

Effect of modified (MAP) and controlled atmosphere (CA) storage on the quality and bioactive compounds of blue honeysuckle fruits (*Lonicera caerulea* L.)

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Abstract

Lonicera caerulea L. is new edible species, which is cultivated for its healthy properties of fruit; however the fresh fruit is characterized by short shelf-life. Therefore the studies were undertaken to extend post-harvest permanence of fresh honeysuckle fruit. The experiments were carried out to assess the quality of fruits of four blue honeysuckle cultivars after short-term storage in controlled (20 % CO₂ and 5 % O₂) (CA) and modified atmosphere (MAP) in Xtend bags. Storage in a normal atmosphere (NA) served as control conditions. Significant impact of storage condition and cultivars on individual qualitative traits as well as the content of bioactive components and antioxidant activity of fruits has been demonstrated. The cultivar 'Vostorg' maintained the firmness of the fruit, while the cultivar 'Indigo Gem' maintained soluble solids content, but this last cultivar was characterized by large losses of fruit weight, resulting from the size and shape of the berry. The controlled atmosphere condition has contributed to a significant reduction in fruit respiration intensity during storage. The results indicated that MAP condition, in relation to NA condition, had a more favorable effect on the content of bioactive components (total anthocyanins) and thus on the antioxidant activity of fruits using FRAP method.