

**Title** Effects of storage temperatures and 1-MCP treatment on postharvest quality of green olives  
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#### **Abstract**

Green olives (*Olea europaea* L., cvv. Mission, Conservolea, Blady and Shengeh) were harvested at the mature green stage and stored at 5, 10 and 20°C air temperatures for 10-15 weeks to evaluate their postharvest physiology and quality changes. Olive quality was measured periodically and included skin colour, flesh firmness, mass loss and fruit deterioration. Generally, storing olive fruits at 5, 10 and 20°C caused decreases in flesh firmness, but fruit softening was faster in fruits storing at 20 and 10°C, compared to 5°C treatments. Olive stored as long as 60 days at 5°C in air showed no symptoms of chilling injury in all cultivars. Olive cultivars retained satisfactory firm flesh above 2 kg for 60 d at 5°C, 30 d at 10°C and 15 d at 20°C. Red colour development progressed fewer with storing fruits at 5°C after 60 d and significantly was difference from the other temperature treatments. However, cv. Shengeh developed red colour greater and sooner than other cultivars. In the second year experiment, 1-MCP treated fruits effectively reduced loss of fruit firmness storing at 5°C for 15 weeks. Application of 0.9-1.8  $\mu\text{L L}^{-1}$  1-MCP was sufficient to delay significantly olive softening and colour changes ( $p < 0.05$ ), compared to control non-treated fruits. In conclusion, olives of the cvv. Conservolea, Mission and Blady can be stored up to 60 d at ambient air temperatures of 5 °C and could extended to 15 weeks when treating fruits with 0.9-1.8  $\mu\text{L L}^{-1}$  1-MCP before storing.