

Abstract:

Two main problems downgrade 'Aroma' apple in the Swedish market: high bruise sensitivity and low resistance against pathogens. The purpose of this work was to study the effect of postharvest heating and CA storage on this cultivar storability.

Fruits were picked at optimum harvest date, divided in to two parts. The first part was inoculated with *Penicillium expansum* and *Gloeosporium*, divided in to 26 groups, two of them were stored directly either in NA (2-3°C & 90% RH) or in CA (2% O₂, 2% CO₂), the rest was covered with polyethylene film and held at 20, 30, 40° C for 24, 48, 72, 96 hr. After heating, 12 groups were stored in NA for 15 weeks and 12 groups in CA storage for 20 weeks. Quality parameters, decayed percentage and bruise susceptibility were measured or quantified at the end of storage. The same experimental procedure was applied on the fruits of second part which was kept without inoculation. Fruit decay and lesion diameter decreased due to heating, regardless of storage method. Post-harvest heating improved the effect of CA storage on the pathogen growth, quality and storability of inoculated and non-inoculated fruits. CA storage decreased bruise susceptibility by 20 – 30% in comparison with NA storage. Pre-storage heating showed slight improvement on this effect, especially in fruits treated with high impact energy. CA-apples were 25% firmer, 10% sweeter and they contained 25% higher acidity than NA-apples. Pre – storage heating did not improve the effect of storage method neither on fruits firmness nor on fruit acidity.