Effects of salicylic acid on postharvest fruit quality of “Kinnow” mandarin under cold storage

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Abstract

The present study was conducted to investigate the effects of postharvest SA application on the fruit quality of mandarin during storage. Different concentrations of SA (4, 8 or 12 mM) were applied in the first year while, 2, 4 or 6 mM during the second year. The fruits were stored at 5 ± 1 °C and 90 ± 5% RH for 90 days and data were collected regarding different fruit quality parameters. Results revealed that maximum antioxidant activity, total phenolic contents, activities of peroxidases (POD) and superoxide dismutase (SOD) enzymes were found in the fruit treated with 4 mM SA. All SA levels had significant effects to prevent fungal attack in comparison to untreated control fruit during 90 days storage. Therefore; pre-storage application of 4 mM SA can be used safely to minimize the decay % and to maintain the highest level of bioactive compounds in ‘Kinnow’ mandarin fruit for three months under cold storage.