

**Title** Application of vacuum and exogenous ethylene on Ataulfo mango ripening  
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### **Abstract**

The limited industrial processing and export to European countries of fresh Mexican 'Ataulfo' mangoes is attributed in part to the lack of homogeneous ripening among fruit from the same lot. A viable technology to alleviate the situation is the application of exogenous ethylene. In this work, vacuum (34 kPa) was applied for 20 min to 'Ataulfo' mangoes that were later exposed to exogenous ethylene (500, 1000 and 1500  $\mu\text{L L}^{-1}$ ) for 30 min and ripening was monitored. Application of vacuum did not produce apparent visual damage to the fruit; when 1500  $\mu\text{L L}^{-1}$  ethylene were applied for 30 min after the vacuum, induced production of internal ethylene with a concomitant increase in respiration rate. Firmness and acidity loss proceeded faster after the fruits were exposed to vacuum and 1500  $\mu\text{L L}^{-1}$  ethylene; similarly, total soluble solids increased and pulp and peel color development was 100% in the whole lot. An overall reduction of three days from the normal ripening time was observed attributed to the treatments. It is proposed that short exposures to vacuum and ethylene could improve the uniformity in mango ripening.