

**Title** Application of exogenous ethylene on postharvest ripening of refrigerated 'Ataulfo' mangoes  
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### **Abstract**

Commercial handling of 'Ataulfo' mangoes is burdened by lack of uniformity in ripening of the fruit. A viable approach to overcome this problem could be by application of exogenous ethylene. In this work, we evaluated the application to exogenous ethylene on 'Ataulfo' mangoes with hot-water treatment after having been stored for 4 days at  $13\pm 1$  °C, and then transferred to  $25\pm 2$  °C for ripening. Fruit were exposed to 100, 500 or  $1000 \mu\text{l l}^{-1}$  ethylene for 6 or 12 h at  $25\pm 2$  °C. Control fruit were held at  $25\pm 2$  °C with no previous refrigeration or ethylene exposure; another batch was kept refrigerated for 4 days at  $13\pm 1$  °C, not treated with ethylene and ripened  $25\pm 2$  °C. Application of  $1000 \mu\text{l l}^{-1}$  of ethylene for 12 h caused improper ripening. Best results were observed by application of  $100 \mu\text{l l}^{-1}$  of ethylene for 12 h, which stimulated the synthesis of 1-amino cyclopropane-1-carboxylic acid (ACC) and increased ACC oxidase activity; these conditions led to a concomitant production of ethylene and the subsequent acceleration of ripening with a net gain of 4 days in the ripening time. External color development of the ethylene-treated fruit was judged as more homogeneous.