

Title Application of 1-methylcyclopropene, calcium chloride and calcium amino acid chelate on fresh-cut cantaloupe muskmelon

Author Machado Francisca Ligia de Castro, Alves, Ricardo Elesbão and Figueiredo, Raimundo Wilane

Citation Pesquisa Agropecuária Brasileira, 43 num.5, 2008.

Keywords Cucumis melo; Shelf life; Firmness; Quality; Storage

Abstract

The objective of this work was to determine the effects of postharvest application of 1-methylcyclopropene (1-MCP) and two calcium salts, applied individually or combined, on firmness and visual quality of fresh-cut muskmelon stored in air, for 18 days. Two sets of fruits, one of them exposed to 1-MCP at 300 nL L⁻¹, were cut into cubes, dipped in deionized water, or in 1% Ca solutions as CaCl₂, or in calcium amino acid chelate (Ca-chelate), placed in clamshell containers, and stored in air at 5±1°C and 90±5% RH, for 18 days. The assay was conducted using an entirely randomized design, with three replications, in a split plot array. Evaluation of visual appearance, color, flesh firmness, total soluble solids, titratable acidity, and pH was performed right after treatments, and every period of three days, up to eighteen days. Application of 1-MCP at 300 nL L⁻¹, calcium chloride or Ca-chelate, or the combination 1-MCP and calcium, preserved initial freshness and reduced softening of the samples. Ca-chelate synergistically enhanced the effect of 1-MCP on firmness after nine days of storage, while calcium chloride improved firmness of the samples throughout storage. Ca-chelate may serve as an alternative for shelf life extension of cantaloupe fresh-cut muskmelon.