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The use of 1-methylcyclopropene (1-mcp) in nectarine storage

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Abstract

The influence of 1-MCP application on the length of storage of nectarine fruits (Morsian flowers) in a controlled atmosphere cold storage was investigated. The fruits were analyzed at different times depending on the examined parameters: before storage Ø, 7, 20 and 30 days after storage and shelf life 3 days of aging at room temperature (20° C). The content of K (2043.6 mg • kg⁻¹) and Mg (41.0 mg • kg⁻¹) is high in relation to the content of Ca (17.0 mg • kg⁻¹), which contributed to a very high value of the ratio K + Mg/Ca (122.6). The application of 1-MCP affected the preservation of fruit firmness in storage for up to 30 days, with a slightly smaller effect on shelf life at room temperature. The effect of treatment on the viability of fruit weight is noticeable, while the content of soluble solids content (SSC) is lower, with some variation due to unequal fruit ripeness. Biochemical analyses show an increased content of titratable acidity (TA) on the treated fruits, and the pH value, total sugars (TS) and invert sugars (IS) do not show the influence of the application of 1-MCP. The content of macroelements and their ratio, as well as fruit ripeness before storage, indicate partial effects of 1-MCP application, so it is necessary to ensure greater absorption of Ca into nectarine fruits during vegetation and to continue testing firmness and other biochemical parameters before and during ethylene blocker application.

Key words: 1-methylcyclopropene, shelf-life quality, nectarine

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