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Per se Performance of Hybrids for Yield, Yield Attributes and Quality Parameters in Brinjal (*Solanum melongena* L.)

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A B S T R A C T

The present investigation was carried out in order to obtained information on the mean performance of cross combinations for genetic improvement in brinjal developed using line x tester analysis at PG student's research farm, College of Horticulture, Rajendranagar, Hyderabad. The resultant twenty one single crosses along with ten parents and two standard checks (Arka Anand and Mahy Hari) were evaluated in RBD for twenty yield and yield contributing traits. The analysis of variance of the trial conducted revealed that the replication mean sum of squares due to parents and hybrids were non significant for all the characters studied, which means there is no environmental error in controlling these characters. The mean performance of crosses *viz*., RCBG-4 x Shyamala (2.73 kg), RCBG-2 x Bhagyamathi (2.66 kg), RCBG-1 x Bhagyamathi (2.63 kg), RCBG-7 x Shyamala (2.43 kg) and RCBG-1 x Shyamala (2.42 kg) were significantly superior to the best commercial check Mahy Hari (1.89 kg). These hybrids may be subjected to multilocational and multiseasonal trials for their release for commercial cultivation.

Introduction

Egg plant or Brinjal (*Solanum melongena* L., 2n = 2x = 24) belonging to the family Solanaceae, is one of the most commonly grown, important and popular vegetable crops in India. It is often referred as poor man's crop (Sharma *et al.,* 2004), vegetable of masses (Patel and Sarnaik, 2003) and king of vegetables. The cultivated brinjal is of Indian origin. The region across India and Indo-china is considered the centre of diversity for brinjal (Vavilov, 1951).

India is major producer of brinjal in the world. In India, eggplant occupies an area of 0.73 million hectares with an annual production of 12.515 million tonnes and productivity stands at 18.9 MT/ha. The major brinjal growing states are West Benghal,

Odisha, Gujarat, Madhya Pradesh, Bihar, Chhattisgarh, Andhra Pradesh, Maharashta, Karnataka and Telangana. In Telangana, it is grown over an area of 20,176 acres with a production of 2,36,878 tonnes and productivity is 19.46 MT/ha (Dept. of Horticulture, Telangna, 2019-20). The unripe fruits of brinjal contain carbohydrate, protein, ascorbic acid, Ca, Mg, Fe, P, vitamin B_6, niacin, pantothenic acid, vitamin A and vitamin K. It is very low in calories and fats but rich in soluble fiber content. The peel has significant amounts of phenolic flavonoid phyto-chemicals called anthocyanins. They are also known to have alkaloid solanin in roots and leaves. Copper content, aminoacid content and polyphenol oxidase activity were highest in purple brinjal where as Fe, potassium and chloride content were highest in green cultivars.

Brinjal is grown for its immature, tender and unripe fruits which are used in variety of ways as cooked vegetable in curries. It has got much potential as raw material in pickle making and dehydration industries (Singh *et al.,* 1963). The fruit is employed as cure for toothache. It has also been employed as excellent remedy for those suffering from liver complaints. Fruit is used as cardiotonic, laxative muturant and reliever of inflammation. White brinjals are good for diabetic patients (Singh *et al.,* 1963). Other medicinal uses of brinjal include treatment of diabetes, asthma, cholera, bronchitis and dyspepsia. Fruits and leaves are administered to lower blood cholesterol levels.

A number of cultivars are under cultivation depending upon the yield, consumer preference about the colour, size and shape of the fruit. But it is not possible to have one common cultivar to suit different localities and local preferences. It is therefore required to improve the locally preferred cultivars for yield and adaptation or development of new hybrid combinations. Earlier, egg plant breeding was relied both on mass selection and pure line selection from land races for the development of improved varieties. Brinjal, being native to India and often cross pollinated crop, possesses considerable diversity for plant type, fruit colour, fruit shape, fruit size, yield and other quality traits (Ravali *et al.,* 2017), which offers much scope for improvement through heterosis breeding.

