

Title Use of modified atmosphere to extend shelf life of fresh-cut carambola (*Averrhoa carambola* L. Cv. Fwang Tung)

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Abstract

Fresh-cut fruit products, including carambola (*Averrhoa carambola* L.) have limited marketability due to cut surface browning attributed to oxidation of phenolic compounds by enzymes such as polyphenol oxidase (PPO). The objective of this study was to evaluate postharvest changes of carambola slices in three different packagings. Carambola fruit (cv. Fwang Tung) were picked from the orchard of Estação Experimental de Citricultura de Bebedouro at mature-green stage. Fruit were washed, dipped in NaOCl solution (200 mg.L⁻¹ for 5 minutes), and stored overnight at 10°C. Fruit were manually sliced into pieces of approximately 1 cm. Slices were rinsed with NaOCl solution at 20 mg.L⁻¹, drained for 3 minutes, and packaged in polyethylene terephthalate (PET) trays (Neoform N94); polystyrene trays covered with PVC 0.017 mm (Vitafilm - Goodyear); and vacuum sealed polyolefin bags (PLO, Cryovac PD900). The packages were stored at 6.8°C and 90%RH for 12 days and samples taken every 4 days. PET trays and PVC film did not significantly modify internal atmosphere and the high water permeability of PVC led to more rapid slice desiccation. PPO activity was lower when slices were packaged in PLO vacuum sealed bags, which reduced discolouration and led to better appearance maintenance for up to 12 days.