Title Pectin composition and turgor of strawberries stored in high CO_2 atmosphere

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Abstract

Strawberries were subjected to air or 20% CO_2 balanced with air at 2.2°C for up to eight days. Firmness of strawberries increased under high CO_2 treatment by about 20%. Direct measurements of cell turgor with a pressure micro-probe revealed no difference in turgor between treatments. Cell wall analyses showed lower water soluble pectin and higher CDTA soluble pectin in CO_2 treated strawberries. Size distribution analysis revealed that under high CO_2 atmosphere the medium molecular size of pectin in the water soluble fraction decreased, while those in the CDTA soluble fraction increased. However, there were no differences in degrees of methyl-esterification in pectin fractions from both treatments. Calcium concentrations in the alcohol soluble solids from both treatments were no different as well.