

Title High carbon dioxide atmospheres improve quality and storage life of rambutan (*Nephellium lappaceum* L.) fruit

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Abstract

Rambutan (*Nephellium lappaceum* L.) fruit cv. 'Rong-rein' harvested at the export-ripeness stage (color stage 4-5 with light red peel and green spinterns) were held at 1-15% CO₂ at 13°C with 90-95% RH. Pericarp browning was significantly reduced. This was shown also as higher L* readings than fruit held in air (control). High CO₂ storage also reduced weight loss, respiration and ethylene production, and delayed the increase in soluble solid contents. Higher CO₂ levels were more effective than lower levels in causing these effects. As a result, fruit shelf life was longer at 10-15% CO₂ (20 days) than at 5% CO₂ (18 days) or 1% CO₂ (16 days). Shelf life was shortest in air and was only about 8 days.