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RESEARCH PAPER

Studies on the effect of packaging on quality and shelf life of the kokum (*Garcinia indica* Choisy) fruits during transportation and storage

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ABSTRACT

The ripe kokum fruits were packed in different packages and were transported by road (480 km) from Dapoli to Mumbai and back to Dapoli. The fruits packed in CFB boxes + paddy straw were good, while those in other packaging material were considerably disturbed. The fruits packed in CFB box with paddy straw showed lower PLW than those in any other packaging. The fruits packed in wooden crate and bamboo baskets without cushioning materials showed the maximum bruising amongst all the packaging material under study. The fruits showed neither spoilage due to microbial infection nor due to shrivelling during transportation. After transportation all the packages were kept at ambient temperature. During this storage it was noticed that the fruits packed in CFB box with paddy straw showed slower rate of spoilage and had higher shelf life (7 days) than any other packaging materials. It was further observed that the fruits packed in CFB box with paddy straw showed delayed and lower shrivelling with the maximum marketable fruits as compared to other packaging material on 7th day of storage. As far as chemical constituents of kokum fruits are concerned, the fruits packed in CFB box with paddy straw recorded the acidity (3.48%) and ascorbic acid (9.21 mg/100g), T.S.S. (14.02^{0}B), total sugars (14.41%) and reducing sugars (5.69%) after transport while during storage they recorded T.S.S. (14.11%), acidity (3.49%) and ascorbic acid (4.40 mg/100 g) and slightly lower total sugars (10.07%). An initial increase, followed by a decrease in T.S.S. content was observed in the fruits packed in all the packaging material during storage. The acidity and the ascorbic acid decreased continuously towards the end of storage period. Thus, the present investigation indicate that, the CFB box with paddy straw as cushioning appeared to be the best for transport for internal as well as external market and equally good for storage of kokum fruits.

Key Words : Kokum, Packaging, Shelf life

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Kokum (*Garcinia indica* Choisy) belongs to the genus *Garcinia*, which is large genus of polygamous evergreen trees and shrubs native of Asia, Southern Africa and Polynesia (Anthony, 1997). The scientific name *Garcinia* is derived from Garcias, who described it in 1974 (Subash Chandran, 1996). The genus belongs to a botanical family Clusiaceae, which consists of tropical trees, lianes (vines) and herbs.

Packaging of fresh fruit has a great significance in reducing the wastage. Packaging provides protection from mechanical damage, undesirable physiological changes and pathological deterioration during storage, transportation and marketing. A wide variety of containers such as wooden boxes, bamboo baskets, Hessian sack or jute bags, C.F.B. boxes are the important packages form used in the transportation and distribution of fruits in most of the developing countries. The

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