

III.I.S1.3.P9.Coatings from different sources for postharvest conservation of mango fruit cv'Palmer'

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The use of coatings can promote improved appearance, maintain a proper quality and increase the shelf life in fruits and vegetables. However, the effects depend on the characteristics of the matrix forming the coating, the added components and the interaction with the product. For mango, a very perishable fruit distributed to several countries from production centers in some tropical and subtropical areas, evaluating the use of coatings is justified by the need to delay maturation. The aim of this study was to select edible coatings from different sources, as cassava starch, carboxymethyl cellulose (CMC), chitosan, *Aloe vera*, beeswax and sodium alginate, including some additives, which enable improved quality and postharvest conservation on 'Palmer' mango fruit, stored under refrigeration followed by room temperature. The fruits were harvested at maturity stage 3, sanitized and coated with cassava starch 2.0%; beeswax 2.0%; *Aloe vera* 1:2; sodium alginate 1.5%; chitosan 2.5%; CMC 1.0% and a commercial carnauba wax 1: 2 and were compared to the control (uncoated). Coatings based on cassava starch, sodium alginate, chitosan and CMC included sunflower oil, Tween 80 and glycerol as components. Beeswax contained sunflower oil, Tween 80 and Span 80, while *A. vera* solution received only Tween 80 and carnauba wax emulsion did not have any additional component. After coated, the fruits were stored under refrigeration at  $10.3 \pm 0.7^\circ\text{C}$  and  $81 \pm 9\%$  RH and evaluated at 0, 15 and 21 days for subsequent transfer to the ambient temperature ( $25.0 \pm 1.1^\circ\text{C}$  and  $73 \pm 7\%$  RH), being evaluated at 24, 26, 28 and 30 days relative to harvest, at these conditions. The experimental design was completely randomized in a factorial 8 (coating) x 7 (storage time), with four replications of four fruits. Applications of sodium alginate, chitosan and CMC coatings showed the best results. Those coatings delayed the ripening, which was evidenced by the lowest soluble solids accumulation rates and the slowest organic acids degradation and changes in skin (lightness,  $a^*$  and  $b^*$ ) and pulp (chroma and Hue angle) color attributes.

**Keywords:** *Mangifera indica*, quality, ripening, shelf life