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Effects of Preharvest Application of Salicylic acid and Gibberellic acid on Qualitative Characteristics and Postharvest Life of Kinnow Mandarin

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Kinnow is one of the most important cultivars of mandarin with a special economic importance in Iran. The purpose of this study was to investigate the effects of preharvest applications of salicylic acid and gibberellic acid on the storage quality of *Citrus reticulate* Blanco cv. Kinnow fruit. A factorial experiment was conducted in a randomized complete block design with 3 replications in 2017. The six-year-old trees of mandarin were sprayed in two stages before harvest and fruits were harvested at the end of December and kept at 5 °C and 85% relative humidity for 60 days. Based on the results obtained, at the end of the storage, the lowest levels of acidity were observed at 50 mg L^{-1} gibberellic acid plus 1 mM salicylic acid. The highest and the lowest TSS levels were observed in non-treated fruits along with 50 mg L^{-1} gibberellic acid plus 1 mM salicylic acid. All treatments, with the exception of salicylic acid 2 mM, showed a significant role in preventing weight loss. Gibberellic acid treatment has a significant role in preserving the vitamin C of the fruit. The highest L* value (lightness) was observed in gibberellic acid treatment with 50 mg L^{-1} with 1 mM salicylic acid. The highest a* (21.9) (redness) was observed in salicylic acid 2 mM. Finally, based on the evaluated characteristics, the treatment 50 mg L^{-1} gibberellic acid plus 1 mM salicylic acid is introduced as the best treatment.

Keywords: Plant growth regulators, Storage life, Quality, Mandarin.

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