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INFLUENCE OF DIFFERENT PACKAGES AND STORAGE CONDITIONS ON PHYSICAL CHARACTERS OF BER (*Zizyphus mauritiana* Lamk.) cv. UMRAN

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ABSTRACT

An investigation was carried out to study the effect of different packages and storage conditions on physical characters of ber (*Zizyphus mauritiana* Lamk.) cv. Umran after transportation. Packages had significant influence on the physical character. Of the different packages, corrugated paper box with mesh proved its superiority by recording minimum percentage of physiological loss in weight, percentage of decayed fruits, percentage of riped fruits and higher ratings for overall acceptability as compared to other packages. Similarly, storage conditions had profound influence on physical characters of ber fruits. Among the storage conditions, zero energy cool chamber was better with minimum percentage of physiological loss in weight and minimum percentage of riped fruits and higher rating for over all acceptability while room temperature storage recorded minimum percentage of decay loss. Among various treatment combinations, with respect to physiological loss in weight, percentage of riped fruits, and overall acceptability ratings of fruits corrugated paper box with mesh under zero energy cool chamber was better.

Key words : Ber, Packages, Storage conditions and Physical characters

India occupies the second position in production of fruits. It annually produces 52.85 million tones of fruits from an area of 5.34 m ha. Despite this fact, the daily per capita availability is much lower than recommendation. It is estimated that the total loss of fruits in India for want of adequate post harvest care, transportation and storage is around 20-30 per cent of fruit harvest (Madan and Ullasa, 1993). Besides, serious losses also occur in quality in terms of vitamins and minerals.

Ber (*Zizyphus mauritiana* Lamk.) one of the ancient fruits of India is very hardy which has high nutritive value with high vitamin C, A and B complex and minerals like phosphorous and Calcium. Efforts are underway towards increasing the total production by evolving new agro techniques. The increased production will not serve the purpose unless it is supplemented by the efforts to minimize the post harvest losses during handling, transportation and storage. In this direction an attempt was made to find out the influence of packaging material and storage conditions on physical character of ber fruits under storage after transportation.

MATERIALS AND METHODS

This investigation was carried out at the College of Agriculture, Bijapur during the year 1995. For this investigation well developed, fully matured and uniform sized fruits were harvested in the evening. After removal of field heat, these fruits were packed in various packages of 5 kg using untreated newspaper cutting as a cushioning material. The packages used for packing were gunny bag (P_1), woven basket (P_2), corrugated paper box (P_3), corrugated paper box with mesh (P_4) and wooden box (P_5).

The fruits packed in different packages were transported by road in the same night. The fruits remained under road transportation for about seven hours covering 250 km distance. The fruits after transportation were stored in different conditions like room temperature (S_1), modified atmosphere (S_2) and zero energy cool chamber (S_3). In modified atmosphere storage, the packages were placed in ventilated polythene covers.

The observation on different character like percentage of physiological loss in weight (%PLW), percentage of riped fruits, percentage of decayed fruits and overall organoleptic acceptability were recorded at 3, 6, 9, and 12 days after storage (DAS) during storage. Organoleptic (overall acceptability) test of fruits was conducted by a same panel of five judges at each interval of observation throughout the storage period. The scores from 0-10 were given based on the overall organoleptic acceptability of the fruits as excellent (9-10), good (7-8), fair (5-6), acceptable (3-4) and not acceptable (0-2)