

Title Controlled atmosphere storage of peaches cultivar 'Eldorado' grown in conventional and organic system

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Abstract

An alternative to prolong the storage period of peaches maintaining the good quality is using controlled atmosphere (CA). The organic fruit market has been boosted by the consumers' exigency for health products and the use of less aggressive techniques to the environment. The objective of this work was to evaluate, during the storage period, conditions effect of controlled atmosphere on physico-chemical and sensorial quality of peaches 'Eldorado' grown in conventional or organic system. Fruits were stored during 15, 30 or 45 days at 1.5°C and 90 and 95% relative humidity (RH) under CS (control) or CA in gas concentrations of 2% O₂ and 5% CO₂; 2% O₂ and 10% CO₂ or 2% O₂ and 15% CO₂. The following was measured: vitamin C (VC), anthocyanins (AN), flesh firmness (PF), weight loss (WL), sensorial analysis with the attributes appearance and taste. Peaches of both systems submitted to CA at all concentrations showed lower WL, greener ground color, higher PF and AN content, and intense characteristic taste when compared to peaches at CS. During storage the peaches grown in an organic system with low: PF, WL and color uniformity. The rots appeared from the fifteenth day of conservation in both systems, but in the organic system it reached 100% on the 45th day. During the firsts fifteen days of storage at CA in all concentrations, the peaches of both production systems presented a high sensorial quality. Up to 30 days of storage the gas concentration 2% O₂ and 15% CO₂ presented higher uniformity and intense characteristic taste. The results allow to conclude that CA was efficient on quality preservations of fruits stored up to 30 days to conventional system and up to 15 days to organic system in peaches 'Eldorado'.