

Title Low temperature conditioning reduces postharvest chilling injury in loquat fruit
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Abstract

Chilling injury occurs in loquat (*Eriobotrya japonica* Lindl. cv. Luoyangqing) fruit when they are stored at temperatures lower than 5 °C. In attempts to reduce this chilling injury, the effect of low temperature conditioning (LTC) was examined. Loquat fruit were conditioned at 5 °C for 6 days before 0 °C storage for up to 54 days. Control fruit stored at 0 °C exhibited severe symptoms of lignification and tissue browning, and a decrease in percentage juice. LTC treatment significantly reduced these chilling injury symptoms, and doubled storage life. In terms of acceptability (tissue browning, internal browning (IB) index <0.4; fruit decay, <10%; flesh firmness, <6.0 N; percentage juice, >60%), fruit could only be stored for 40 days at 0 °C with a 3 days shelf life at 20 °C, while LTC fruit could be stored for 60 days at 0 °C with a similar shelf life. Similarly, LTC fruit could be stored for 40 days with a 5 days shelf life at 20 °C, while fruit could be only stored for 20 days at 0 °C with a 5 days shelf life. Our results confirm that LTC can effectively alleviate postharvest chilling injury of loquat fruit and may provide longer storage life with acceptable external and internal quality.