



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.03

TPI 2020; 9(1): 183-184

© 2020 TPI

www.thepharmajournal.com

Received: 10-11-2019

Accepted: 12-12-2019

Bhambure DG

College of Agriculture, Dapoli,
Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dist. Ratnagiri,
Maharashtra, India

Haldavnekar PC

Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dapoli, Dist-
Ratnagiri, Maharashtra, India

Mali PC

Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dapoli, Dist-
Ratnagiri, Maharashtra, India

Parulekar YR

Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dapoli, Dist-
Ratnagiri, Maharashtra, India

Naik HP

College of Agriculture, Dapoli,
Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dist. Ratnagiri,
Maharashtra, India

Corresponding Author:

Bhambure DG

College of Agriculture, Dapoli,
Dr. Balasaheb Sawant Konkan
Krishi Vidyapeeth, Dist. Ratnagiri,
Maharashtra, India

Performance of F6 progenies of Brinjal (*Solanum melongena* L.) under Konkan agro climatic condition

Bhambure DG, Haldavnekar PC, Mali PC, Parulekar YR and Naik HP

Abstract

Field experiment was conducted to on Performance of F6 progenies of brinjal (*Solanum melongena* L.) under Konkan agro climatic condition at Department of Horticulture, College of agriculture, Dapoli, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri, (M.S.) during the *rabi* season of 2014-15. The experiment was laid out in a Randomized Block Design with nineteen treatments with three replications. Treatment comprised of nineteen brinjal progenies. The nineteen promising progenies were selected based on the characters like plant height, branching habit, earliness, harvesting span, fruit shape, size, colour, yield and their tolerance to incidence of bacterial wilt from F5 generation derived from crossing of 10 selected local types of Brinjal developed from half diallel method, followed by selection of desirable types during subsequent generations. The seeds for raising of F6 generation were followed from selfed fruits of selected progenies of F5 generation. These F6 progenies were raised during present investigation along with recommended check.

Keywords: Brinjal progenies, growth parameter, yield

Introduction

Vegetables constitute an important supplement of our daily diet as they are rich in vitamins, minerals and other essential body building elements. Among different vegetables grown in India, brinjal (*Solanum melongena* L.) belongs to the family Solanaceae having chromosome number $2n=24$, is a common and popular vegetable crop grown in the subtropics and tropics. After potato, it ranks the second highest consumed vegetable in India, along with tomato and onion. It is low in calories and fats, contains some protein, fiber and carbohydrates. It is a good source of minerals, vitamins.

Hence, locally grown popular genotypes having variation in growth, yield, fruit characters and tolerance to bacterial wilt were selected from different parts of Konkan region. After screening to bacterial wilt tolerance, growth and yield performance, half diallel crosses were made at the Department of Horticulture during the year 2008-2009. The promising progenies were selected in subsequent generation and maintained by selfing for evolving promising genotype as a variety/varieties suitable for cultivation in various brinjal growing pockets of the Konkan region. The present investigation entitled "Evaluation of F6 progenies of brinjal (*Solanum melongena* L.)" genotype was conducted during '*Rabi*' 2014-15.

Materials and Methods

The field experiment was conducted at the Educational Research Farm, Department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.) during the *rabi* season 2014-15. The soil of experimental plot was lateritic and acidic in reaction with pH ranging from 6.2 to 6.8. The selection of the site was considered on the basis of suitability of land for the cultivation of Brinjal.

The spacing adopted was 60 cm in between two rows and 60 cm in between two plants within a row. One meter distance was kept in between three replications with 60 cm x 60 cm spacing.

Result and Discussion

The performance of various progenies of Brinjal (*Solanum melongena*) under konkan agro climatic condition is presented in table 1.

Among the different progenies studied, the highest plant height at last harvest was recorded in the treatment T11 (94.21 cm) which was superior over rest of the genotypes. Whereas, the treatment T15 recorded the lowest plant height (55.49 cm.). The highest plant spread was Observed in the genotype T1 (94.01 cm).

However the lowest plant spread was recorded in the genotype T5 (65.97 cm). The maximum primary branches were recorded in the genotypes T9 (8.27), while the minimum primary branches were recorded in treatment T3 (6.47). Number of secondary branches and were maximum in the genotype T3 (9.87). Whereas, the lowest number of secondary branches was noted in genotype T19 (5.87). The highest number of nodes was recorded in the genotype T9 (8.60) whereas the genotype T19 (5.87) recorded lowest number of nodes. The highest number of leaves was recorded in the

genotype T10 (129.6), whereas the genotype T2 (82.87) recorded lowest number of leaves. The genotype T3 (30.3 days) recorded the lowest days for initiation flowering as well as days to 50% flowering (34.33 days). The genotype T8 (49.67 days) and T13 (50 days) recorded the minimum days to first harvest. The longest harvesting span noticed in the genotype T18 (81.0 days). The genotype T18 recorded more days to last harvest (137.0) days. Yield per plant (3.12 kg) and yield per hectare (80.64 t) were the highest in the genotype T2.

