

Title Control of brown rot of stone fruits by brief heated water immersion treatments
Author Ozgur Akgun Karabulut, Joseph L. Smilanick, Carlos H. Crisosto and Lluís Palou
Citation Crop Protection, Volume 29, Issue 8, August 2010, Pages 903-906
Keywords *Monilinia fructicola*; Postharvest diseases; Peach; Nectarine; Plum; Hot water; *Prunus* spp.

Abstract

The effectiveness of brief (30 or 60 s) immersion in water at 24, 50, 55, 60, 65, or 70 °C was evaluated for the control of brown rot, caused by *Monilinia fructicola*, on California-grown peaches, nectarines, and plums. Inoculated fruits were treated and either stored at 20 °C for 5 days or at 0 °C and 95% RH for 30 days followed by 5 days at 20 °C to simulate commercial marketing conditions. Immersion in water at 55 °C for 60 s or at 60 °C for 30 or 60 s significantly reduced both decay incidence and severity among the remaining wounds that developed the disease. Water temperatures of 65 °C or higher were phytotoxic and caused moderate to severe surface injuries. Immersion in water at 60 °C for 60 s was effective for plums and it reduced the incidence of brown rot from more than 80% among control fruit to less than 2%. In nectarines, this treatment reduced decay incidence from 100 to less than 5% on fruit stored at 20 °C and from 73 to 28% on cold-stored fruit. Therefore, brief immersion in heated water can be an effective approach to manage postharvest brown rot of stone fruits, especially for the organic fruit industry.