

Title Browning characteristics of fresh-cut 'Tsugaru' apples as affected by pre-slicing storage atmospheres

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Abstract

The change in browning characteristics of the slices processed from 'Tsugaru' apples stored at 0 °C for 5 months under controlled atmosphere (CA, 1 kPa O₂ + 1 kPa CO₂, 3 kPa O₂ + 3 kPa CO₂) or air has been investigated for 5 days at 20 °C. Respiration and ethylene production of the slices from apples stored in CA were retarded. Electrolyte leakage and browning index were lower in the slices from apples stored under CA than air. Vitamin C and phenolic contents in the slices from apples stored under air were maintained at higher level compared to the slices from apples stored under CA. Polyphenol oxidase activity in the slices was not affected by pre-slicing storage atmospheres. Therefore, the atmospheres of pre-slicing storage affected browning development in fresh-cut products of 'Tsugaru' apples and browning was found to be correlated with the levels of electrolyte leakage and phenolic compounds.