

## Effect of Gibberellic acid treatment on storage life and quality indices of sweet cherry (*Prunus avium* L.) cv. Siah Mashhad

A. Sedighi<sup>1</sup>, M. Gholami<sup>2\*</sup>, H. Sarikhani<sup>3</sup>, and A. Ershadi<sup>4</sup>

1. Department of Horticultural Sciences, Bu-Ali Sina University, Hamedan Iran

2. \***Corresponding Author:** Professor, Department of Horticultural Sciences, Bu-Ali Sina University, Hamedan Iran, (mgholami@basu.ac.ir)

3,4. Assistant Professors, Department of Horticultural Sciences, Bu-Ali Sina University, Hamedan Iran

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### Abstract

Fruit softening, shrinkage, decay and fruit stem browning are the most important problems in sweet cherry post-harvest storage. This research was conducted to study the effect of gibberellic acid (GA<sub>3</sub>) treatment on storage life and some quality attributes of sweet cherry cv. Siah Mashhad. Gibberellic acid was sprayed on fruits and leaves at four concentrations of 0, 10, 20 and 30 mg/l, at fruit coloring stage. The treated fruits were harvested at commercial maturity and stored at 0°C. The results showed that GA increased fruit but size and weight significantly delayed the ripening. GA reduced the rate of fruit softening and weight loss during storage in comparison to the control. Furthermore, its application at all three concentrations decreased ethylene production. However, the treated fruits had higher titratable acidity and lower pH values compared to controls. Fruits treated with GA<sub>3</sub> at the concentration of 10 mg/l, showed significantly higher firmness and lower fungal decay compared to the others. In addition, GA maintained more fruit stems color and fruit freshness. Our results indicated that GA is an effective substance on maintaining sweet cherry quality during post-harvest storage period.

**Keywords:** *Sweet cherry, Gibberellic acid, Storage life, Fruit quality*