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Effect of storage and prepackaging on keeping quality of vegetables

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ABSTRACT

Prepackaging help to protect the vegetables from heat and to retain the keeping quality, perforation of the polythene packages is advised from the point of a creation to retain the keeping quality. This Point into consideration 100 gauge polythene bags with (without perforation of size 30 x 25 cm) were selected for packaging vegetables. Leafy vegetables and other vegetables were stored in three different conditions. Minimum weight losses and remained in good conditions up to 7 to 8 days of storage when stored in perforated polythene bags. Ladies finger in perforated bags showed slightly more weight loss, better quality and had no off flavor imperforated polythene bags remained maximum of vitamin C content folled by perforated and open condition. Statistically highly significant differences was observed for texture, color, aroma, overall freshness, and weight losses, Vitamin C loss when stored at room temperature, open condition perforated and non perforated condition of polythene bag in all models.

Key words : Polythene bag, Cooling devices, Physiological weight losses.

Polythene bags are very important in storage of perishable food. Many times prepackaging is done for storing vegetables. Prepackaging helps to protect the vegetables from heat and to retain the keeping quality. Polythene packages are common in use, perforation of alteration to retain the keeping quality. It increases the shelf life of vegetables and prevents the spoilage.

100 gauge polythene films for packaging of fresh leafy vegetables and 200 gauge films for packaging the fresh fruits increased shelf life of commodities at room temperature shelf life of commodities like brinjal, carrots, green chillies, ladies fingers stap bean beetle leaves and curry leaves would be doubled by use of polythene packaging.

Prepackaging studies on okra cultivar pusa sawni by using 400,300,100 gauge polythene film bags under room temperature conditions 32 to 2°C and H 70 to 75%) had a shelf life of a days as against 2-3 days of unpackaged produce. (Shah *et al*., 1980). Self life of two okra varieties namely pusa sawni and padmini prepacked inperforated and unperforated polythene bags of 400 and 200 gauge thickness at ambient condition (42°C and 77.5% R.H.). Fruits packed n polythene bags had minimum weight loss and remained in good conditions up to 10 days of storage. Ladies finger in perforated bags showed slightly more weight loss, better quality and had no off flavor (Saimbi and Randhawa, 1983). Polymeric films to extend the post harvest life and improve marketability of fruits and vegetables (Kawada). Vegetables loosing their freshness soon after their harvest because of their highly perishable nature. Shriveling of fresh vegetables owing to high temperature and low humidity is a feature commonly observed particularly in the northern parts of the country during summer (Roy Khurdiya, 1982).

Keeping this in view an experiment was conducted to study for 100 gauge (30 x 40cm) for leafy vegetable storage and 200 (20 x 26 cm) for other vegetables storage under the room temperature and low cost cooling devices in perforated and un perforated polythene.

METHODOLOGY

Selection of polythene bags:

Polythene bags of hundred gauge and two hundred gauge sizes of 30 x 40 cm and 20 x 27 cm were selected to store vegetables as conditions of experiments.

The conditions were as referred and indicated below:

- Storage of vegetables in open condition – O
- Storage of vegetables in polythene bags without perforation – WP
- Storage of vegetables in polythene bags with 0.5% perforation for providing ventilation.

The vegetables selected for experiment and the conditions used to store these vegetables in cooling devices.

Development of cooling devices A simple technique of regarding the temperature and building up the humidity to control the transpiration losses was used to develop the cooling devices.

Based on principle of evaporative cooling, five different models were made using locally available materials. The basic frame of square prism shape having 40 x 70 sq cm area was made from bamboo sticks. Water holding trays of 18 gauge aluminum sheet were made of size 41 x 41 cm with a depth of 5 cm, at the bottom of the