

Comparative study of nucellar and sathgudi mosambi (*Citrus sinensis* osbeck) under the Parbhani condition

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ABSTRACT

Studies were conducted to find out the suitability of sweet orange varieties under Parbhani condition. Two varieties of sweet orange i.e. Nucellar and Sathgudi were comparatively studied for their physical and chemical characters. Fifteen healthy trees of both varieties were selected for the study. In Nucellar mosambi physical characters like height, spread, yield, fruit weight, no. of seeds and peel thickness were found to be higher than Sathgudi. In Sathgudi T.S.S., acidity and ascorbic acid content were superior than Nucellar.

Key words : Nucellar, Sathgudi, T.S.S. pH, Acidity, Ascorbic acid, Pomace.

In Parbhani, Nucellar, Mosambi local and Rajapimpri are the major cultivars of sweet orange. The semi arid tracks of Marathwada region are highly suited for the cultivation of sweet orange. In Marathwada region districts like Jalna, Aurangabad, Parbhani and Nanded, the area under Sathgudi is considerably increasing day by day due to the good demand of fruits in different markets. The excellent natural sugar acid ratio of the juice in the fruits attracts the consumers. Hence there is good price in the market. The juice of the Sathgudi is of extra ordinary quality. The sugar acid blend is natural and very pleasant, which is very much liked by the consumer. Hence it has become very necessary to study the feasibility and suitability for cultivation of this type in the region.

MATERIALS AND METHODS

The present experiment was conducted at the field of Mr. Prakesh Chapke R/o Katneshwar, Tq. and district Parbhani during the years 2003-2004. The experiment consisted of two treatments replicated for 15 times under completely randomized block design. The field consisted of 600 plants of Nucellar and 400 plants of Sathgudi planted in 1997 at the spacing of 6 x 6 m. Fifteen uniform and healthy trees were selected each from Nucellar and Sathgudi for investigation. The fruits from a single tree were selected to study in detail the physical and chemical composition of both the varieties. Following observations were recorded during the course of investigation viz, spread of plant, average weight of fruits / tree, yield of the tree, peel thickness, pH, acidity, weight of juice, weight of pomace, T.S.S. and ascorbic acid. The data was

collected and analyzed statistically

RESULTS AND DISCUSSION

The spread of the trees of Nucellar and Sathgudi is presented in Table 1. The comparative studies of spread of both the varieties revealed that, the maximum spread of the tree was measured from tree number 7 (2.99m) and (2.70m) in tree number 11 of Nucellar, whereas, the tree number 6 recorded the minimum spread i.e. 1.92 m. in Sathgudi. The maximum spread was observed to be 2.50m from tree number 8, followed by tree number 7 i.e. 2.43m, while the minimum spread was measured from tree number 1 i.e. 1.72m, rest of the trees of both the varieties shared intermediate spread the average mean spread was found to be maximum in Nucellar 2.45m where as it was 1.99m in Sathgudi, showing the higher spread of Nucellar when compared with Sathgudi. Bajwa *et. al.* (1972) reported similar findings of different sweet orange varieties where the highest spread of 3.36m was recorded in Hamlin. Highest mean fruit yield per tree of 249.9 fruits per tree and 201.3 per tree was recorded in Nucellar and Sathgudi, respectively. Significant differences have been observed in yield of both the varieties. Present findings are in conformity with findings of Richardson *et. al.* (1991). This indicated that due to maximum spread of plant resulted more number of fruits were more on Nucellar. The fruits from both varieties shared significant differences in peel thickness. The minimum thickness observed between varieties were 3.6mm (in Sathgudi) to 4.5 mm (in Nucellar) from outer and inner positions. Similar results were obtained by Dubey (2002) in Vanilla Malta (7.80mm) and Rubi Malta (7.10mm). The significant varieties in fruit weight of 10 fruits per tree was evidenced within the varieties. The