

Title Pre-harvest foliar application of putrescine and spermine on postharvest quality of fresh pistachio

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Abstract

Pistachio is the major agricultural product in Iran. Fresh pistachios undergo biochemical and physiological changes after harvest and postharvest and in consequence it has a short shelf life. The study was designed to study the effects of foliar spraying of putrescine and spermine before harvest and evaluating the postharvest behavior of fresh pistachio. Putrescine (0, 1, 2 mM) and spermine (0, 1, 2 mM) were applied to pistachio tree, Kalleh Ghochi and Fandoghi. Treatments were performed 20 and 35 days before harvest. Following Put and Spm treatment fruits were stored at $1.5^{\circ}\text{C}\pm 1$ and 90-95% RH for 0, 20 and 45 days. Parameters such as color changes, firmness, weight loss and fungal infection were measured in harvest time and also during the storage. The results revealed that fresh pistachio storability could be extended by Put and Spm treatment due to their effect on delaying the softening and decreasing weight loss, fungal infection. In addition both polyamines at different concentration increased the firmness of fresh pistachio nuts significantly compare to control.