

Title Effect of active and passive MAP on postharvest quality of green onion 'Perfekta'
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Abstract

The effects of passive MAP (LDPE bag and Xtend bag for chives (Stepac, Israel)) and active MAP (LDPE bag, flushed with gas mixture containing 5% O₂ and 5% CO₂) on postharvest quality of green onion 'Perfekta' has been investigated. Onion leaves were harvested, cooled down to 1.6 °C for 24 hours and then ~ 850 g samples packed into MAP bags. The control leaves were wrapped in plastic film, leaving both ends open, which is common procedure done by farmers. Each treatment consisted of six replicate bags. Onions were stored for 18 days in refrigerated storage room at 1.6 °C. At 6 day intervals, O₂ and CO₂ concentrations in the bags were measured using handheld O₂/CO₂ gas analyser OXYBABY V (WITT-Gasetechnik GmbH & Co KG, Germany), the leaves were then weighed, and the content of foliage dry matter, soluble solids, chlorophyll a and b, total carotenoids, leaf SPAD value and colour were determined. At the end of the experiment the spoiled green onions (shriveled and yellow leaves) in the control treatment averaged 31 %, and in MA packages 15-17%. Differences between actively or passively modified MA packages were not significant. In all packages the onion leaves turned brighter during storage, but the SPAD value in actively modified LDPE packages was higher than in Xtend bags or in passively modified LDPE packages. Soluble solids contents decreased during storage and at the end of the experiment green onions stored in actively modified LDPE bags had less soluble solids compared with the control.