

Title Influence of postharvest treatments on visual appearance, sensory analysis and aroma volatile compounds of 'Mauritius' litchi fruit during storage

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Abstract

Changes in aroma volatiles and sensory attributes with respect to litchi (*Litchi chinensis* Sonn.) fruit subjected to SO₂ fumigation, dilute HCl (pH 0.9–1) dip after SO₂ fumigation, modified atmosphere packaging (MAP) (17% O₂ + 6% CO₂) and controlled atmosphere (CA) conditions (CA-1, 3% O₂ + 7% CO₂) at 2 °C, 90% RH for 21 d were investigated. Citronellol and geraniol are responsible for the fruity, floral, rose and citrus aroma in 'Mauritius' litchi fruit. Different postharvest treatments affected the retention of citronellol and geraniol content during storage as follows: MAP (17% O₂ + 6% CO₂) > CA (3% O₂ + 7% CO₂) > SO₂ > SO₂-HCl dip. A trained panel described woody (alloaromadendrene), spicy (ar-curcumene) and 'wine' (ethanol) notes most strongly in SO₂-fumigated or SO₂ + HCl dipped fruit. The untrained panel preferred the fruit in MAP and disliked commercially SO₂-fumigated or SO₂ + HCl dipped fruit. The MAP packed fruit showed absence of decay and reduced pericarp browning with acceptable marketability.