

Title Post-harvest characteristics of tissue culture banana ratoon crops in nutrient omission trial

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Abstract

Experiments were conducted to determine to investigate the effects of inorganic fertilizers on yield and postharvest quality attributes of tissue culture bananas ratoon crop. The bananas were harvested at tree-quarter stage of maturity. Three equatorial region hands were obtained from which three fingers per hand were analysed separately in the laboratory. On harvesting, the hands were weighed, washed to remove latex, then packed in crates and transported to JKUAT food science laboratory. Sodium hypochlorite was used to treat against fungal infections. Three hands from each treatment were ripened at $20 \pm 5^{\circ}\text{C}$ at $90 \pm 5\%$ relative humidity until fully ripe (stage six). The fruits from the different treatments were analyzed for total soluble solids content, total titrable acidity, ascorbic acid content, individual sugars (sucrose, fructose and glucose) levels, ripening, peel colour, peel and pulp ratio, chlorophyll content, mineral content, moisture content, flavor and flesh firmness. Observations on the shelf life were made. The fruits were assessed every second day during shelf-life. In addition, starch breakdown was visualized by dipping slices of bananas in iodine solution. Sensory analysis on the ripened fruit was also done with 20 panelists for 15 out of the 20 harvests. Fresh weight decreased consistently and slowly between 0 and d6 days. There were no significant differences in objectively measured post-harvest qualities between the first and second ratoon fruit. The results provide information on the potential of in-organic fertilizers in improving the post harvest fruit quality and shelf life thus elimination of poor flavor quality fruits from the market.