

Title Responses of feijoa fruit 'unique' to controlled atmosphere storage
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Abstract

The effects of controlled atmosphere (CA) on fruit quality of a commercially important cultivar of feijoa fruit, 'Unique', were studied during storage in five atmospheres containing: 0 kPa CO₂, 2 kPa O₂; 3 kPa CO₂, 2 kPa O₂; 0 kPa CO₂, 5 kPa O₂; 3 kPa CO₂, 5 kPa O₂; and air at 4°C. Fruit were transferred to 20°C after storage for 4, 6, 8 and 10 weeks for a shelf life period of 7 days. For the entire period of storage fruit weight loss was approximately 1.6% of the initial weight. When fruit were transferred to 20°C, rate of weight loss rapidly increased. From week 6 onwards fruit previously stored in CA lost less weight during shelf life than fruit stored in air. There was a decline in firmness in all fruit over the storage and shelf life period. Fruit stored in air softened faster (from about 14 N at week 4 to about 7 N at week 10) than in CA (16 N to 12 N). Fruit from all treatments developed an external skin discolouration after 6 weeks at 4°C. There was no significant difference in skin colour between CA and air stored fruit. 'Unique' fruit stored in CA ripened more slowly than fruit in air. Despite these beneficial effects of CA, CA storage treatments used here did not appear to offer a significant benefit for 'Unique' in terms of the final outturn quality. All fruit were rated as over ripe after 6 weeks of storage regardless of treatment.