

Abstract:

The effects of postharvest application of 1-MCP on fruit ripening were evaluated in 'Tommy Atkins' mangoes harvested at two stages of maturity as defined by growers' standards based on pulp color. Fruits were exposed to 1-MCP for 12 hours in sealed containers, and then stored for up to 14 days at room temperature. The experiment was carried out as a 2x4x6 factorial design, with two stages of maturity (S2 and S3), four concentrations of 1-MCP (0, 30, 120 and 240 nL.L⁻¹) and six evaluation periods (0, 4, 7, 9, 12 and 14 days), with five replications. Respiration rate, weight loss, pulp firmness, pH, total titratable acidity (TTA), total soluble solids (TSS) and TSS/TTA ratio were evaluated. Effects of 1-MCP concentrations of 30 and 120 nL.L⁻¹ were noticed on ripening of mangoes harvested at S2, as delayed climacteric peak, reduced respiration rate, reduced fresh weight loss, firmer pulp and higher total titratable acidity as compared to non-treated fruits. Generally, fruits harvested in more advanced maturity stages are less susceptible to 1-MCP application. 'Tommy Atkins' mangoes harvested at S3 maturity stage are not significantly affected by 1-MCP applications. Nevertheless a trend to delay ripening could be noticed.