

Efficacy of postharvest treatments on fruit marketability and physico-chemical characteristics of 'Dashehari' mango

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Acta Horticulturae 1066: 201-206. 2015.

Abstract

An experiment was carried out at the Horticulture Research Centre of G.B. Pant University of Agriculture & Technology, Pantnagar to study the “Efficacy of postharvest treatments on fruit marketability and physico-chemical characteristics of ‘Dashehari’ mango”. Fruits were given different dip treatments with naphthalene acetic acid (100 ppm), gibberellic acid (100 ppm), succinic acid dimethyl hydrazide (1000 ppm), calcium nitrate (1.5%), calcium chloride (1.5%), bavistin (500 ppm), wax emulsion (6%) and perforated polythene bag, just after harvest. The treatments were given either singly or in various combinations, whereas water dip served as control. The experiment was conducted in completely randomized design. Results of the present study revealed that at the 14th day of storage the maximum marketability (89.35%) and minimum physiological loss in weight (15.06%) were recorded in the fruits treated with bavistin at 500 ppm along with wax emulsion at 6%. At the 14th day of storage minimum reduction in fruit weight (15.13%), fruit length (0.28%) and fruit diameter (0.37%) were recorded with same treatments. This treatment also retained significantly higher ascorbic acid content (31.23 mg/ 100 g pulp) as compared to other treatments. The treatment of fruit with bavistin at 500 ppm + wax emulsion at 6% + perforated polythene bag reported to have maximum content of total sugar (17.47%) and minimum titratable acidity (0.26%). TSS content was found maximum (19.68°B) with treatment of CaNO_3 at 1.5%. The interaction between postharvest treatments and storage periods was found to be significant for physical quality parameters and non-significant for chemical quality parameters, whereas storage period significantly affected both type of parameters. Therefore, it may be concluded that the combined application of bavistin (500 ppm) with wax emulsion (6%) is the most effective application for increasing fruit marketability and quality of ‘Dashehari’ mango.