

Abstract

Advanced maturity nectarines cv. Caldesi 2000 [*Prunus persica* var. *nectarina* (Ait.) Maxim.] and peaches cv. Royal Glory [*Prunus persica* (L.) Batch] were treated in 46 °C hot water containing 200 mM NaCl for 25 min, sealed in low thickness PE bags and stored at 0 °C for 1 and 2 weeks. Quality was evaluated initially and after each storage period plus 1 day shelf life. Hot water treatment (an acceptable treatment to reduce spoilage from fungi) did not cause any fruit damage based on external observations, specific conductivity and total phenol content evaluations, but reduced firmness loss (possibly in combination with MA packaging) especially in the white-flesh nectarines and kept the cellular membranes functioning better. PE bags were of low thickness and MA conditions inside the bags were found inadequate (O₂ levels >15%, CO₂ levels <5%) to significantly affect the ripening process during cold storage, but could be harmful after 10 h at room temperature (O₂ levels <3%, CO₂ levels >13%). Mass losses were kept low in PE bags. Juice soluble solids concentration, pH and acidity were not affected by the hot water treatment before and after cold storage. Hot water combined with MA packaging during storage resulted in good quality fruit after 1 week duration for postharvest handling.