

### **Abstract**

A storage procedure for Ontario-grown 'Fantasia' nectarines which effectively delays the appearance of chilling injury (CI) from 17 to 38 days was tested. The most effective treatment consisted of conditioning fruit for two days at 20 °C with 5% CO<sub>2</sub> added to the atmosphere followed by storage at 0.5 °C under 5%O<sub>2</sub> and 12% CO<sub>2</sub>. The resulting fruit was free of physical manifestations of CI, but had less flavour than fruit at harvest. As chilling injury progressed, fruit which had been subjected to a conditioning treatment softened more than fruit put immediately into storage. This observation may indicate that there is more than one mechanism of CI development in nectarines depending upon the ripeness of the fruit going into storage. Volatiles increased in fruit held in controlled atmospheres and in chill-injured fruit. Postharvest changes in these volatiles may provide an indication of the degree of CI or effectiveness of treatments to control CI.