B-69 A study of the response of Embul bananas to two agrochemical-free post harvest treatments

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In this study the anatomical, physicochemical and organoleptic changes in Embul bananas after post harvest acetic acid, and chlorox treatments given separately, were investigated. Embul bananas from 5 localities, at 2 different maturity stages were used. Each treatment was given to bananas selected randomly from the same hand. Tap water and aqueous solutions of 0.25% acetic acid (v/v), 1% chlorox (v/v) were infiltrated for 5 and 15 min separately, by immersing in the different solutions and exposing to a pressure of 4.3×10^{-3} kgm^{-3}. The controls were immersed in distilled water and given the same pressure treatment. Another batch was left untreated. All fruits were stored at ambient conditions and daily colour and disease development assessed. Diseases were not observed at all in chlorox treated for 15 min. It was delayed by 2-3 days in 5 min chlorox treated samples, and acetic acid treated samples, and by a day in tap water treated samples.

When 5 persons were asked to taste treated and control bananas, chlorox treated samples were reported to taste of chlorine. Acetic acid treated samples were reported to taste better than the controls. Their best choice was the distilled water treated samples which could not be explained by the following readings. Total soluble solids (determined by a refractometer) of pulp increased in all treatments but was not significant. Total sugar levels (observed by Phenol sulphuric method) fluctuated.peel thickness (measured with Vernier callipers) and pulp and peel firmness (pocket penetrometer) slightly increased with treatment. A slight decrease in pH (pH meter) and a slight increase in titratable acidity were seen with acetic acid treatment. Using fresh and microtome sections of the skin when anatomical differences were observed, an even distribution of starch granules were seen in treated fruits. The maturity level of the bananas at the time of treatment was important for acetic acid treatment only, as more mature bananas responded better by delayed disease development and ripening.