Table 1: “Performance of F6 progenies of brinjal (*Solanum melongena* L.) Under Konkan agro climatic condition.” (Rabi 2014-15)

Progenies	Plant height (cm)	Plant spread (cm)	Primary branches	Secondary branches	No. of nodes	No. of leaves	Days to flower initiation	No. of harvest	Yield per plant (kg)	Yield per hectare (tonn)
T 1	75.95	94.01	7.47	8.53	7.93	100.27	36.00	15.67	2.03	55.06
T 2	76.86	79.17	6.53	9.13	7.53	82.87	37.00	13.73	3.12	80.64
T 3	73.45	70.50	6.47	9.87	6.67	102.00	30.33	17.00	2.58	65.67
T 4	73.11	83.85	7.73	8.60	8.13	119.07	44.00	16.27	2.86	69.77
T 5	73.31	65.97	7.20	8.53	7.60	99.47	38.00	14.00	2.45	54.23
T 6	67.01	80.30	7.60	9.33	7.60	111.20	47.00	15.47	2.09	57.34
T 7	84.24	82.30	8.07	8.53	8.47	116.40	39.33	12.13	1.89	37.43
T 8	80.81	88.26	7.60	8.60	8.07	127.60	32.67	15.67	3.02	74.43
T 9	72.25	81.14	8.27	8.40	8.60	122.27	32.00	17.27	2.10	52.45
T 10	79.07	81.13	8.13	9.07	8.53	129.07	39.33	12.87	1.59	35.76
T 11	94.21	67.73	7.73	8.73	7.93	110.60	41.33	19.73	2.57	62.12
T 12	76.51	87.32	7.73	8.53	8.20	97.13	40.33	14.80	2.68	63.56
T 13	80.18	86.48	6.93	7.80	7.27	92.20	38.00	12.67	1.79	34.56
T 14	67.53	80.63	7.67	8.27	8.00	103.73	43.67	16.27	1.45	30.42
T 15	55.49	76.31	7.67	9.20	8.07	100.40	31.33	14.33	2.38	54.67
T 16	69.51	82.85	7.53	7.73	7.87	118.87	40.00	14.80	1.94	38.92
T 17	75.11	90.77	7.13	8.53	7.53	106.27	37.00	18.67	1.90	36.86
T 18	68.29	78.57	7.27	7.60	7.73	102.40	40.33	14.07	1.87	34.45
T 19	67.09	69.87	6.53	5.87	6.93	95.13	44.00	9.87	1.25	27.34
Range	55.49-94.21	65.97- 94.01	6.47- 8.27	5.87 - 9.87	6.67 - 8.60	82.87-129.07	30.33-47.0	9.87-19.73	1.25-3.12	27.34- 80.64
Mean	74.21	81.76	7.43	8.50	7.82	107.2	38.51	15.01	2.19	53.83
Result	Sig	Sig	Sig	Sig	Sig	Sig	Sig	Sig	Sig	Sig
S.Em+-	1.85	2.88	0.38	0.53	0.41	3.22	1.18	0.72	1.02	7.67
CD@5%	3.75	5.84	0.79	1.07	0.85	6.53	2.39	1.47	0.95	12.05

Conclusion

Thus, while studying the 19 progenies of brinjal, it was concluded that all the characters viz. F6 generation based on plant architecture, growth parameters, yield and yield contributing characters. Seven promising genotypes T2, T12, T8, T11, T15, T17 and T9 were selected for further study

References

1. Ansari SF, Mehta N, A Sajid JP, Gavel. Variability studies in brinjal (*Solanum melongena* L.) in Chhattisgarh plains. Electronic J. of Plant Breeding. 2011; 2(2):275-281.
2. Kapgate AM. Studied on heterosis, combining ability and inbreeding depression in brinjal. Ph.D. (Agri.) thesis submitted to Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.), 2012.
3. Haldavanekar TP. Evaluation of F5 progenies of brinjal under konkan agroclimatic condition. M.Sc. (Hort.) Thesis submitted to Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.), 2015.
4. Karak C, Ray U, Akhtar S, Naik A, Hazra P, Genetic variation and character association in fruit yield components and quality characters in brinjal (*Solanum melongena* L.). J of crop and weed. 2012; 8(1):86-89.
5. Magar VG. Evaluation of F4 progenies of brinjal under konkan agro climatic condition. M.Sc. (Hort.) Thesis

submitted to Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.), 2014.

6. Sanas MP. Performance of different types of brinjal for their growth, yield and quality characters. M.Sc. (Agri.) Thesis submitted to Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.), 2009.
7. Singh N, Mishra AC, Pandey V. Evaluation of brinjal (*Solanum melongena* L.) hybrids for growth and yield characters under rainfed mid hill condition of Uttarakhand. Annals of Agri-Bio Research. 2014; 19(1):144-146.
8. Thapa U, Ghanti P, Tripathy P. Evaluation of some brinjal (*Solanum melongena* L.) cultivars under Bengal conditions. The Orissa J of Hort.2005; 33(2):114-117.
9. Yadav DS. Performance of brinjal (*Solanum melongena* L.) varieties in Manipur. Haryana J. Hort. Sci. 1996; 25 (3):160-162.