

## CONTROLLING ENZYMATIC BROWNING OF 'TOMEJC' MANGO DURING DEHYDRATION AND PRESERVATION OF PULP

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'TomEJC' (*Mangifera indica* L.) a high yielding mango variety, introduced by Department of Agriculture, currently cultivated in *Galkiriyagama* in *Dambulla* district. Very large volume of this variety is exported because of its sweet flavor, low acidity and the rejects are used for processing. The drawback of this variety is rapid enzymatic browning causing quality reduction. The objective of this research was to find the effective methods to control enzymatic browning of pulp and dehydrated slices of 'TomEJC' mango. There were three treatments and a control ( $T_0$ ). In experiment 1, over ripe mango pulp was treated with 0.1% Sodium metabisulphite ( $T_1$ ), 1% Citric acid ( $T_2$ ) and 1% Citric acid + 0.1% Sodium metabisulphite ( $T_3$ ) and stored in frozen conditions (-18 °C). In experiment 2, mango slices were treated with same treatments and dehydrated in a cabinet dryer at 60 °C for 12 hr and then packed in polypropylene bags and stored in ambient conditions (25 °C). Physiochemical parameters; L (Lightness), a (greenness and redness), b (blueness and yellowness), total soluble solids, titratable acidity, pH were measured at one month intervals for three months storage period. Results of experiment 1, revealed that after 3 months, b value, pH, total soluble solids were significantly ( $p < 0.05$ ) different in all three treatments compared with  $T_0$ . Titratable acidity, L values were significantly different ( $p < 0.05$ ) in  $T_2$ ,  $T_3$  samples and a value was significantly different ( $p < 0.05$ ) in  $T_1$  and  $T_2$  samples compared with  $T_0$ . Experiment 2, L, a, b, pH, TSS were significantly different ( $p < 0.05$ ) in all three samples compared to  $T_0$ . Titratable acidity was significantly different ( $p < 0.05$ ) in  $T_2$ ,  $T_3$  compared with  $T_0$ . These results provide evidence that  $T_2$  and  $T_3$  can be used to control the enzymatic browning of 'TomEJC' mango which contributes to better quality of processed products.

**Key words:** Citric acid, Dehydration, Pulp, Sodium metabisulphite, 'TomEJC' mango