

Title Influence of putrescine application on storability, postharvest quality and antioxidant activity of two Iranian apricot (*Prunus Armeniaca* L.) cultivars

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Abstract

Apricot is a climacteric fruit with limited postharvest storage life due to acceleration of quality loss. Therefore, this research was conducted to investigate and compare the effect of different concentrations of postharvest putrescine application on quality characteristics and antioxidant activity of two apricot cultivars during storage based on completely randomized design with 4 replications. The two apricot cultivars ('Lasgerdi' and 'Shahrodi') were harvested at the commercial ripening stage, and fruits were immersed in 1, 2, 3 and 4 mM putrescine as well as distilled water (control) for 5 min, then fruits were packed in boxes with polyethylene cover and stored at 4°C and 95% relative humidity for 20 days. The changes in weight loss, fruit firmness, total soluble solids, titratable acidity, pH, maturity index, ascorbic acid, total phenolics and antioxidant activity were estimated after 0, 5, 10, 15 and 20 days during storage. The results showed that the weight loss, total soluble solids, pH and maturity index increased significantly while the fruit firmness, titratable acidity, ascorbic acid, total phenolics and antioxidant activity decreased significantly during storage for both cultivars. Also, there were significant differences between control and putrescine treatments in all measured parameters during storage. The putrescine treatments prevented significantly the weight loss of fruit during the storage and kept their firmness. In this condition, the highest and lowest of titratable acidity, ascorbic acid, total phenolics and antioxidant activity were observed in treatments of 4 mM putrescine and control, respectively. The data revealed that the quality of apricot fruits was improved by the use of putrescine treatment due to its effect on delaying the ripening processes.