

Abstract:

Salicylic acid (SA), o-hydroxybenzoic acid, is one of the phenolic compounds produced in the plant. It has shown many important functions in the plant. The purpose of this research was to investigate the effect of SA treatment on physiological changes of peaches during storage. Harvested 'Okuba' peaches were immersed in SA solutions with the concentration of 0.10 g/L at normal and partial-vacuum for 10 minutes (1996) and at 0.10 g/L at normal immersion for 20 minutes (1997). The treated fruit were stored at room temperatures for 10 days (26-30 °C) in 1996 and at 30-34 °C for 11 days in 1997.

The results showed that SA immersions inhibited the respiration rate and delayed the ethylene production peak of ripening peaches. However, the cell membrane electrolyte leakage of SA-treated fruit were higher than the control during the early days, but lower at the subsequent days. Activities of polyphenoloxidase (PPO) and peroxidase (POD) were inhibited at the 2nd or 4th day and stimulated subsequently. Partial- vacuum infiltration of SA had no advantages in comparison with the normal condition.