

Abstract:

Ethylene production in climacteric fruit, such as mango, is anticipated when fruit is dropped instead of being carefully picked. The aim of this research work was to evaluate the effect of 1-MCP on alleviating the side effects of fruit dropping on postharvest conservation of mango (*Mangifera indica* L.) cv. 'Rosa', at different maturation stages. Mango fruits were harvested from an orchard in Areia, Paraíba State, Brazil, at the green-yellowish (mature-green) and yellow-greenish (pre-climacteric) maturity stages. Fruits were harvested with a 6-m long rod equipped with a 20x40-cm cloth basket at the end. The treatments were: fruits dropped from an average height of 5-m, and a control (fruits without dropping). Mango fruits from each treatment were treated in sealed chambers with 100 ppb 1-MCP for 24 hr. Under similar conditions, the respective controls were applied. Fruits were stored at room temperature (24 ± 1 °C) and 80 % RH during 16 days. Fruit weight loss, total soluble solids (TSS), total titratable acidity (TTA), TSS/TTA ratio, internal and external appearances (1-9 scales), and skin color (1-7 scale), were evaluated. Treating mango fruit with 1-MCP slowed down the senescence processes caused by the impact resulting from dropping fruits from the tree, mainly for fruits at green-yellowish (mature green) maturity stage. However, 1-MCP treatment did not completely inhibit the decay onset. For yellow-greenish (pre-climacteric) mango fruits, 1-MCP treatment did not show significant results on minimizing external damage or delaying senescence for dropped fruits. Therefore, treating mango fruit cv. 'Rosa', dropped from the tree, with 1-MCP may be able to alleviate external damage only for earlier maturity stages, such as green-yellowish, mature-green, fruits.