phytosanitation, resistant varieties had very low levels of CMD infection, and infected plants expressed very mild symptoms. By contrast, the most susceptible variety became heavily diseased, with incidences of > 90%, whether phytosanitation measures were applied or not. Tuberous root yields were highest for CMD-resistant varieties. Roguing susceptible varieties resulted in significantly reduced root yields compared to the 'do nothing' control, largely as a result of the greatly reduced plant population. However, plots of CMD-susceptible varieties where selection was applied gave tuberous root yields that exceeded those of the control and that were comparable to those of the resistant variety with the equivalent treatment. These data clearly demonstrate the value of selection as an approach for maintaining the production of local varieties under the CMD post-epidemic conditions that are now prevalent across large areas of East and Central Africa. Conversely, the results show that roguing provides no tuberous root yield benefit under any of the tested circumstances. Raising awareness amongst farming communities of the potential advantages of selection of healthy planting material should be an important component of CMD management programmes, in tandem with efforts to multiply and disseminate planting materials of resistant varieties.