Title Salicylic acid prolongs shelf life and improves quality of 'Maria Delicia' peach fruit

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Citation ISHS Acta Horticulturae 880:191-197. 2010.

Keyword salicylic acid; peach; 'Maria Delicia'; shelf life; chilling injury

Abstract

Peach (*Prunus persica* L.) 'Maria Delicia' fruit harvested at commercial maturity were dipped in solutions of 0, 0.5, 1 and 2 mM salicylic acid (SA) and stored at 1±1°C, 95% RH for 6 weeks. Sensory characteristics, physical and chemical analysis, and changes in colour were evaluated. The interaction among treatments and storage intervals exhibited significant differences. After 6 weeks storage minimum firmness (3.0 kgf) occurred in control fruit, while maximum firmness (3.9 kgf) was recorded in fruit treated with 1 mM salicylic acid. After 6 weeks at 1°C average weight loss was 6.6% in 1 mM SA treated fruit compared to 10.8% in controls. SA treated fruit were low in TSS and pH and high in titratable acidity and ascorbic acid concentrations. Sugars (non-reducing, reducing and total) were maintained lower in 1 mM SA fruit than in other treatments. Maximum L* occurred in 1 mM SA treated fruit along with lower chromaticity (b* value), while a high b* value in control fruit was associated with enhanced fruit ripening. Organoleptic evaluation indicated that 1 mM SA significantly maintained eating quality with higher quality attributes than other treatments. Fruit treated with 1 mM SA developed less chilling injury and less weight loss than other treatments. It is suggested that SA has positive effects in maintaining membrane integrity. In turn; a delay in the fruit ripening process was achieved by 1 mM SA treatment at the end of storage along with improved postharvest quality of peach fruit.