

Abstract:

Aroma compounds, quality parameters and sensory evaluation of Fuji apples were analyzed after 3, 5, and 7 months of cold-storage in normal atmosphere (21%O₂+0.03%CO₂) and in three controlled atmosphere (CA) treatments, in which oxygen and carbon dioxide were held at 1%+1%, 1%+2% and 3%+2%. During post-storage ripening, the apples were kept at 20 °C for 1, 5, and 10 days before analytical measurements were made. The highest volatile emission was obtained after 5 months of storage, at which controlled-atmosphere conditions gave a lower concentration than normal cold storage. Ultra low-oxygen CA showed the highest ability to maintain the fruit firmness. Significant correlation between aromatic compounds, quality parameters and sensory evaluation was found.