Title Postharvest responses of Harumanis mango fruits to differential ripening temperatures

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Abstract

Harumanis mango is marketed as green-ripe fruit with green peel and soft edible pulp: this reduces the demand for this fruit since consumers prefer yellow fruit. To the best of our knowledge, little is known regarding postharvest responses of Harumanis mango to differential temperatures. Therefore, the objective of this study was to characterize peel colour and selected quality characteristics of Harumanis mango when exposed to differential ripening temperatures. Mature green mangos (day 0) were collected from Department of Agriculture, Perlis. The fruits were ripened using 5 g CaC_2/kg fruit at 20, 25, 30 and 35°C. After 24 h, the covers of fiber board carton were removed and the fruits allowed to ripen at 25°C for four days. Fruit at day 0, 2 and 4 were analyzed for peel colour (L*, C* and h^o), soluble solids concentration (SSC) and flesh firmness, and the data were analyzed using ANOVA and the differences between means determined using LSD. The four ripening temperatures did not affect L*, C*, firmness and SSC of fruits. The peel h^o values were significantly lower when fruits treated at 20 and 25°C as compared to 30 and 35°C. As ripening progressed, L* and C* values increased while h^o values decrease significantly, indicating the colour of fruit changed from green to yellow. The firmness of fruit decrease while SSC increase significantly as ripening day progressed and this contributes to better eating quality of fruit. It is concluded that temperature of 20 and 25°C can be used to obtain yellow-ripe Harumanis mango.