

## EFFECT OF ANTIBROWNING TREATMENTS ON PHYSICOCHEMICAL AND SENSORY PROPERTIES OF TomEJC MANGO PULP

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TomEJC (TJC) is a popular mango cultivar with high consumer demand in local and export destinations. Due to its perishable nature, TJC has considerable postharvest losses. Pulp preservation is one of the worthwhile techniques to preserve TJC mangoes. However, the major problem of pulp preservation is enzymatic browning. The objective of the current study was to select an effective method for preventing enzymatic browning during pulp preservation. The pulp obtained from ripened mangoes was divided into 6 groups; half were steam blanched for 2 min and the other half was preserved without blanching. Both blanched and unblanched samples included a non-treated control, sodium metabisulfite (SMS, 0.1%) and citric acid (0.3% v/w) treatment, respectively and stored at  $-18\pm 3^{\circ}\text{C}$ . Pulp colour change, pH, browning index (BI), total soluble solids (TSS), and total phenolic (TP) content were measured at 7 day intervals for 35 days. Sensory properties were measured at the end of storage. The TSS content was not significantly different among chemical treatments, however, it was increased in the unblanched group. There were significant ( $p < 0.05$ ) changes in BI among blanched and unblanched treatments, however, BI was not significantly different in the same treatment group. There was no significant difference in the pH of both blanched and unblanched treatment groups. Samples treated with SMS had higher TP contents and retained more of their yellow colour than other samples in both treatment groups. According to the sensory evaluation, steam-blanched SMS-treated samples exhibited higher performances in pulp colour, taste, and overall acceptability compared to other samples. The study showed that the steam-blanched SMS-treated TJC mango pulp samples prevented enzymatic browning for 35 days, stored at  $-18\pm 3^{\circ}\text{C}$  without quality deterioration.

**Keywords:** Chemical treatments, Enzymatic browning, Pulp preservation, Steam blanching