Title	Effect of ethylene exposure on some physiological parameters of Ataulfo mango ripening
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Abstract

Due to the expansion of export markets for Ataulfo mangoes from Nayarit (Mexico), producers are interested in obtaining homogeneous and faster ripening, in order to optimize times of handling and transportation. Even though several works have been reported on ethylene ripening of several varieties, no information has been generated on Ataulfo mangoes. The objective of this work was to evaluate the use of atmospheres containing ethylene on ripening parameters of Ataulfo mangoes. Ethylene (100, 500 and 1000 μL/L) was applied to Ataulfo mangoes in sealed containers in two exposure times (6 and 12 h). The mangoes had been previously disinfested with the USDA-approved hydrothermal treatment and kept at 13 °C for 4 days. After ethylene exposure, fruit were allowed to ripen at 27±2 °C. Control fruit not exposed to ethylene were kept all the time at 27±2 °C (T1), while another group was maintained at 13 °C for 4 days and then transferred to y 27±2 °C (T2). Peel color, respiration rate (RR), ethylene production rate (EPR) and ACC concentration and ACC oxidase activity were monitored during storage. RR and EPR were greater in mangoes exposed to 100 μL/L ethylene for 12 h. ACC concentration decreased during ripening but ACC oxidase activity increased. Color development was faster in mangoes treated with ethylene and ACC oxidase activity decreased. Full color was attained fastest in fruit treated with 100 μL/L ethylene for 12 h. A set of conditions was found to accelerate ripening time of Ataulfo mangoes. The average time gained by this method was 3 days.