

Title Effect of heat treatments on reducing chilling injury of 'Rojo Brillante' persimmon
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Citation ISHS Acta Horticulturae 833:239-244. 2009.
Keyword hot water treatment; hot air treatment; browning; softening; skin cracking

Abstract

The aim of the present work was to study the effect of heat treatments (HTs) on reducing chilling injury (CI) of persimmon 'Rojo Brillante' at early maturity stage. Two experiments were carried out involving HTs of a range of temperatures and durations: 1) Fruit submitted to hot water treatment (HWT); 2) Fruit submitted to hot air treatment (HAT). After HTs fruit were stored at 1°C for 30 days, then high concentration of CO₂ treatment was applied to remove astringency. Flesh firmness and external disorders were evaluated after a shelf-life period of 5 days at 20°C. HWT importantly alleviated chilling injury by reduction of flesh softening. This effect was more accused as temperature and duration of HWT increased. Certain HATs reduced softening. However, all the hot air treated fruit displayed important heat damage as skin cracking. This alteration was more severe as temperature and duration of HAT increased and caused a negative effect on flesh firmness. At maturity stage assayed HWT improved fruit quality, however HAT caused skin cracking resulting in non-commercial fruit.