

A STUDY ON QUALITY CHARACTERS OF DIFFERENT VARIETIES OF GUAVA

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ABSTRACT

A study was conducted to evaluate a commercial varieties of Guava for their quality characters. The characters 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: Quality characters, Guava (*Psidium guajava* L.).

Guava (*Psidium guajava* L.) is an important tropical and subtropical fruit and claims superior by virtue of its commercial and nutritional value. Its liberally to tolerate the drought and flood condition and adoptability to a wide range of soil and climate conditions. Besides other factors of crop production, varieties play an important role. 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.

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 quava 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 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 characters of plant includes T.S.S. reducing sugar, non-reducing sugar, total

sugars, acidity and sugar/acid ratio.

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).

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° Brix) followed by Allahabad Safeda (12.37° Brix). The minimum T.S.S. was recorded in Red fleshed (10.63° Brix) followed by Chittidar (11.25° 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%). The lowest values were recorded under Red fleshed (4.25%, 5.0%, 9.25%), other varieties like Sardar and apple coloured also had the good amount of sugars. The titrable acidity was found in Apple coloured and Gwalior-27 (0.48%) and minimum in Chittidar and Sardar (0.40%), non significant variations was also observed in sugar/acid ratio. Maximum sugar/acid ratio was found in Sardar (31.49) followed by Seedless (28.52), whereas minimum was observed in Gwalior-27 (23.20). The strong reason of non-significant variation in acidity and suagr/acid ratio of nine varieties of guava is due to occurrence of heavy rainfall during fruiting season of guava.

Table - 1: Chemical characteristics of guava fruits

S. No.	Variety	T.S. (° Brix)	Reducing sugar (%)	Non-reducing sugar (%)	Total sugar (%)	Acidity (%)	Sugar/acid ratio
1.	Allahabad safeda	12.37	5.50	6.82	12.32	0.45	27.77
2.	Sardar	12.25	5.40	6.75	12.15	0.40	31.49
3.	Chittidar	11.25	4.85	5.65	10.50	0.40	26.67
4.	Red-fleshed	10.62	4.25	5.0	9.25	0.38	25.90
5.	Seedless	13.25	5.67	7.0	12.67	0.45	28.52
6.	Apple coloured	12.0	5.27	6.7	11.97	0.48	25.47
7.	Dhareedar	11.50	5.10	5.65	10.75	0.43	23.20
8.	Gwalior - 27	11.75	5.0	6.0	11.0	0.48	23.20
9.	Rewa - 72	11.90	5.0	6.10	11.10	0.45	24.87
	Mean	11.87	5.11	6.18	11.30	0.43	26.58
	S.Em. +	0.38	0.22	0.19	0.37	2.92	2.11
	C.Dar. at 5%	1.11	0.65	0.56	1.08	-	-

Table - 2: Analysis of variance for chemical characters of guava fruits

Source of variance	d.f.	Mean Sum of square					
		T.S.S.	Reducing (° Brix)	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

* Significance at 5%

Some other climatic factors like temperature and humidity at the time of fruit development also affected the acidity and sugar/acid ratio of fruits.

Looking to the overall qualitative characters, varieties seedless, Allahabad Safeda, Sardar and Apple coloured were found superior in chemical characters.

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