

Studies On The Physiology Of Polyamines And Ethylene During Ripening Of Banana And Papaya Fruits

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Abstract

Experiments were conducted to determine the role of polyamines and ethylene in the ripening of banana and papaya fruits. In the first experiment, fruits were stored either at room (25-30 °C) or cool (13-18 °C) temperatures. The second experiment consisted of four treatments of exogenous polyamines infiltration: control, putrescine (3 or 10 mM), 1 mM spermidine and 1 mM spermine. The experiments were replicated three times. Results of the first experiment showed that cool storage inhibited fruit softening, the increase of ACC content, rate of ethylene production and respiration, total sugar, and peel color development. Spermidine was the polyamine found in banana and papaya fruits. Spermidine decreased at both temperatures with slower decreases at cool temperature than at room temperature. In the second experiment, infiltration of polyamines inhibited fruit softening, peel color development, the increase in ACC content, rate of ethylene production and respiration, and ACC oxidase activity.

Keywords: *Musa acuminata* L., *Carica papaya* L., postharvest, senescence, tropical fruits