

**Title** Impact of storage conditions on grape tomato quality  
**Author** Marita Cantwell  
**Citation** Abstracts Book, 6<sup>th</sup> International Postharvest symposium, 8-12 April 2009, Antalya, Turkey.  
256 pages.  
**Keyword** Storage; grape tomato; quality

### **Abstract**

Storage and ripening recommendations for tomatoes are well known, but quality problems associated with poor temperature management continue to occur during distribution of all types of tomatoes. Grape and cherry tomatoes, also called 'snacking' tomatoes, now constitute about 24% of the value of all tomatoes sold in U.S. supermarkets. New marketing opportunities, such as grape tomatoes in trays of fresh-cut vegetables, expose fruit to temperatures of 5°C or below often in combination with modified atmospheres, conditions at odds with usual handling recommendations for good tomato quality. Several storage studies were conducted on different varieties of grape tomatoes. At 5°C grape tomato fruit (color stage 5) could be stored up to 18 days and still be of marketable quality if kept cold. Continuous storage at 5°C in air resulted in minimal weight loss (a significant cause of quality loss in grape tomato), no lycopene synthesis, decreases in sugar concentrations and retention of Vitamin C concentrations. However if fruit were transferred from 5 and 10°C to warmer temperatures, typical chilling injury symptoms (decay, poor color formation) occur as expected on the fruit stored at 5°C but not on those stored at 10°C. Controlled atmospheres of 3 or 10% oxygen with 0, 7, 12 or 18% carbon dioxide provided little benefit but were tolerated by grape tomatoes for up to 3 weeks at 5°C (based on visual appearance, discoloration, decay, off-odors, and changes in sugars, Vitamin C, and ethanol and acetaldehyde concentrations). Near ripe high quality grape tomatoes perform well as components of fresh-cut vegetable trays under temperatures and atmospheres not recommended for tomatoes.