

HARITHA, A LONG DURATION BRINJAL FOR HOMESTEADS

Perennial vegetables like drumstick, coccinia, curry leaf etc. and long duration varieties of annuals like brinjal, chilli and okra are ideal for the continuous supply of vegetables from a kitchen garden in a warm humid tropical climatic condition. In the present study, long duration brinjal accessions with protracted fruiting were subjected to a detailed evaluation with the ultimate objective of identifying a variety suitable for the homesteads of Kerala.

From the initial evaluation of 78 genotypes, conducted during 1994-95, ten promising accessions having resistance or tolerance to bacterial wilt and longer duration of above 200 days were selected and were subjected to detailed evaluation during March-November

1995 in a randomised block design with three replications. The adaptable short duration varieties Surya and Swetha were also grown for comparison. The seedlings were planted at a wider spacing of 100 cm x 75 cm and all the remaining cultural practices were adopted as per the recommendation of the Kerala Agricultural University (KAU, 1993). There were 25 plants in each accession under each replication. Five plants in each replication were randomly selected to observe various biometrical characters. Artificial inoculation of bacterial wilt was done as per Winstead and Kelman (1952) and the accessions were grouped as per Mew and Ho (1976).

The analysis of variance indicated significant variation for all the biometric characters. Height

Table 1. Earliness and vegetative characters of brinjal accessions

Sl. No.	Variety	Plait height cm	Plant spread cm	No. of primary branches	Leaf length cm	Leaf width cm	Days to flower	Days to first harvest	Days to 50% harvest	Days from flowering to harvestable maturity
Long duration varieties										
1	SM-63	146.1	159.7	5.9	15.3	9.3	39.9	56.4	166.3	17.1
2	Haritha	155.6	154.4	6.1	15.9	12.0	40.5	57.4	153.5	17.4
3	SM-75	97.1	107.6	7.2	14.8	9.7	35.5	52.6	109.4	17.4
4	SM-69	145.5	140.4	6.4	14.6	10.2	38.9	56.5	148.9	18.1
5	TGR	187.8	171.3	5.2	20.4	12.2	42.9	62.5	162.6	20.2
6	Composite 2	134.3	138.9	6.1	13.4	8.03	41.0	60.0	117.9	17.1
7	SM-71	140.4	191.9	5.4	16.5	10.2	41.3	60.3	159.1	19.4
8	SM-116	124.4	175.6	6.8	16.9	12.3	44.9	64.3	159.7	19.9
9	SM-113	63.9	102.9	8.1	10.2	7.9	33.3	52.6	120.1	20.1
10	SM-87	88.9	127.1	5.7	11.0	7.7	38.1	55.4	139.4	17.6
Mean		128.4	146.9	6.3	14.9	9.9	39.63	57.8	143.7	18.4
CD (0.01)		24.1	22.4	1.2	1.9	1.7	2.1	3.2	12.0	2.0
Standard short duration varieties										
1	Swetha	111.6	100.7	6.3	12.3	7.1	29.7	47.2	108.3	17.8
2	Surya	83.2	113.2	7.0	11.0	8.0	25.5	43.5	109.5	17.8
Mean		93.4	106.9	6.7	11.7	7.6	27.6	45.4	108.9	17.8

of plant (Table 1) ranged 63.9 cm in SM 113 to 187.8 cm in the local cultivar Thiruvalla

Green Round (TGR). Spread of plant, which decides the population density of plants, was

maximum in SM 71 (191.8 cm) followed by SM 116 (175.5 cm) and TGR (171.3 cm). The local cultivars TGR, SM 63 etc. had prickly stem. The spreading and highly prickly nature of the local cultivars necessitates a much wider spacing than the present recommendation of 75 x 60 cm compared to the short duration varieties Surya and Swetha. The vigorous growth of long duration acces-

sions was pronounced in branching and leaf size also. SM 116 had a leaf length as high as 16.8 cm and width 12.3 cm.

