

EFFECT OF ASCORBIC ACID AND ALOE VERA GEL ON EXTENDING THE SHELF LIFE OF FRESH CUT TJC MANGO

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Mango (*Mangifera indica*) cv. TJC is dominating in the Sri Lankan fruit market. Therefore, a study was conducted to develop fresh cut TJC Mango by using ascorbic acid and aloe vera gel as preservatives. TJC mangoes were purchased from the market (TSS = 20.8 ± 1.56), washed with 200 ppm NaOCl, peeled and cut into cubes (2 x 2 cm). Different concentrations of ascorbic acid (AA) solutions (150, 200 and 250 ppm) and aloe vera (AV) (100, 75, 50%) gel were prepared. The cubes were dipped in AA solutions for 3 minutes followed by 30 minutes dip in AV gel. The treatments were T1 = AV 100% + AA 250 ppm, T2 = AV 100% + AA 200 ppm, T3 = AV 100% + AA 150 ppm, T4 = AV 75% + AA 250 ppm, T5 = AV 75% + AA 200 ppm, T6 = AV 75% + AA 150 ppm, T7 = AV 50% + AA 250 ppm, T8 = AV 50% + AA 200 ppm, T9 = AV 50% + AA 150 ppm and C = control. Then, cubes were packed in transparent high impact polystyrene cups and stored in a refrigerator (7°C). Flesh color, firmness, TSS and TA were measured at 0, 3 and 6 Days After Storage (DAS). A sensory evaluation was conducted for the sample which had the lowest deterioration rate than the control on 3 DAS. The lowest rates of deterioration of flesh color, firmness, TSS and TA were reported by the sample treated with 250 ppm AA followed by 75% AV gel (T4). In conclusion, dipping of TJC mango cubes in 250 ppm ascorbic acid solution for 3 min followed by 30 min dip in 75% Aloe vera gel is suggested for extending storage life of fresh cut TJC mango under refrigerated conditions.

Keywords: Flesh firmness, Fruit quality, Preservatives