

**Title** Investigations on extending shelf life of feijoa fruits with cool storage conditions  
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### **Abstract**

Developing cool storage requirements that allow inexpensive long distance shipping for feijoa is essential to increase export opportunities. This work investigates the ability of cool storage conditions to extend the shelf life of feijoa fruits. 'Unique', 'Opal Star' and 'Pounamu' cultivars were harvested from three different production areas within New Zealand: Matamata, Otaki and Blenheim. Fruit were harvested at optimal maturity by expert pickers. After harvest, fruit were assessed non-destructively by means of fruit mass and firmness (acoustic firmness and compression firmness) and stored at 4°C for 8-10 weeks. Before storage and every subsequent two weeks of storage, fruits were taken from the cool store and kept at 20°C for a further 7 days. Non-destructive and destructive quality tests were conducted during these shelf life periods. The destructive measurements include total soluble solids and visual grading. Mass loss increased during storage period to about 6% after six weeks at 4°C and to more than 5% within 7 days of storage at ambient temperature (20°C). Firmness (acoustic and compression) and shelf life decreased with time. Rate of ripening (locule development) at 20°C increased with time. No significant changes were found in terms of total soluble solids during subsequent shelf life at 20°C for the entire period of storage. Different cultivars sourced from different regions exhibited different storability.