https://doi.org/10.29321/MAJ.10.A03031

Madras agric J. 66 (12) : 805—808, Dec., 1979.

Co. 1 Brinjal - A High Yielding Strain

SEEMANTHINI RAMADOSS[1], I. IRULAPPAN[2] and C.R. MUTHUKRISHNAN[3]

Intensive selection work carried out at the vegetable unit of the Faculty of Horticulture, Tamil Nadu Agricultural University, Coimbatore resulted in the release of a new strain, CO. 1 brinjal suited to Tamil Nadu. It yields on an average 24 t/ha of fruits with 41.5 per cent increase over local. It offers good scope for cultivation in Tamil Nadu due to its high yield, resistance to nematodes, low seed content and good keeping quality.

Among the solanaceous vegetables, brinjal (*Solanum melongena* L.) is most popular on account of its hardiness, easy culture and high nutritive value. In brinjal, there is a specific regional preference, in particular, for the colour, size and shape of fruits. With a view to evolve a superior strain in brinjal, breeding work was initiated at the Tamil Nadu Agricultural University, Coimbatore and the results are presented in this paper.

MATERIAL AND METHODS

A total of 85 types of diverse origin were studied in an initial evaluation trial for three seasons for yield and other characters. Selection were made in each season and finally the selection which was best among tnem was compared with the local (control) between 1972 and 1977 in 9 centres in the districts of Coimbatore, Chingleput, Pudukottai and South Arcot in Tamil Nadu and also in Pondicherry State. Yield, duration and other characters were recorded and the data presented.

RESULTS AND DISCUSSION

The yield obtained in the Coimbatore and in the district trials are furnished in Tables I and II.

The yield data recorded at Coimbatore between 1972 and 1977 clearly brought out the superiority of the selection SM 2 over the local. Culture SM 2 yielded 20, 627 kg/ha compared to 16,105 kg/ha yielded by local. The increase in yield was 29.2 per cent.

The superiority of SM 2 was further confirmed by the yield data of the district trials, in which it recorded a mean yield of 27,188 kg/ha while the local yielded only 17672 kg/ha. The increase in yield was thus to the tune of 54 per cent over the local (Table II).

The overall performance of SM 2 was also impressive with a mean yield of 24,907.5 kg/ha compared to 16,888 kg/ha in local (Table III). The increase in the mean yield was 41.5 per cent.

1, 2 & 3 Faculty of Horticulture, Tamil Nadu Agricultural University, Coimbatore - 641 003.

TABLE I. Comparative performance of SM 2 Brinjal at Coimbatore

Year	Season		Yield (Kg/ha)		Percentage increase over local
			SM 2	Local	
1972	Summer	(December-May)	15831	13041	21.4
	Monsoon	(May-October)	17029	12156	40.1
1973	Summer	(December-May)	24421	18199	34.2
	Monsoon	(May-October)	20412	17557	16.3
1974	Summer	(December-May)	23134	18534	24.8
	Monsoon	(May-October)	20747	15818	31.2
1975	Summer	(December-May)	22352	12728	75.6
	Monsoon	(May-October)	21494	18268	17.7
1976	Summer	(December-May)	24902	20330	22.5
	Monsoon	(May-October)	23182	18785	23.4
1977	Summer	(December-May)	13395	11799	14.1
	Mean		20627	16105	29.2
Duration			160 days	160 days	
Per day production (kg)			128.92	100.656	
CD (P=0.05)			1995.889		
CV :			11.6%		

TABLE II. Comparative performance of SM 2 brinjal in farmer's holdings

District	No. of holdings	Yield (kg/ha)		Percentage increase over loca
		SM²	Local	
CHINGLEPUT	1	38720	18700	107.1
COIMBATORE				
1. Veerakeralam	1	16698	10362	61.2
2. Perur Chettipalayam	1	20482	15048	36.1
3. Fruit Development scheme (K.K. chavadi)	1	21614	29326	7.8
4. Aliyarnagar	1	21934	16566	32.4
5. Bhavanisagar	1	34320	13640	151.5
SOUTH ARCOT				
1 Virdhachalam	1	27750	10000	157.5
PUDUKKOTTAI				
1. Kudumiamalai	1	8316	6908	20.4
PONDICHERRY	1	46860	38500	21.7
Mean		27188	17672	53.8
Duration		160 days	160 days	
Per day production (kg)		163.8	110.5	
CD (P=0.05)		5681.979		
CV		23.3%		

TABLE III. Overall performance of SM 2 Brinjal at Coimbatore and in farmer's holdings

	SM 2	Local	Percentage increase over local
Mean performance at Coimbatore	20627	16105	29.2
Mean performance at Farmers holdings	27188	17672	53.8
Overall mean	23907.5	16188	41.5
Per day production (kg)	149.5	105.6	—

The per day production of SM 2 was 149.4 kg compared to 105.6 kg in local.

The other desirable features of this culture are moderate resistance to root knot and reniform mematodes, adaptability for growing in both the seasons, suitability for kitchen garden as well as for commercial culture, less seed content and attractive light green colour of the fruits.

On account of the various advantageous factors of the culture SM 2, it was released as CO 1 brinjal in 1978.

The plant characters are as follows: Habit : annual, erect, short and bushy : plant height : 75 cm; Plant spread; N.S-72 to 86 cm and E.W. 32 to 94 cm Stem : round, green, pubescent, 2.1 cm in girth and with 13 branches: leaves : elliptical with wavy margin and pubescent ; flowers : in clusters (4-6) and deep purple in colour; Fruit : light green and long, 18-24 fruits weighing one kg, and less seeded (225 seeds per fruit); seed : light yellow.

The package of practices recommended for this strain are given below :

Seasons : (i) May — October
(ii) December — May

Seed rate : 400 g/ha (160 g/acre)

Nursery : Mix the soil with equal parts of sand and farm yard maure. Form raised beds. Drench the beds with copper fungicide @ 2 g/litre. Sow the seeds in lines 10 cm apart, cover with a light dressing of sand and water with a rose can. Fifteenth day after sowing, drench the nursery beds with wet ceresan (1 g/litre) to control damping off. Regular watering is to be given. The seedlings will be ready in 30 days for transplanting.

Field preparation	:	Plough the field repeatedly (3 to 4 times) to a fine tilth. Form ridges and furrows at 75 cm spacing.
Manuring	:	Basal : Incorporate 25 t FYM/ha during the last ploughing. At planting, apply the following fertilizers in bands and incorporate. 50kg N, 50kg K_2O, and 100 kg P_2O_5. Top dressing : At earthing up (40 days after planting), apply 50 kg N and again 60 days after planting apply the second dose of 50 kg of N.
Planting	:	Plant 2 seedlings per hill at a spacing of 60 cm on the side of the ridges.
After cultivation	:	Hoe and weed the field once in a month
Plant protection	:	Seven days after planting, apply the granular insecticide, Temik @ 10 kg/ha (4 kg/acre) around the plants. Spray the plants with sevimol (2 ml/l) 30 days after planting. Spray the plants with Dithane M 45 (2 g/l) and Endosulfan (2 ml/l) twice i.e., 45 days and 60 days after planting. Spray the plants with Nuvacron @ 1.25 ml/l twice i.e., 90 days and 120 days after planting.
Irrigation	:	As and when necessary
Harvest	:	Once in 4 to 5 days
Yield/ha	:	23,907 kg/ha.

The authors wish to thank the staff of the Vegetable Unit for their help in the course of this improvement programme.