**Title** Effects of 1-methylcyclopropene on internal browning and quality in cold-stored loquat fruit

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**Citation** ISHS Acta Horticulturae 857:489-492. 2010.

**Keyword** cold storage; flesh leatheriness; polyphenol oxidase; fruit firmness; extractable juice rate

**Abstract**

Internal browning (IB) and flesh leatheriness (mainly manifested as increased fruit firmness and decreased extractable juice rate) are major problems of loquat (*Eriobotrya japonica* Lindl.) fruit during cold storage. The effects of a postharvest application of 1-methylcyclopropene (1-MCP) on internal browning and quality in loquat fruit during storage at 5°C were investigated. Freshly harvested loquat fruit were exposed to 50 nl/L 1-MCP for 24 h at 20°C, and then stored for six weeks at 5°C. Changes in internal browning, polyphenol oxidase (PPO) activity, fruit firmness, extractable juice rate, total soluble solids (TSS) and total titratable acidity (TA) contents were monitored. The results showed that fruit internal browning was effectively controlled by 1-MCP for up to five weeks during storage at 5°C. Treatment with 1-MCP inhibited PPO activity, which may account for inhibited internal browning. Increase in fruit firmness and decrease in extractable juice rate were significantly inhibited by 1-MCP treatment. Treatment with 1-MCP also arrested the decline in both TSS and TA contents. Thus, a postharvest application of 1-MCP effectively reduced internal browning and maintained quality in cold-stored loquat fruit. These results suggest that 1-MCP may of commercial use to control internal browning and flesh leatheriness in loquat fruit during cold storage.