

Combined effects of aminoethoxyvinylglycine and MAP on the fruit quality of kiwifruit during cold storage and shelf life

Burhan Ozturk, Serkan Uzun and Orhan Karakaya

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Abstract

This study was conducted to investigate the effects of postharvest aminoethoxyvinylglycine (AVG) and modified atmosphere packaging (MAP) treatments on quality traits and bioactive compounds of kiwifruit (*Actinidia deliciosa* cv. 'Hayward') during cold storage and shelf life periods. In the study, treatments were selected as control, AVG (225 mg L⁻¹ as dipping for 2 min), MAP and AVG + MAP. Kiwifruit were stored at 0 ± 0.5 °C and 90 ± 5% relative humidity (RH) for 180 days. Fruit were kept at 21 ± 1 °C and 70 ± 5% for shelf life (5 d). MAP significantly delayed the weight loss during cold storage. In measurement of last cold storage and shelf life, MAP-treated fruit had higher firmness compared to the control and AVG, but had lower respiration rate. On 180th day of cold storage, MAP-treated fruit was higher than the control in terms of vitamin C content, whereas at the shelf life all treatments were higher values than control. In measurement of last cold storage and shelf life, the highest total phenolic was found in AVG treatment. Also all treatments significantly delayed the losses of the total flavonoid and antioxidant activity compared to the control. It was revealed that MAP could be used as an efficient tool for delaying the losses which occurred the fruit quality and bioactive components of kiwifruit during cold storage and shelf life.