

## A PROMISING VARIETY OF SAPOTA FOR TROPICAL HOMESTEADS

Sapota is a delicious fruit introduced to India from tropical America. In India, it is also known as 'sapodilla' or 'chiku'. It is mainly cultivated for its fruits in India, while in South East Mexico, Guatemala and some European countries, a product called 'chickle' is commercially produced from the unripe fruits. The unripe fruits and bark yield a milky white latex which solidifies on exposure to air and this forms the base for making 'chickle'. Immature fruits are astringent, while ripe fruits are sweet smelling and delicious. The matured fruits are also used for making mixed jams.

Approach grafts of five named varieties of sapota viz., Co 1, Co 2, Oval, Cricket Ball, Gavarayya and approach grafts from a selected tree from the Research Station, Mannuthy, Kerala were planted at a spacing of 8 m in the orchard of the College of Horticulture, Vellanikkara, in December, 1980 in a replicated progeny row trial with eight plants in a line. A preliminary evaluation of these varieties maintained as per the package of practices recommendations of the Kerala Agricultural University, was done in 1987 with respect to growth, yield and quality of fruits, when the trees were in the third year of bearing. The vegetative growth parameters in terms of height, girth, spread and number of primary branches produced were recorded. The observations were recorded on eight uniform trees in a variety. The weight and size of fruits were recorded from a sample of 20 selected fruits. For description of fruit and flesh characters, the conventional method suggested by Hedrick (1922) was adopted. The chemical constituents viz., acidity, reducing sugars, and total sugars were estimated as per the standard methods detailed in AOAC (1960). The TSS of the extracted juice was determined with a hand refractometer.

The data furnished in Table 1 indicated maximum height (443.33 cm) for the variety Co 1 followed by the varieties Co 2 (381.33 cm) and Gavarayya (367 cm). On the other hand, the variety Co 2 topped the list with regard to girth (47 cm) and mean spread (368.33 cm). The variety collected locally was found to be very dwarf (255.67 cm) with a spreading of 320.83 cm and possessed maximum number of primary branches. This variety also produced highest yield (10.10 kg) compared to all other introduced varieties. The dwarf stature, extensive branching and spreading habit makes this as a suitable variety for cultivation in the homesteads of Kerala.

Dwarf varieties are noted for their early bearing, early attainment of steady bearing and prolific yield particularly during the early stages of growth (Jack and Sands, 1926). However, in the local variety the fruits were found to be small in size and weight (41.46 g) compared to other varieties where a fruit weight of 122.22, 90.48 g and 87.44 g was observed respectively for the varieties Co 1, Gavarayya and Co 2.

Table 1

Observations on vegetative, yield and quality attributes of sapota varieties

Varie- ties	Height (cm)	Girth (cm)	Spread (cm)	No.of primary branches	Wt of fruit (g)	Yield/ tree/ season (kg)	Acidity %	TSS (brix)	Reducing sugar %	Total sugar %	Sugar acid ratio
Co 1	443.33	44.33	345.83	4.00	122.22	2.30	0.27	20	9.43	17.89	54.26
Co 2	381.33	47.00	368.33	4.00	87.41	4.60	0.26	20	9.62	15.63	61.05
Oval	364.33	44.66	302.50	4.00	86.36	2.30	0.38	28	10.64	90.16	52.50
Cricket Ball	363.33	37.66	302.49	4.66	77.88	2.10	0.38	26	17.24	25.00	65.10
Gavarayya	367.00	39.33	257.49	3.00	90.48	2.70	0.32	32	17.86	34.72	108.50
Unnamed local	255.67	26.00	320.83	5.00	41.46	10.10	0.42	29	15.63	37.78	81.20
CD (0.05)	5.31	2.48	5.31	0.98	3.21	1.48	0.23	1.20	2.14	1.96	5.38

The edible quality of the fruit of the local variety was found to be very good. The pulp was fleshy, non-fibrous, sweet with attractive brown colour and a few seeds. The acidity of the pulp was found to be 0.42% with a mean TSS content of 29° brix, reducing sugar of 15.63% and total sugar of 37.78% which was quite comparable with the chemical quality attributes of other varieties.

Thus, by virtue of dwarfness, heavy yield and good edible quality, the local variety can be rated as a suitable one for recommending to the humid tropical conditions of Kerala.

College of Horticulture  
Vellanikkara, Trichur, India

M. Aravindakshan  
P. K. Valsalakumari  
K. Gopikumar

### References

- A. O. A. C. 1960. *Official Methods of Analysis of the Agricultural Chemists*. 9th ed., Washington, D. C., pp. 225-226
- Herrick, U. P. 1922. *Encyclopedia of Hardy Fruit*. McMillan Co, New York, pp. 62-70
- Jack, H. W. and Sands, W. W., 1926. Observation on the dwarf coconut palm in Malaya. *Malayan Agric. J.* 24: 140-165.