

Title Efficacy of 1-MCP treatment in tomato fruit 1. Duration and concentration of 1-MCP treatment to gain an effective delay of postharvest ripening

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Abstract

'Raf' tomato fruit were harvested at the mature-green stage and treated with 1-methylcyclopropene (1-MCP) at 0.5 (for 3, 6, 12 or 24 h) or 1 $\mu\text{l l}^{-1}$ for 3 or 6 h. Fruit were stored at 10 °C for 7 days and a further 4 days at 20 °C for a shelf life period. All 1-MCP treatments reduced both ethylene production and respiration rate and in turn retarded the changes in parameters related to fruit ripening, such as fruit softening, colour (a^*) change, and increase in ripening index (TSS/TA ratio). These effects were significantly higher when 1-MCP was applied at 0.5 $\mu\text{l l}^{-1}$ for 24 h. In order to obtain the maximum benefit from 1-MCP, this treatment would be the most suitable for commercial purposes.