

Title Effect of intermittent warming and modified atmosphere packaging on chilling injury of plums
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Abstract

Plum fruit are susceptible to chilling injury (CI) when exposed to temperatures of less than 2-5 °C. The symptom is expressed as skin pitting, staining and flesh browning that increase in number and size over time. Effect of intermittent warming (IW) (10 or 15 days interval between 0°C for 9 or 14 days and 20 °C for 1 day) combined with modified atmosphere packaging (MAP) with, 0.04 mm PE bags was investigated on chilling injury of plums (cv. Ruby). The results showed that IW combined with MAP significantly reduced CI index, skin browning index, number of CI spots and flesh browning of fruit during storage, The sensory quality of treated fruit was also maintained. After 48 days of storage, CI index and skin browning index of 10 and 15 days interval IW of packed plum were 33%, 51 % and 33%, 47% respectively compared with the control. Moreover the treatment also reduced water loss, increase content of titratable acid (TA) and effectively keep fruit color and flavor. The results suggested that IW with MAP could be promising methods for plum CI control.