

STORAGE POTENTIAL OF HALF RIPEN TOMATOES USING DIFFERENT PACKAGING

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Tomato is one of the most important fresh vegetables and perishable one. Hence the necessity has arisen to investigate different packaging methods to extend the shelf life of tomato fruits.

Half ripen tomatoes were surface sterilized with 2% common salt (NaCl), dried in air and were packed in sealed polyethylene film with various treatments. These include packing with silica gel and KMnO_4 dipped paper (1000ppm) with only silica gel and normal polyethylene packaging without them. These fruits were stored at room temperature (30°C - 32°C) as well as in the refrigerator (4°C). In addition the fruits were also wrapped with paper and stored at room temperature. Untreated fruits stored at room temperature was the control. Spoilage rate was determined for all treatments.

Based on the spoilage, the treatments sealed polyethylene packing with silica gel, packing with silica gel and KMnO_4 dipped paper and polyethylene packing without them stored at room temperature, were rejected and others were selected for further investigation. The fruits in the selected treatments were further assessed for colour, weight loss, changes in titratable acidity and sensory quality, every week for one month.

Colour development and retention of weight of fruits were superior in sealed polyethylene packages stored in refrigerator. Decrease in acidity

and losses of weight in fruits packed in polyethylene and stored in refrigerator were less, and differed significantly from those of the control at 1% level. Titratable acidity rate decreased with increase of storage period but it was slower in fruits, which were packed in polyethylene.

Sensory quality was rated for overall eating quality, flavour desirability, firmness, desirability and juiciness. Overall eating quality and juiciness of fruits in all treatments were better and significantly differed from the control at 1% level.

Flavour desirability of fruits in paper wrapped, normal polyethylene packaging and polyethylene packaging with silica gel (refrigerated) was found to be more favourable and significantly differed from control at 1% level. Firmness of fruit in all treatments, except polyethylene packaging with silica gel and KMnO_4 dipped paper (1000ppm), was significantly better than the control at 1% level.

Considering the overall quality, tomato fruits sealed in normal polyethylene packing and kept in refrigerator (4°C) was the best among all treatments included in this study.