

Abstract:

Large cherry fruit are preferred by most consumers and gibberellic acid (GA) can be used to increase fruit size and firmness. The effects of a preharvest GA application on quality of 'Sweetheart' cherries at harvest and during cold storage were evaluated. Treated trees were sprayed with 10 and 30 ppm GA when fruit color was straw-yellow (approx. 74 °hue). When fruit reached their commercial color (approx. 21 °hue), samples of 20 fruit/tree were harvested and quality was evaluated in terms of: weight, size, color, firmness, flesh/stone ratio, pedicel aspect, soluble solids content (SSC) and cracking index. Additional samples of 20 units were placed in plastic trays, packed in LDPE bags and stored at 0 °C for 21 days. Fresh weight loss, firmness, color, SSC and pedicel condition were measured on a weekly basis. Treated fruit reached harvest maturity 5 days later than control fruit and were larger, heavier, and firmer compared with controls. 10 ppm GA-treated fruit had the highest flesh/stone ratio, followed by 30 ppm GA and untreated fruit, while no significant differences were found for SSC and cracking index. During cold storage, fruit treated with 30 ppm GA were significantly firmer than those given 10 ppm GA and these, in turn, were firmer than the controls. Fresh weight loss was negligible and firmness increased towards the end of the experiment in all the treatments. GA treatments did not affect color or SSC, but increased the percentage of cherries with commercial pedicels. The 5-day delay in the harvest date, extending the fruit growing period, may be responsible for the increase in size, weight and firmness obtained with GA. These differences were also maintained during the 21 days of cold storage when treated fruit maintained a superior quality to control fruit.