THE EFFECT OF COMBINED POSTHARVEST TREATMENTS TO MAINTAIN THE QUALITY AND PROLONG THE SHELF LIFE OF TOMATOES

BY

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ABSTRACT

A postharvest loss of 40-45% in tomato (*Lycopersicon esculentum)* is reported in Sri Lanka. Methods to reduce postharvest losses are therefore imperative. An experiment was carried out with the objectives feeding ways and means of reducing the qualitative postharvest losses and increasing the storability of tomatoes. The treatments included tomato fruits packed in polyethylene film, basket, and carton box storage at different temperature conditions namely room temperature (30°C-32°C), refrigerator (10°C), and low cost cool chamber (20°C). The fruits under these treatments were assessed for colour, weight loss, changes in titratable acidity, pH, reducing sugar, total soluble solids, ascorbic acid, and percentages of decay, at weekly interval for a period of 3 weeks.

Colour development and retention of weight of fruits were found superior in polyethylene packages stored in refrigerator. In the low cost cool chamber, colour development of fruit at a faster rate, retention of fruit weight at moderate level, short period of shelf life and higher % of decay were observed. At room temperature, tomatoes were tend to became yellow rather than red due to the conversion of Lycopene to β- carotene at high temperatures and a significant decrease in acidity and physiological weight loss were observed compared to other storage treatment.

Polythene packed fruits, maintained superior quality comparatively to these basket and carton. It was observed that room temperature and low cost cool chamber a basket was a suitable method to extend the storability of tomatoes because it provided a good ventilation to reduce the decay. In the sensory evaluation, as evaluated by the panelists, there were no significant differences among the treatments.

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