A Case Study

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Alleviation of SAP injury on sapota fruit through calcium hydroxide

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Abstract : The farmers of South Gujarat usually rub the sapota fruits in gunny bags to remove the dried latex and brown scurf for better appearance. Sometimes they also follow the wet rubbing practice according to the demand of the traders. This practice may lead to damage fruit skin and lessen the shelf life of fruits. Therefore, this experiment was formed to solve the problem of farmers along with the extending shelf life of sapota fruits. The study was conducted at ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari (South Gujarat) during peak season (winter) in year 2007 and 2008. Three treatments were tried and repeated seven times. Among all three treatment, gummy spot formation on fruit surface due to milky latex can be alleviated by dipping of sapota fruits immediately after harvest in 1 per cent calcium hydroxide for 5 minutes followed by wet rubbing which had improved the appearance of fruits and also helped to extend the shelf life of sapota fruits as compared to farmers' practice in South Gujarat *i.e.* only wet or dry rubbing. While immediately harvested fruits dipped in water may also minimized somewhat problem of gum sticking on fruit surface.

Key words : Sapota, Calcium hydroxide, Rubbing, Gum, Shelf life

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Sapota or sapodilla [*Manilkara achras* (Mill) Fosberg] belongs to family Sapotaceae, popularly known as *chiku*, is an important fruit of the tropical regions. In India, sapota is widely cultivated in the states of Karnataka, Gujarat, Andhra Pradesh, West Bengal, Maharashtra, and Tamil Nadu. However, South Gujarat, coastal Maharashtra and Karnataka are the major areas where it is extensively cultivated. In India, the area under sapota cultivation is about 148000 ha with an annul production of 1215000 MT (Anonymous, 2007b). Whereas, in Gujarat sapota occupies about 25833 ha with an annual production of 249951 MT. In South Gujarat, the area under sapota is 10925 ha with annual production of 97233 MT (Anonymous, 2007a).

The fruits are having habitat of oozing out of milky latex during harvesting of fruit which is if not removed properly the quality in terms of appearance will not be up to the mark for consumers' preference and moreover, this may deteriorated the appearance of fruit and ultimately fasten the ripening process. The farmers of South Gujarat usually rub the sapota fruits in gunny bags to remove the dried latex and brown scurf for better appearance. Sometimes, they also follow the wet rubbing practice according to the demand of the traders. This practice may lead to damage fruit skin and shorten the shelf life of fruits. Calcium hydroxide is generally used for reducing the sap injury on harvested mango fruits (O'Hare *et al.*, 1994). This practice can be adopted for sapota fruit also, which ultimately enhance the appearance of sapota fruits. The main aim of this experiment is to prevent the spot formation on fruit surface due to milky latex oozed out during harvesting and to improve the appearance of fruits by removing latex and scurf. Therefore, this experiment was laid out to alleviate the problem of sticking of latex on fruit surface and extend the shelf life of fruits.

RESEARCH METHODS

The sapota growers of South Gujarat are adopted two rubbing methods *viz.*, wet rubbing (with water) and dry rubbing (without water) for improving the appearance of fruits. But generally the co-operative societies are demanding dry rubbed sapota fruits while the traders are