Abstract:

Mature and ripe pepinos (Solanum muricatum Ait.) were stored under different dynamic CA storage conditions (DCA) at either 5°C or 10°C (RH 95%) for up to 21 days.One group of mature fruit and two groups of ripe fruit (6 fruit per treatment) were stored under a DCA with 5% O_2 and 15% CO_2 (DCAI) for mature fruit and 5% O_2 and 20% CO_2 (DCAII) for ripe fruit for the first two days of storage. For another 19 days, O_2 and CO_2 concentrations were each kept constant at 5%. One group of ripe pepinos was stored under another DCA with 5% O_2 and 20% CO_2 for 7 days and 5% O_2 and 5% CO_2 for another 7 days (DCAIII). A control group of mature and ripe pepinos was stored separately at 5°C in air for up to 21 days. Mature fruit showed lower chroma, higher skin firmness, and higher disaccharide/monosaccharide ratio than ripe fruit. Storing mature pepino fruit under DCAI resulted in a retention of fruit color (chroma), a higher skin firmness, and a higher ratio compared with the fruit stored without CA (5°C). Ripe fruit stored under DCAII and DCAIII also showed a lower decrease in chroma and in skin firmness, and a higher carbohydrate ratio after 21 days of storage compared with those in air. The different DCA treatments did not significantly affect the quality attributes of ripe pepinos. A storage life of three weeks can be recommended for ripe fruit stored under DCA.