

**Title** Effect of 1-methylcyclopropene on ripening of zapote fruit  
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#### **Abstract**

Zapote or sapota (*Achras sapota* L.) it is a tropical fruit with high future potential market, but its shelf life is short, thus an increase of its shelf life would contribute to facilitate its marketing. The 1-methylcyclopropene (1-MCP) is a compound that has been used to extend the shelf life of some fruits. The aim of this work was to study the effects of the treatment with 1-MCP in the physiology and ripening of zapote fruits. Four concentrations of 1-MCP (0, 200, 500 and 1000 ppb) and two treatment times (12 and 24 hrs) at two temperatures ( $25 \pm 2$  °C and  $16 \pm 2$ °C) were studied. Changes in rate of production of ethylene and CO<sub>2</sub>, and in the percentage of ripe fruits at room temperature ( $25 \pm 2$ °C) were evaluated. The results obtained showed the effectiveness of 1-MCP in producing a significant reduction ( $p < 0.05$ ) in the production of ethylene and CO<sub>2</sub>, being the treatment with 1000 ppb at  $25 \pm 2$  °C during 24 hr. That produced the high decrease in ethylene (4.01 µL/kg-hr) and CO<sub>2</sub> (33.99 mL/kg-hr) production. This treatment allowed to increase shelf life of mature fruits from 4 days to 14 days in treated fruits. Significant changes in the general characteristics of quality of fruits were not observed.