

Title Forced-air precooling effect on quality of delayed cold stored stone fruit

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Citation Abstracts of 7th International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

Keywords Preconditioning; *Prunus persica*; peach; nectarine; firmness

Abstract

A growing body of research has shown that delayed cold storage extends peach and nectarine market life, since it delays chilling injury development, and simultaneously, improves sensorial quality. However, delayed storage is often accompanied by side effects, mainly fruit softening. On the other hand, precooling of horticultural products immediately after harvest has long been recommended to maintain a high level of quality that ensures customer satisfaction as it arrests the deteriorative and senescence processes. Therefore, this work was carried out to evaluate the effect of forced-air precooling after delayed storage on stone fruit quality and market life. 'Rich Lady' peach and 'Siglo' nectarine, harvested at commercial maturity, were stored for 24 h at 20°C (delayed storage), followed or not by forced-air precooling ($2-3 \text{ m S}^{-1}$) at 0 °C for 1 h, and then stored at 0 °C and 85-90 % of relative humidity for 7, 14 and 21 days. Flesh firmness, colour (L^* , C^* , H), soluble solids content and titratable acidity were assessed at harvest and after cold storage plus 2 days and 1 day of shelf life for peach and nectarine, respectively. Results showed that forcedair precooling after delayed storage did not retard softening and had no significant effect on the above mentioned quality parameters. Therefore, forced-air precooling had no beneficial effect on delayed stored fruit quality and market life.