

Title Overall quality of 'Rich Lady' peach fruit after air- or CA storage. The importance of volatile emission

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Abstract

In this work, 'Rich Lady' peach fruit picked at three different dates were stored at 2 °C under air or controlled atmosphere (CA) conditions for 3 or 15 days with the purpose of assessing the effects of the different factors considered on some variables (standard quality parameters and emission of volatile compounds) potentially having an impact on sensory acceptance after storage. Extending cold storage under air resulted in lowered acceptance scores, which were improved by CA storage. Multivariate analysis of results revealed that acceptance of 'Rich Lady' peach fruit was related closely to the perception of the characteristic flavour, which in turn was related to soluble solids content and to the emission of specific volatile compounds. Observed differences in alcohol o-acyltransferase (AAT) activity as affected by factors considered in this work did not appear to be large enough to explain differences in ester production after storage. Data suggest that observed differences in the emission of volatile esters arose mainly from modifications in the activity of enzymes located upstream of AAT, causing changes in the supply of precursors for ester biosynthesis in 'Rich Lady' peach fruit.