

Physicochemical and mechanical properties during storage-cum maturity stages of raw harvested wild banana (*Musa balbisiana*, BB)

Ritesh Balaso Watharkar, Sourav Chakraborty, Prem Prakash Srivastav and Brijesh Srivastava

Journal of Food Measurement and Characterization 15: 3336–3349. (2021)

Abstract

The changes in various physicochemical and mechanical properties after harvesting wild banana (*Musa balbisiana*) were investigated by storing the fruit at room temperature (22 ± 2 °C). During ripening, physical changes such as pulp to peel ratio and fruit with seed to peel ratio increased and the changes in the colour of the fruits from green to red while yellowness occurred in the peel. The maximum colour difference (ΔE) of pulp and peel increased up to the 5th stage and decreased thereafter. Textural softening occurred till the end of the ripening stages; the peak force of penetration decreased from 16.6 to 5.8 N for banana samples with the peel. At the end of ripening, a non-significant difference was observed that may be due to equalized mucilaginous peel tissue structure. During the ripening process, moisture content, titratable acidity, pectin, fat, total sugar, pH and the total soluble solids were increased, and decreased starch content, ascorbic acid and protein were observed. The sensory assessment at the 6th stage of the banana received the highest rating. Thus, the present study determined the best ripening stage of wild banana variety to be suitable for processing during the postharvest phase and quality control of processed products.