

Title Salicylic acid improves chilling resistance of pomegranate by altering unsaturated/saturated fatty acids ratio during cold storage

Author Mohammad Sayyari, Daniel Valero Juan Miguel Valverde, Maria Serrano

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

Keywords Cold storage; electrolyte leakage; skin browning; fatty acids

Abstract

Salicylic acid has been used to extend chilling resistance of several fruits during cold storage, although no information is available about its effects on nutritive and functional properties in pomegranates. Pomegranate (*Punica granatum* L.) fruits were dipped in 2 mM solution of SA and stored at 2°C for 90 days. Every month, samples were taken and further stored for 3 days at 20°C for shelf life study. Treated and chilled fruits were compared with chilled and non-chilled fruits (stored at 2 and 10°C, respectively). Chilling injury manifested as increases in skin browning and electrolyte leakage. The severity of damage in control fruit was related to softening and loss of fatty acids with a concomitant reduction in the ratio of unsaturated/saturated fatty acids during storage. These chilling injury symptoms were slightly, but significantly reduced in SA-treated pomegranates. Additionally, the levels of sugars (glucose, fructose) and organic acids (malic, citric, and oxalic acids) remained also at higher concentrations in arils from SA- treated fruits.