

Title Changes in fruit quality of paprika and color pimento (*Capsicum annuum* L.) exposed to low temperatures

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Abstract

The *Capsicum* genus that originated in the tropics is susceptible to chilling injury (CI) at temperatures below 7-10°C. The extent of CI depends on cultivar and time of exposure. This study evaluated the response of paprika and color pimento fruits to low temperatures in an attempt to understand the nature of physiological deterioration resulting from CI. Fully matured paprika, 'Plenty' and 'Confetti', and pimento fruits, 'GT-R' and 'GT-Y', in red and yellow colors were stored at 1 or 8°C for 20 days. Both cultivars in different colors stored at 1 and 8°C showed a slight decline in fruit firmness and fresh weight, whereas electrolyte leakage (EL) and total color differences increased during storage. The softest fruit and highest fresh weight loss occurred from red pimento fruits after 20 days storage regardless of temperature. Soluble solid contents remained constant were not significantly affected by storage temperature or cultivars. A greater rise in EL rate was present for all cultivars stored at 1°C. Paprika fruits in red color stored at 1 and 8°C for 20 days showed higher EL rate followed by pimento fruits in yellow color. This result indicates that fruits in yellow color used in the experiment are more susceptible to chilling injury than the fruits in red color.