

**Title** Hexanal and 1-MCP treatments for enhancing the shelf life and quality of sweet cherry (*Prunus avium* L.)

**Author** Mohini Sharma, Jissy K. Jacob, Jayasankar Subramanian and Gopinadhan Paliyath

**Citation** Scientia Horticulturae, Volume 125, Issue 3, 28 June 2010, Pages 239-247

**Keywords** Sweet cherry; Anthocyanin; Superoxide dismutase; Ascorbate peroxidase

#### **Abstract**

Sweet cherry has a short post-harvest shelf life and this greatly affects the consumer preference and export of fresh fruits. In this study, the effects of pre-harvest application of a hexanal formulation (enhanced freshness formulation, EFF) and post-harvest application of hexanal vapour and 1-MCP on quality parameters and shelf life of sweet cherry were investigated. Cherries subjected to pre-harvest spray with EFF had better color, brightness and firmness than unsprayed cherries even after 30 days of storage at 4 °C. These EFF-treated cherries also showed higher chroma values indicative of enhanced red color. Post-harvest application of either, hexanal vapour, 1-MCP, or a combination of both, enhanced the firmness of cherries. These treatments also resulted in higher levels of superoxide dismutase and ascorbate peroxidase activities. The levels of anthocyanins and phenolic components were either enhanced or maintained during the 30-day storage period. Our results suggest that a pre-harvest application of EFF combined with post-harvest treatment of hexanal and 1-MCP may enhance the quality and shelf life of sweet cherry.