

# Studies on qualitative characteristics of important guava varieties of Madhya Pradesh

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## ABSTRACT

A study was conducted to evaluate suitable varieties of Guava for their quality characters. The qualitative characters of the fruit such as T.S.S. reducing sugar, non-reducing sugar, total sugars, acidity and sugar/acid ratio were recorded. The variety Seedless gave maximum T.S.S., reducing sugar, non-reducing sugar, total sugars, whereas maximum acidity was found in Apple coloured variety. The maximum sugar/acid ratio was found in Sardar

**Key words :** Guava, Varieties, Chemical characters

Guava (*Psidium guajava* L.) is an important tropical and subtropical fruit and claims superior by virtue of its commercial and nutritional value. It liberally tolerates the drought and flood condition and adapts to a wide range of soil and climatic conditions (Tripathi *et al.*, 1971). Besides other factors of crop production, varieties play an important role (Jouhari, 1970). The present commercial varieties guava *viz.*, Allahabad Safeda, Sardar, Chittidar, Dhareedar, Apple coloured are commonly grown in different agro-climatic regions. The quality characters of a particular variety in one agro-climatic region may not prove suitable for other regions due to their inherent characters. Therefore, a study was conducted to evaluate commercial varieties of guava for their chemical characters.

## MATERIALS AND METHODS

The present investigation was carried out at Fruit Research Station, Kuthulia, College of Agriculture, Rewa (M.P.) during 1997-98. This study was limited to nine guava varieties collected from different parts of India and maintained under AICRP on subtropical fruits. The varieties *viz.*, Allahabad safeda, Sardar, Chittidar, Red-fleshed, Seedless, Apple coloured, Dhareedar, Gwalior-27 and Rewa-72 were planted in the month of September

1988. Total eight plants of each varieties were planted comprising of four replications *i.e.* two plants under each replication, were tested under R.B.D. These varieties were evaluated during the year 1997-98. The age of the trees under study was 9 years.

The quality character of plant includes T.S.S. reducing sugar, non-reducing sugar, total sugars, acidity and sugar/acid ratio.

## RESULTS AND DISCUSSION

The data concerned to chemical characters *viz.*, T.S.S. reducing sugar, non-reducing sugar, total sugars, acidity and sugar/ acid ratio were recorded (Table 1) and statistically analyzed and ANOVA is presented in Annexure 1.

The data revealed that the chemical composition of the fruits of nine varieties of guava showed significant variation. The variety Seedless gave maximum value of T.S.S. (13.25<sup>0</sup> Brix) followed by Allahabad safeda (12.37<sup>0</sup> Brix). The minimum T.S.S. was recorded in Red fleshed (10.62<sup>0</sup> Brix). The reducing sugar, non-reducing sugar and total sugars were maximum in Seedless (5.67%, 7.0% and 12.67%) followed by Allahabad safeda (5.50%, 6.82% and 12.32%), respectively. The lowest values were recorded under Red fleshed (4.25%, 5.0%, 9.25%),

**Annexure I : Analysis of variance for chemical characters of guava fruits**

| Source of variance | d.f | Mean sum of square          |                    |                        |                  |             |                    |
|--------------------|-----|-----------------------------|--------------------|------------------------|------------------|-------------|--------------------|
|                    |     | T.S.S. ( <sup>0</sup> Brix) | Reducing sugar (%) | Non-reducing sugar (%) | Total sugars (%) | Acidity (%) | Sugar / acid ratio |
| Replication        | 3   | 2.83                        | 0.76               | 0.30                   | 1.75             | 0.012       | 27.38              |
| Variety            | 8   | 2.20*                       | 0.50*              | 0.61*                  | 7.02*            | 0.004       | 23.41              |
| Error              | 24  | 0.58                        | 0.20               | 0.15                   | 0.55             | 0.003       | 17.92              |

\* indicate of significance of value at P = 0.05