

**Research note :**

**COMPARATIVE PERFORMANCE OF CHEMICAL CHARACTERS OF AMBIA BAHAR AND MRIG BAHAR FRUITS OF SWEET ORANGE (*Citrus sinensis* Osbeck)**

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**ABSTRACT**

The present investigation was carried out in the Department of Horticulture, College of Agriculture, Parbhani during the fruit season of 1994-95. The collective twenty fruits samples of each Mrig and Ambia bahar were analysed to compare physico-chemical characters of sweet orange fruits. Chemical analysis was carried for TSS, percent acidity, TSS/acid ratio, reducing, non reducing sugar, total sugar percentage and ascorbic acid (mg/100 g of juice). All these values except acidity percentage were higher in *Mrig* bahar fruits compared to *Ambia* bahar fruits. Thus quality of fruits of *Mrig* bahar was superior to fruits of *Ambia* bahar.

**Key words :** *Ambia* bahar, *Mrig* bahar, Chemical character, Sweet orange

Citrus is considered as one of the most important fruits of the world. In terms of acreage it occupies probably the third position among the sub-tropical fruits. Citrus occupies commercially a very important place among the fruit crops next to mango and banana. Oranges serve as the most refreshing, delicious and health promoting juicy fruits and as such they deserve a prominent place in daily diet. Its juice is rich in vitamin C, which play the role of health promoting ingredients in human diet.

In tropical region, oranges produce new growth and flowers thrice in a year at intervals of four-months i.e. in June, October and January-February. The January-February flowering is called Ambia Bahar, the June flowering Mrig Bahar and October flowering Hasta Bahar. If the trees are left to nature, the trees may blossom and set fruits very irregularly in any one or in all the three seasons. This may produce irregular small crops at indefinite intervals which is difficult to manage and market.

So, to avoid the risk and to get a full crop in any one of the three flowering seasons as required by the market demand, a method of treating the trees for any one of the flowering is practiced in Deccan called the Bahar treatment.

The resting or bahar treatment of sweet orange trees involves ploughing the whole orchard land and with holding of water for a month or two depending on type of soil before one of the flowering seasons. The choice of bahar system to be adopted depends largely on market demand,

availability of irrigation and incidence of fruit sucking moth. As fruits of sweet orange, have continuous demand throughout the year farmers treat the trees for both Ambia and Mrig bahar. In order to have complete information regarding the quality of fruits of the Bahars the experiment was undertaken.

**MATERIALS AND METHODS**

Two orchards consisting of nucellar mosambi (Sweet orange) trees were selected for present investigation. Plants were treated for Mrig bahar and Ambia bahar on 10<sup>th</sup> April and 25<sup>th</sup> November 1993, respectively. After with holding of water irrigation was resumed on 8<sup>th</sup> June 1993 and 20<sup>th</sup> January 1994 for Mrig and Ambia bahar respectively. A composite sample of twenty fruits of Mrig and Ambia bahar were used for physico-chemical analysis. Juice was extracted and a composite sample was used for analyzing TSS, sugars and acidity.

**RESULTS AND DISCUSSION**

Data presented in Table 1 clearly indicated differences in chemical characters of Ambia and Mrig bahar fruits of sweet orange. In Mrig bahar fruits characters like TSS percent (11.16), TSS/acid ratio (26.43), reducing (3.48), non-reducing (3.20) and total sugar (6.68) percentage were higher. Similarly, ascorbic acid content (mg/100g of juice) of juice was also more (50.66). As regards acidity percentage Ambia bahar fruits recorded more acidity (0.46%) than Mrig bahar fruits (0.42%). Whereas, values of parameters such as TSS (10.29%), TSS/acid ratio (22.40), reducing sugar (3.13%),