The long duration accessions took more time for emergence of flowers and it was 44.9 days in SM 116 and 42.9 days in TGR compared to 29.7 days in Swetha and 25.5 days in Surya. The steadily growing long duration accessions

Table 2. Yield and fruit characters of brinjal accessions

Sl. No.	Variety	Fruit length cm	Fruit circumference, cm	Mean fruit wt., g	No. of fruits/plant	Yield/plant kg	Wilt %
Long duration varieties							
1	SM-63	17.40	16.57	71.01	46.50	2.70	4.0
2	Haritha	16.60	12.90	128.27	113.50	6.40	0.0
3	SM-75	10.93	16.20	64.00	38.40	2.27	60.0
4	SM-69	18.20	14.20	75.53	40.90	2.43	4.0
5	TGR	10.17	16.87	84.87	45.10	3.09	13.3
6	Composite 2	6.97	20.67	118.20	36.10	2.09	18.7
7	SM-71	11.50	14.50	88.43	30.10	2.01	5.3
8	SM-116	7.87	20.37	104.10	36.60	2.60	0.0
9	SM-113	9.17	15.01	73.09	19.90	1.13	0.0
10	SM-87	5.60	12.27	85.40	34.50	1.66	0.0
Mean		11.44	15.96	89.29	44.16	2.64	-
CD (0.01)		3.33	1.81	12.57	16.55	1.02	-
Standard short duration varieties							
1	Swetha	13.85	9.15	63.60	117.20	3.86	0.0
2	Surya	9.45	14.50	62.40	66.40	3.06	0.0
Mean		11.65	11.82	63.00	91.80	3.46	-

took 143.7 days for the harvest of 50% yield compared to 108.9 days in short duration varieties, Surya and Swetha. The prickly-stemmed accession SM 63 took 166 days for the peak harvesting. Composite-2, TGR and SM 69 have given economic yield up to 280 days beyond which there was a cessation of productivity. The non-prickly white flowered variety, Haritha has also given economic yield up to 240 days. Since the long duration accessions have perennial tendency, all the 10 accessions were further retained for a ratoon crop. The short duration Swetha and Surya did not yield beyond seven months. The fruits were the longest in SM 63 (18.2 cm) (Table 2). Average fruit weight was maxi-

mum in the white flowered, light green and long fruited variety, Haritha (128.3 g). The round and firm fruited variety Composite 2 also had more fruit weight. Number of fruits/plant ranged from 19.9 in SM 113 to 113.5 in Haritha. The non-prickly, branching and long fruited variety Haritha yielded as high as 6.4 kg per plant, much higher than the standard varieties, Surya and Swetha. The superiority of Haritha has been reported earlier (KAU, 1992). Due to the high branching nature, the fruits are not touching the soil and are less prone to soil borne fruit diseases like *Phomopsis* blight. The spreading cultivar TGR bearing white and oblong fruits with prickly stem and leaves ranked second in

yield (3.09 kg). SM 63, SM 116 and SM 71 yielded less than the standard varieties, Surya and Swetha.

In the long duration accessions, which consisted of local types, the wilt incidence ranged from 0 to 60%. Haritha, SM 116, SM 113 and SM 87 were highly resistant even under artificial inoculation and were not affected by wilt. SM 71, TGR and Composite 2 had wilt incidence of 18.7%. SM 75 was highly susceptible to wilt, recording 60% incidence.

In Kerala, brinjal is usually cultivated from May to October as a rainfed crop in garden lands. Due to scarcity of irrigation water a second crop is not raised in the same land.

College of Horticulture,
Thrissur 680656, Kerala, India

REFERENCES

- KAU, 1992. *Research Report 1990-91*. Directorate of Research, Kerala Agricultural University, Thrissur
- KAU, 1993. *Package of Practices Recommendations 'Crops' 1993*. Directorate of Extension, Kerala Agricultural University, Mannuthy, Thrissur, p.176-181
- Mew, T.W. and Ho. W.C. 1976. Varietal resistance to bacterial wilt in tomato. *Plant Dis. Rep.* 60:264-268
- Winstead, N.N. and Kelman, A. 1952. Inoculation techniques for evaluation of resistance to *Pseudomonas solanacearum*. *Phytopathology* 42: 628-634

Since the long duration variety Haritha has the perennial tendency, it can be retained in the field beyond December by mulching. With the onset of southwest monsoon by May-June the plants can be pruned and growth can be invigorated by heavy manuring and care. High cost of labour, a fairly long and distributed rainfall from June to November and dominance of laterite soil compel to prefer the long duration brinjal variety Haritha for the homesteads of Kerala.

ACKNOWLEDGEMENT

This paper forms a part of the Ph.D. thesis of the senior author submitted to the Kerala Agricultural University, 1996.

P. K. Singh
T. R. Gopalakrishnan