SHORT COMMUNICATION

Arka Amulya – A New Variety of Guava from Punjab

JS Bal and GS Dhaliwal
Department of Horticulture, Punjab Agricultural University, Ludhiana-141 004 (Punjab)

Key words: Guava, Arka Amulya

The guava is gaining popularity among fruit growers of Punjab because of its desirable quality and high productivity. It ranks second in area after citrus and occupies 6690 hectares with an annual production of 1.17 lakh mt (Anon, 2004). The districts of Sangrur, Patiala, Amritsar, Ludhiana and Ropar are known for guava cultivation. New plantations of guava are coming up fast in different parts of Punjab. Sardar (L-49) and Allahabad Safeda are the only two recommended varieties of guava. There was strong need to introduce another high-yielding and superior quality variety of guava to fetch higher premium in the market. Keeping this in view, Arka Amulya and Arka Mridula varieties of guava were tested for number of years to have another choice with the guava growers.

The trial on evaluation of guava varieties was carried out at Punjab Agricultural University, Ludhiana during 1997-2001. The plantation was made at 6 x 6 m distance. The plants of Arka Amulya and Arka Mridula were introduced from Indian Institute of Horticultural Research, Hessarghatta, Bangalore. The observations of fruit yield, fruit breadth, fruit weight, seed number per fruit, seed hardiness, flowering time, fruit maturity and total soluble solids in fruits of both rainy and winter season crops were recorded. The seed hardiness was recorded in terms of kg pressure. Total soluble solids (TSS) were determined with the help of Bausch and Lamb hand refractometer at 20°C with necessary correction factor. The results obtained are presented in Tables 1 and 2.

The cumulative fruit yield was recorded the highest in Arka Amulya (144.3 kg/tree) followed by Sardar (109.5 kg/tree). The winter season crop of guava is considered superior in quality. Arka Amulya resulted in higher yield during both rainy and winter season compared to the two recommended varieties. However, Bal (1997) reported variation in fruit yield in Sardar and Allahabad Sufeda than the yield recorded in Arka Amulya.

The fruit size in terms of breadth and weight was observed bigger in Arka Amulya. The average fruit breadth of rainy and winter season crop was 5.63 cm and 6.18 cm respectively. The fruit size was recorded little less in Arka Mridula, although the results were statistically non-significant among the three varieties tested. The average fruit weight in these three varieties varied from 95.6 g to 111.4 g in rainy season crop and 136.6 g to 159.3 g in winter season crop. The differences in fruit weight were also found at par in these varieties. However, Arka Amulya exhibited higher fruit weight compared to other two varieties.

The fruit quality was measured by recording total soluble solids. The total soluble solids were recorded slightly higher in the fruits of Arka Amulya in both rainy (9.30%) and winter season (10.13%) crops though the differences were found non-significant. The average range of TSS was recorded 8.36 per cent in Sardar in rainy season crop and 10.13 per cent in Arka Amulya in winter season crop. The results related to TSS in guava during rainy and winter season are in conformity with those reported in Sardar guava (Bal and Dhaliwal, 2003). The seed number per fruits were counted during both the cropping season and recorded lower in Arka Mridula (296/fruit) during rainy season crop and in Sardar (213/fruit) during winter season crop. Arka Amulya variety produced slightly more number of seeds. Seed hardiness is the most important trait while selecting variety for general recommendation. Arka Amulya variety registered least hardiness in seeds to the tune of 4.83 kg pressure. Seed hardiness pressure was recorded almost double the value (9.68 kg pressure) in Sardar. It was also quite high in Arka Mridula (8.57 kg pressure).

The flowering in Arka Amulya occurred about 15 days advance during rainy season and 4 days advance during winter season as compared to variety Sardar. Ripening of fruits during rainy season took earlier in Sardar and peak ripening was observed between 2 to 22 August. The fruits of both Arka Amulya and Arka Mridula ripened between 10 to 30 August. However, ripening of fruits during winter season in all the three varieties started from December and continued up to end of January.

Table 1. Cumulative physico-chemical characterisitcs of fruit of guava varieties (1997-2001)

Guava varieties	Fruit yield (kg/tree)			Fruit breadth (cm)		Fruit weight (g)		TSS (%)		Number of seed (per fruit)		Seed hardiness (kg pressure)
	R	W	Total	R	W	R	W	R	W	R	W	
Arka Amulya	46.5	97.8	144.3	5.63	6.18	111.4	159.3	9.30	10.13	381	305	4.83
Arka Mridula	37.0	57.2	94.2	5.37	5.90	95.6	136.6	8.77	9.52	296	293	8.57
Sardar	40.5	69.0	109.5	5.55	6.02	108.2	145.4	8.36	9.62	386	213	9.68
C.D.5%	NS	30.2	–	NS	NS	NS	NS	NS	NS	–	–	–

R: Rainy season; W: Winter season

Table 2. Flowering time and fruit maturity of guava varieties

Guava varieties	Flowering time		Fruit maturity	
	Rainy season	Winter season	Rainy season	Winter season
Arka Amulya	20 April-30 April	1 August-16 August	10 August-30 August	10 December-30 January
Arka Mridula	30 April-10 May	25 July-16 August	10 August-30 August	10 December-15 January
Sardar	5 May-15 May	5 August-20 August	2 August-22 August	10 December-30 January

Arka Amulya was recommended for general cultivation in the Punjab on account of high yielding and superior quality fruits. The fruit of this variety is large, round, glossy with white flesh. The average yield of rainy and winter season crop is 144 kg per tree. The total soluble solids in fruits ranged from 9.3 to 10.1. The cultivar can be propagated very easily on Sardar rootstock by patch budding in the month of May-June.

References

Anonymous (2004) Area and production of fruits. Directorate of Horticulture, Punjab.

Bal JS (1997) Fruit Growing. Kalyani Publishers, New Delhi.

Bal JS and GS Dhaliwal (2003) High density planting studies in guava. *Haryana J. Hort. Sci.* **32**: 19-20.