

Effect of different season and varieties on physical properties of sapota

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Accepted : October, 2009

ABSTRACT

The experiment was conducted on seasonal evaluation of different varieties of sapota at Fruit Research Station, Navsari Agricultural University, Gandevi. The variety DHS-2 was found to be superior in physical characters of the sapota fruits and there was a considerable seasonal fluctuation in the physical characters of sapota fruits. These fluctuations were not only depended upon the different seasons but also depended upon the variety it self. The large sized fruits along with good quality, were produced during the winter season, the fruits of monsoon season were inferior in quality. In general, the variety CO-2 is moderate with respect to the physical characters of sapota fruits. However, the variety Kalipatti, which is commercially adopted and grown on large scale by farmers of south Gujarat region because of its high yielding potentiality and good quality with longer shelf life of fruits than all other varieties.

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Key words : Sapota, Physical properties, Season, Varieties

Sapota or chiku [*Manilkara achras* (Mill) Fosberg] is one of the excellent fruit of tropical fruit crops, highly suited to humid tropical climate of south Gujarat, which is known to produce best fruit of this species in our country. It has got a wide adaptability for climatic and edaphic conditions, sapota can tolerate saline atmospheric winds in coastal area and saline soil conditions on which many other fruit crops, and particularly mango crop is being suffered due to increase in salinity in atmosphere in soil as well as in water. However, the only worry is that Kalipatti is the main choice and, therefore, more than 99 per cent of area under sapota in Gujarat is under this cultivar which amounts to monoculture which is always vulnerable to epidemics of diseases and pests and such eventualities there is a danger of whole plantation is being wiped out. Therefore, the present investigation was planned on different seven varieties of sapota in different season.

MATERIALS AND METHODS

The present experiment was conducted at Fruit Research Station, Navsari Agricultural University, Gandevi during different seasons of the year 2005-06. The study was carried to assess the seasonal fluctuation in physical attributes and shelf life of different seven varieties of sapota viz., Kalipatti, Kirtibarathi, CO-2, Singapore, PKM-1, DHS-1 and DHS-2. Random selection of 3 kg mature fruits was done from the bulk harvest of each variety and three repetition and they were brought to the laboratory. Selected fruits were kept in perforated polythene bag at ambient temperature for ripening.

RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

Influence of varieties on physical characters :

The seasonal changes in physical characters of the fruits of different varieties of sapota fruit were studied during year 2005-06 (Table 1 and Table 2).

The physical characters of sapota fruits were significantly affected by different varieties. Amongst different varieties; the variety DHS-2 has been adjusted the best variety according to the physical attributes of fruits. The significantly maximum fruit length, fruit volume, mature fruit weight, ripe fruit weight and pulp weight were recorded in the variety DHS-2 in all season. In contrast of that fruits of other variety Kirtibarathi recorded the maximum fruit diameter, peel weight and numbers of seeds. The variety CO-2 ranked as the second best variety considering the physical attributes of fruits. The variety PKM-1 got the last position among different varieties. The varieties Kalipatti and DHS-2 remained in between. The most attractive characters of the fruits of DHS-2 variety were the optimum number of seeds per fruit, minimum peel weight and good pulp weight, fruit length and fruit diameter. The significantly maximum number of seeds per fruit was recorded in the variety Kirtibarathi (5.59). These results are more less in agreement with the earlier finding of many research workers, Chundawat and Bhuvra (1982) reported the maximum fruit length, fruit diameter, fruit weight, peel weight in Cricket ball, number of seeds per fruit in Pillipatti of sapota under south Gujarat