

Title Effect of Exogenous Ethylene on ACC Content and ACC Oxidase Activity During Ripening of Manila Mangoes Subjected to Hot Water Treatment

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Abstract

Mangoes (*Mangifera indica* L.) 'Manila' were subjected to the USDA-approved hot water treatment and then exposed to synthetic air mixtures containing 0.5, 0.75 or 1 ml l⁻¹ of ethylene for 6, 12 or 18 h at 25 °C, to induce accelerated ripening. After treatment the mangoes were allowed to ripen in air at 24–25 °C. The content of 1-aminocyclopropane-1-carboxylic acid (ACC) and ACC oxidase (ACO) activity increased in fruit treated with 0.5 and 0.75 ml l⁻¹ of ethylene for 6 or 12 h. Ethylene production was reduced in fruit treated with 1 ml l⁻¹ of ethylene. This was due to the decreased of ACC synthesis rather than to lower ACC oxidase activity. Treatment with 0.5 ml l⁻¹ of ethylene for 12 h was found best for accelerate ripening; fruits were fully ripened and edible 3 days after treatment, compared to 6–7 days for untreated mangoes.

<http://www.springerlink.com/content/x28h0605g626u8hh/fulltext.pdf>