Indian J. Pl. Genet. Resources 10(2): 223-225, 1997

PHALSA (*GREWIA ASIATICA* L.) GERMPLASM COLLECTION FROM ANDHRA PRADESH

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Seventy eight accessions of phalsa (*Grewia asiatica* L.) were collected from parts of Andhra Pradesh. Considerable variability in fruit and plant morphological characteristics is recorded. Ranga Reddy, Mahboobnagar and Medak districts have larger area under phalsa in comparison to other areas. Few promising lines for various traits were also collected.

Key words : Phalsa, *Grewia asiatica* L., genetic diversity, collection

Phalsa (*Grewia asiatica*, L.) is indigenous to India and is mainly cultivated for its small drupaceous fruits having medicinal value (Watt, 1972). It has wide adaptability and is suitable for arid zone horticulture. About 40 species of *Grewia* are reported to occur in India which are valued for their bark fiber, edible fruits (Wlth India, 1966). The fruit is a rich source of calcium, iron, minerals, carotene and nutritively highly placed (Gopalan *et al.*, 1971). It is reported to be cooling, digestive, tonic, aphrodisiac and also credited with curing inflammations, heart and blood disorders and urinary troubles. The root and bark are used in strangury, gleet, gonorrhoea, diarrhoea and dysentery. The leaves are used as an application to pustular eruptions and buds are also prescribed by native practitioners (Kirtikar and Basu, 1984). Hence, an exploration was undertaken in parts of Andhra Pradesh to augment genetic diversity of phalsa.

MATERIALS AND METHODS

Exploration was under taken in parts of Hyderabad, Ranga Reddy, Medak, Nizamabad, Mahboobnagar and Nalgonda districts in Andhra Pradesh during May, 1995. Farmers' field was taken as unit area and random samples from populations and biased samples of the elite material were collected. Samples were also collected from farmers' stores and market. Morphological observations of plant and fruits were recorded during exploration. Ten fruits for each accession were randomly collected for recording observations on quantitative

characteristics. The collected germplasm is being maintained and evaluated at Indian Institute of Horticultural Research, Bangalore.

RESULTS AND DISCUSSION

A total of 78 accessions were collected from 45 sampling sites (Table 1) possessing variability in habit (shrub/tree), leaf curl (inward/outward), shape (cordate/ovate) and size (medium to large), stem colour (grey/black), fruit shape, pulp colour (green/pink/white), seed colour (pink, yellow, white), shape (spherical/flat) seeds per fruit (1-3), taste (sweet, sour), quality and yield. The range, mean standard deviation and coefficient of variation (CV%) of quantitative characteristics are given in Table 2. A genotype (S-4581) collected from Ranga Reddy district appeared to be promising for high yield (fruit length 10.5mm; thickness 12.3mm; pulp colour-pink; 10-fruit weight 9.2g). Generally the ripe fruit has short storage life of 24-48 hours only (Gangwar and Tripathi, 1972) but it was observed that the fruits collected during the survey from tall growing trees had better storage life.

Table 1. District-wise sampling of Phalsa germplasm made during the survey

Name of species	District	No. of Accessions sampled
Grewia asiatica L.	Hyderabad	3
	Mahaboobnagar	17
	Medak	15
	Nalgonda	8
	Nizamabad	1
	Ranga Reddy	31
Grewia spp.	Medak	3
	Total	78

Table 2. Range, mean, standard deviation and CV% of quantitative characteristics of Phalsa germplasm

Character	Range	Mean	SD	C.V.%
Fruit thickness (mm)	5.9-13.1	10.6	1.54	14.5
Fruit length (mm)	6.1-10.6	9.1	1.14	12.6
10-Fruit weight (g)	2.2-9.4	6.5	2.50	38.3
100 Seed weight (g)	2.6-8.6	4.8	1.10	23.2
Seed thickness (mm)	3.1-6.9	5.4	0.54	10.0

In three accessions (S-4561, S-4562, S-4606), there appears to be an interesting correlation between the increase in leaf breadth and leaf area and

uniformity in fruit size at ripening with white pulp. Out of the germplasm collected, 16 accessions appeared to be elite genotypes having superior yield attributing characters and two accessions as highly drought resistant (S-4585, S-4605). Most of the genotypes have flat and spherical seeds except the line (S-4565) which has flat seeds, a desired character.

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