

**Title** Effects of CA and alternative postharvest treatments on quality of lime (*Citrus latifolia* Tanaka) fruit

**Author** T. Pranamornkith, A.J. Mawson and J.A. Heyes

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#### **Abstract**

The high quality cold storage life of lime (*Citrus latifolia* Tanaka) fruit can be restricted by a number of factors including chilling injury, degreening and rots. The objective of this study was to investigate the effects of various postharvest treatments on quality changes in main- and late-season New Zealand lime fruit. Controlled atmosphere storage (CA; 10% O<sub>2</sub> with 0 or 3% CO<sub>2</sub>) was compared to regular air storage (RA) and intermittent warming (IW; varying durations) treatments across a range of temperatures. Chilling injury limited storage of fruit under all conditions at constant low temperatures. CA storage at 3% CO<sub>2</sub> delayed yellowing and gave better fruit quality than the 0% CO<sub>2</sub> treatment. Three % CO<sub>2</sub> CA treatments at 5 or 7°C decreased the rate of colour change compared to other constant temperature treatments but did not protect against chilling injury. IW benefited fruit quality and provided the highest overall fruit quality of all postharvest treatments tested.