

Title Preharvest AVG and kaolin and postharvest 1-MCP application effects on advanced maturity peach quality and storage

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Abstract

Treatments to conserve quality for long-distance transportation were studied with advanced maturity Royal Glory peaches and Caldesi 2000 nectarines. Kaolin (Surround) was applied at commercial rates 3 times every 10 days until harvest; AVG (ReTain) was also applied 10 days before anticipated harvest at 0.1% active ingredient + 0.01% surfactant; and 1250 $\mu\text{L L}^{-1}$ 1-MCP (Smart Fresh) were applied immediately after harvest. Fruit quality was evaluated at harvest and after 1, 2 and 4 weeks storage in perforated PE bags at 2°C, 90-95% RH plus 1 day shelf life. Kaolin application had no effect on flesh firmness and overall fruit eating quality in both cvs at harvest and during storage. Fruit from AVG treated trees were harder and had higher acidity than and similar soluble solids content (SSC) and flesh color to fruit from control trees at harvest. These effects disappeared after the 1st week of cold storage resulting in quality similar to control fruit from the 2nd week of storage. Postharvest 1-MCP application resulted in fruit harder than the control fruit at harvest and throughout the storage period with firmness able to withstand long distance transportation. 1-MCP treatment had no other effects on the organoleptic quality of these advanced maturity fruit throughout the 4 weeks cold storage. No chilling injury symptoms were observed at any time or treatment to an extent of degrading fruit quality.