

# Fruits quality of 'Granny Smith' apples treated with 1-methylcyclopropene or diphenylamine and stored under ULO conditions

N. Magazin, Z. Keserović, B. Milić, M. Doric

Acta Horticulturae 981: 619-624. 2013.

---

## Abstract

Apple fruit quality deteriorates during storage regardless of the storage regime. Also, specific postharvest disorders like superficial scald can appear in a coldstore. There are many commercial postharvest treatments that are intended to prevent fruits quality loss during storage. In many cases, 1-MCP and DPA proved to be successful in preventing superficial scald development but they also influence internal fruit quality parameters. In our trial, Granny Smith apple fruits were treated with  $0.625 \mu\text{L L}^{-1}$  1-MCP (SmartFresh™) or  $1800 \mu\text{L L}^{-1}$  DPA (No SCALD DPA 31) immediately after harvest and then stored in ULO coldstore for 180 days, followed by a shelf life period of 7 days. Assessments of superficial scald severity, firmness, total soluble solids, titratable acidity and organoleptic quality were recorded on days 1 and 7 after storage. Both 1-MCP and DPA were able to prevent superficial scald development during storage and after a shelf life period. 1-MCP treated apples were much firmer and had higher acid content than untreated apples at both measurements while DPA treated apples showed higher firmness than control apples but lower firmness when compared to 1-MCP treated apples. Total soluble solids were not affected by the treatments while organoleptic scores were higher for treated fruits regardless of the treatment. 1-MCP can successfully be used as a replacement for DPA anti-scald treatments as it is equally effective but has additional beneficial effects.