

Short Communication

FIELD EVALUATION OF EGGPLANT GERMPLASM

N. Sivaraj, T. Rama Srinivas, S. R. Pandravada and V. Kamala

National Bureau of Plant Genetic Resources, Regional Station,
Rajendranagar, Hyderabad 500 030 (Andhra Pradesh)

Two hundred and seventy seven accessions of brinjal germplasm including 55 exotic collections were evaluated for a set of characters using *Bhagyamathi* and *Shyamala* varieties as local checks in an augmented design in 1996-97 at NBPGR Regional Station, Rajendranagar, Hyderabad. (17°19' N. Latitude; 78°23' E Longitude; altitude of 542 m). The climate is semi-arid with an average rain fall of 850 mm. The air temperature ranges from 8°C (in December) to 42°C (in April). The soil type is of red sandy loam in nature. Seeds were sown in well prepared plastic pots of 5.5" diameter to raise seedlings. A month old seedlings were transplanted at a distance of 60 cm from row to row and 50 cm within the row. Recommended cultural practices were followed. Each germplasm accession was planted in three rows of 3 m each. Three competitive plants per accession were tagged and data were recorded. The IPGRI descriptor and descriptor states (IPGRI, 1988) were followed for recording the data. Data were recorded for 277 accessions. For plant data, the observations were recorded at peak flowering stage whereas for data on fruits, at immature stage when fruits were fully developed.

The germplasm showed a wide range of variations for different agro-botanical characteristics. Frequency distribution of collections of eggplant in relation to their growth habit included erect (215), semi spreading (44) and spreading (18). Based on leaf spininess the accessions are grouped into non-spiny (161) and spiny (116). All the described colour for stem were found in the evaluated germplasm (Green 171, Dark green 6, violet green 100). A wide range of variations were recorded in different traits viz., plant Height (17.5 cm - 73 cm), plant spread (32cm - 129cm), No. of primary branches (2-8), Fruit length (2.2 cm - 31.0 cm), Fruit breadth (1.2 cm - 14.3 cm), Fruit calyx length (1.6 cm - 5.7 cm), Days to 50% flowering (99-152) etc. The evaluated part of germplasm were grouped in different categories based on other qualitative characteristics viz., petiole colour (Green 124, violet green 134, violet 15 and dark violet 3), petiole length (short 18, intermediate 245 and high 4), stem spininess (none 147, very few 19, few 32, intermediate 31 and many 48). Diversity for some of the fruit characteristics and their frequency percentage

are presented in Table 1. The promising lines identified for different traits are detailed in Table 2. Similar variations for different agro-morphological traits were earlier recorded by many workers (Thomas *et al.*, 1990; Rai *et al.*, 1995).

Table 1. Diversity for Fruit shape, colour, pedicel length, fruit base colour, attachment to fruit and calyx fleshiness

Character	No. of accessions	Frequency (%)
FRUIT SHAPE		
Long	43	15.5
Round	45	16.2
Oblong	156	56.3
Oval	33	12.0
FRUIT COLOUR		
Greenish violet	38	13.7
Green	81	29.2
Milky White	15	5.4
Deep Purple	24	8.7
Purple	49	17.7
Striped (mixed)	70	25.3
PEDICEL LENGTH		
Short	22	8.0
Intermediate	181	65.3
Long	74	26.7
FRUIT BASE COLOUR		
Purple	65	23.5
Green	163	58.8
White	49	17.7
ATTACHMENT OF FRUIT		
Solitary	252	91.0
Twin	4	1.4
Cluster	21	7.6
CALYX FLESHINESS		
Light	58	20.9
Medium	153	55.2
High	16	23.8
FRUIT CALYX PRICKLES		
None	108	39.0
Very Few	40	14.4
Few	65	23.5
Intermediate	38	13.7
Many	25	9.4

Table 2. Promising lines identified

Character	Accersion
Long fruits (> 20 CM)	- IC-90087-1, -90093, -90103, -90125, -90148, -90178, -90982, -99702, -104086, -11040, -111083, -111087, -112342, -112804
Fruit breadth (> 10 CM)	- IC-99649, -99666, -99695, -99748, -104083, -90958, -90783
Early type	- EC-304980, IC-90111-2, -90135.
Big, round type	- EC-305042
Deep Purple, oval	- EC-305049
Milky white, oblong	IC-90963
Purple, oblong	- IC-112341, -112356, -127018
Green, oval	- IC-126996, -90950, EC-316268
Green, round with stripes	- EC-304979
Green, oblong with stripes	- IC-99699, -99666, -90931
Purple long	- IC-90975, -11025, -111083
High yield potential	- IC-127023, -90762, -90964, -9701
Cluster bearing	- IC-112960, -99747
White oblong with purple stripes	- IC-112960, -99747
Broad leaves	- IC-90957

ACKNOWLEDGEMENTS

The authors are grateful to Director, NBPGR, New Delhi, for providing facilities and to Dr. K. S. Varaprasad, Officer-in-charge, NBPGR Regional Station, Hyderabad, for extending necessary help.

REFERENCES

- IPGRI, 1988. Descriptors for Eggplant. International Plant Genetic Resources Institute, Rome.
- Rai, M., P.N. Gupta and R.C. Agrawal. 1995. Catalogue on Eggplant (*Solanum melongena* L.) germplasm. National Bureau of Plant Genetic Resources, New Delhi
- Thomas T.A., M. Rai, U. Chandra, Pratibha Brahmi V. Kamala and R.S. Rana. 1990. Building up of genetic resources of Vegetable crops: Their characterization, evaluation, seed increase, maintenance and utilization at NBPGR. (1988-90). Paper presented in Vegetable Improvement project workshop held at Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan from June 4-7, 1990.