

**Title** Effect of ethylene inhibitors on quality attributes of *Apricot* cv. modesto and patterson during storage

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### **Abstract**

Apricot (*Prunus armeniaca* L.) fruit are highly susceptible to flesh softening, loss of flavor and fruit decay, particularly during postharvest storage. Most of these quality changes observed during fruit ripening are under ethylene regulation. We performed a study with the objective of determining the effect of 1-methylcyclopropene (1-MCP) and aminoethoxyvinylglycine (AVG) applications on quality attributes of Modesto and Patterson apricot cultivars. 1-MCP was applied at a rate of 1000 and 10 000 nL L<sup>-1</sup> of SmartFresh™, and AVG at a rate 100 and 1000 mg L<sup>-1</sup> of Retain®. Quality evaluations were performed after 20 and 30 days of cold storage and after a shelf-life period of 3-4 days at 20 °C. In general, both ethylene inhibitors were effective in reducing the ethylene production rate, especially in Patterson. Fruit softening and color development showed ethylene-dependent behavior, with significant reductions for both varieties in fruit treated with 1-MCP and AVG. On the other hand, soluble solids concentration and titratable acidity showed an ethylene-independent pattern, i.e. they were not affected by ethylene inhibitors applications. Among volatile compounds identified, esters and aldehydes showed ethylene-dependent behavior in both varieties. On the other hand, alcohols and terpenes were not affected by ethylene inhibition, suggesting ethylene-independent behavior.