Title Effect of post harvest treatments on shelf life and quality of mandarin

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Abstract

Citrus is one of the popular fruit of Maharashtra, India where it is grown on an area 117,300 ha with annual production of 691,600 mt. Large quantities of fruits are being wasted due to improper post harvest handling and low processing capacity. Excessive transpiration and maximum respiration rate at normal temperature resulted in destruction of valuable physico-chemical constituents, which results in the shorter shelflife and rapid deterioration of the citrus quality.

The study on extension of shelf life was undertaken during 2009-2010 in Post harvest technology laboratory, Department of Horticulture, Dr. PDKV, Akola (India). For this study matured and uniform sized fruits with colour break on the skin of Mrig Bahar fruits were selected and treated with six different organic and inorganic chemicals and stored at ambient condition.

The experiment was laid out in Completely Randomized Design with seven treatments viz. NaCl 1 % dip, GA_3 200 ppm, GA_3 250 ppm, Til oil 1% dip, Til oil 1.5% dip, Carbendazim 500 ppm dip, Potassium Permangnate 0.1 % dip, replicated thrice with fifteen fruits in each replication. The results indicated that the fruits treated with Til oil 1.5% dip, were superior with respect to maximum shelf life, minimum cumulative percent weight loss, maximum juice and ascorbic acid retention. It was further noticed that, the fruits dip in 1.5 % Til oil exhibited the least changes in chemica] constituents as compared to the rest of chemicals used. Hence results revealed that, the respiration and transpiration activity can be restricted by using the organic substance like Til oil which helps to extend the shelflife with minimum shriveling, without deterioration of the marketable quality of the fruit.