

Abstract

Plum fruit (*Prunus domestica* L., cv. 'President') were harvested at a pre-climacteric stage of ripeness. They were packaged in small cardboard boxes or in bulk, and treated with 1-methylcyclopropene (1-MCP) at 0.3 or 0.5 $\mu\text{l l}^{-1}$ for 24 h. Then fruit were stored at 1 °C during 0–5 weeks, and weekly removed for 7 days at 20 °C for a shelf-life period. All 1-MCP treatments inhibited the typical ethylene climacteric peak and delayed the change in properties related to fruit ripening, such as fruit softening, decrease in titratable acidity and colour chroma index, and increase in soluble solids content. Nevertheless, these effects were significantly higher when 1-MCP application was performed in plums packaged in small and ventilated cardboard boxes than in bulk, and the storability was extended for up to 5 weeks of cold storage plus 7 days at 20 °C. Thus, for commercial purposes, and in order to obtain the maximum benefit of the 1-MCP, treatments should be carried out in plums already packaged, since gas could diffuse homogenously to the fruit surface, and all ethylene receptors would be blocked by 1-MCP.