Title Influence of temperature and packaging on physiological and chemical profiles of imported litchi fruit

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Abstract

The aim of this study was to detail the physiological and biochemical changes in non-adulterated and commercially-treated litchi fruit stored in different packaging films under different storage temperatures. Litchi fruit cv. Mauritius treated with either SO_2 and acid (commercially-treated fruit), or free from both SO_2 and acid (non-adulterated fruit), were imported from Israel and packed using two different packaging films *viz*. micro-perforated polypropylene or PropaFresh™ PFAM, or stored unwrapped, at 5 or 13 °C for 11 days. Both CO_2 and ethylene concentrations were lower in commercially-treated fruit and at storage of 5 °C but higher in PropaFresh™ PFAM films. Weight loss was least in commercially-treated fruit wrapped with PropaFresh™ PFAM at 5 °C. Non-adulterated fruit wrapped in PropaFresh™ PFAM had higher individual aril sugars and organic acids whilst commercially-treated fruit retained higher concentrations of anthocyanins. These results indicate that PropaFresh™ PFAM packaging at 5 °C could be used to maintain postharvest quality in both commercially-treated and non-adulterated litchi fruit.