

**THE EFFECTS OF PRE-HARVEST RETAIN
[AMINOETHOXVINYLGLYCINE (AVG)] APPLICATION ON QUALITY
CHANGE OF ‘MONROE’ PEACH DURING NORMAL AND CONTROLLED
ATMOSPHERE STORAGE**

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ABSTRACT The aim of this research was to determine the effects of pre-harvest AVG treatments on the fruit quality of ‘Monroe’ peach stored in normal (air) atmosphere (NA) and controlled atmosphere (CA) conditions. For this purpose, ReTain containing 15% aminoethoxyvinylglycine (AVG) was applied to the peach fruits. 150 ppm dose of AVG was sprayed on the fruits 7 days before commercial harvest. Harvested fruits were transported to Postharvest Physiology Laboratory of Horticulture Department immediately. AVG treated and control fruits were stored at 0 °C temperature and 90 ± 5% relative humidity conditions during 6 weeks in air and 8 weeks in controlled atmosphere conditions. Weight loss, fruit flesh firmness, titratable acidity, soluble solid contents, fruit color, ethylene production, respiration rate and sensory analyses (external appearance, taste and aroma) were determined at the beginning and during the storage period with 2 weeks intervals. In this research, the maturation of the AVG-treated fruits was delayed compared to the control groups. The weight loss was increased by AVG application compared to the control fruits in both NA and CA. End of the storage, the lowest and highest fruit firmness was found to be 58.69 N (in NA)-58.28 N (in CA) and 83.54 N (in NA)-75.66 N (in CA) in control treatment and AVG treatment, respectively. In addition, titratable acidity of the fruits decreased and soluble solid contents increased during the storage period. The ethylene production level was lower (0.034 and 0.035 L/kg h) than that of control fruits (0.068 and 0.100 L/kg h) at the beginning as well as at the end of the storage, respectively in NA and that these results similarly in CA. It is concluded that pre-harvest AVG application (150 ppm) 7 days before commercial harvest to ‘Monroe’ peaches can increase financial returns to growers through increased fruit size and quality benefits as well as maintain a higher flesh firmness following post-harvest storage and export.

Keywords: AVG ‘Monroe’, Peach, Quality, Normal (air) and controlled atmosphere, Cold storage