

Response of 'Carabao' Mangoes to Various Ripening Agents

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Abstract

Mango (*Mangifera indica*), a climacteric fruit, undergoes ripening after harvest. Ripening alters the physicochemical characteristics of fruit that converts it into one that is edible and acceptable in the market. The ripening of mango consists of changes in color, firmness, texture, aroma, and taste. Ethylene gas ripens mangoes, but it is not readily available. The local market uses calcium carbide, which is no longer used in many mango-producing countries. The use of bioethylene or ethylene natural sources can be alternative ripening agents. In this study, various ripening agents were evaluated. 'Carabao' mangoes were treated with ethephon (2-chloroethylphosphonic acid, CEPA at 250, 500, 1000, and 1500 $\mu\text{L L}^{-1}$); calcium carbide (CaC_2 at 2.5, 5, and 7.5 g kg^{-1}); and bioethylene sources such as madre cacao or *kakawate* (*Gliricidia sepium*) at 10% and 20%; more green than yellow 'Cardava' banana (10%), and more green than yellow mango (10%). Bioethylene sources did not reduce the number of days to ripen the mango compared to calcium carbide and ethephon at 1500 $\mu\text{L L}^{-1}$. Calcium carbide treatment reduced the days to ripening or TRS (from 6.6 to 3 days) of mango fruit with better visual quality and lower weight loss at TRS. At TRS, untreated fruit had the highest weight loss at 9.6%. Fruit ripened with more yellow than green 'Cardava' banana and mango gave the least weight loss per day.