

Title The effect of combination of hot water and some postharvest treatment on quality and storage life of satsuma mandarin

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Abstract

In the present study, hot water and combination of some postharvest treatment were examined to evaluate the effect of postharvest decay and storage ability of Satsuma mandarin (*Citrus Unshiu* Mar.). The first year of study, the fruit were exposed to various hot water temperature and time. The second year of study, the experiments were conducted with 53°C for 3 min alone, found successful at first year, and combined with low dose of imazalil (200 µg ml⁻¹), combination of yeast isolates with low dose of imazalil and recommended dose of imazalil (1000 µg ml⁻¹). Also chlorine was applied at the dose of 100 µg ml⁻¹. The control fruit were dipped to water at 23°C for 3 min. As a result of both year studies, it was found that heat damage and increasing development on fruit at the highest temperature of hot water treatment (56°C). And also, it was affected all quality parameters negatively. Scanning electron microscopy of 53°C for 3 min treated fruit surface appeared relatively homogeneous and stomata openings and surface cracks were sealed as compared with control fruit. When the decay development was reached to 15% on control fruit, dip53 and imazalil alone and combination of them were completely inhibited decay incidence. The results confirmed that hot water dipping could be used as commercially because of inhibiting postharvest losses and it could be combined with low doses of fungicides on Satsuma mandarins.