Heterosis breeding has become the widely used breeding method could enhance its quality and productivity without sacrificing the consumer's choice. Exploitation of hybrid vigour in brinjal is commercially possible (Bavage *et al.,* 2005; Prabhu *et al.,* 2005; Dharwad *et al.,* 2011) due to manifestation of high heterosis and other important characters, ease of handling the flowers during artificial emasculation and pollination, and realization of high number of hybrid seed per effective pollination. The estimation of heterosis for yield and its component characters would therefore, useful to judge the best hybrid combination for exploitation of superior hybrids. Several research workers reported the importance of genetic diversity and heterosis in crops (Saidaiah *et al.,* 2010, 2012, Raghu *et al.,* 2012, Ravindrakumar *et al.,* (2012), Sunil *et al.,* (2013), Arun Kumar *et al.,* (2016), Rajasekhar reddy *et al.,* 2017, Ravali *et al.,* 2017, Triveni *et al.,* (2017), Pidigam *et al.,* 2019 and Srivatsava *et al.,* 2019). Keeping in view of the above discussed aspects, the present investigation was carried out with an objective of studying the performance of hybrids for yield and yield related traits in field conditions.

Materials and Methods

The seven genotypes *viz*., RCBG-1, RCBG-2, RCBG-3, RCBG-4, RCBG-5, RCBG-6 and RCBG-7 having high genetic divergence and desirable characters were selected as lines and

three improved locally popular varieties *viz*., Bhagyamathi, Gulabi and Shyamala were selected as testers and were crossed in line x tester mating fashion during *rabi*, 2016. The resultant twenty one single crosses along with ten parents and two standard checks (Arka Anand and Mahy Hari) were evaluated in RBD following Panse and Sukatme, 1957 ANOVA for twenty yield and yield contributing traits at PG students research farm, College of Horticulture, Rajendranagar, Hyderabad in order to obtained information on the mean performance. Seeds of ten patents, twenty one hybrids and two commercial checks were sown on 25th January, 2017 in plug trays and thirty two days old seedlings were transplanted in the main field. In each replication each genotype was grown in a plot of 1.8 x 3.5 m2 consisting of three rows, accommodating 7 plants in each row. Row-to- row spacing of 60 cm and plant-to-plant spacing of 50 cm was maintained. The recommended package of practices was followed to raise a successful crop and necessary prophylactic plant protection measures were carried out to safeguard the crop from pests and diseases.

Results and Discussion

The analysis of variance of experimental material comprising 21 hybrids, 10 parents and 2 checks (Arka Anand and Mahy Hari) for twenty yield and yield contributing traits *viz*., plant height(cm), number of branches per plant, number of flower clusters per plant, number of flowers per cluster, days to first flowering, days to 50% flowering, days to first harvest, days to last harvest, number of fruits per cluster, number of fruits per plant, number of marketable fruits per plant, fruit length(cm), fruit width(cm), average fruit weight(g), fruit yield per plant(kg), marketable yield per plant(kg), total yield per hectare(tons), total marketable yield per hectare(tons), ascorbic acid content(mg/100g) and total phenols content(mg/100g) are presented in Table 4.1. The replication mean sum of squares due to parents and hybrids were non significant for all the characters studied, which means there is no environmental error in controlling these characters.

The treatment mean sum of squares due to parents and hybrids for all the characters under study were highly significant, indicating the presence of significant variation among the characters studied. The results are in line with the reports of Ravali *et al.,* 2017, Saidaiah *et al.*, 2010, 2012, Raghu *et al.*, 2012, Ravindrakumar *et al.,* (2012), Sunil *et al.,* (2013), Arun Kumar *et al.,* (2016), Rajasekhar reddy *et al.,* 2017, Triveni *et al.,* (2017), Pidigam *et al.,* 2019 and Srivatsava *et al.,* 2019.

In lines, the mean values of plant height were ranged from 58.45 cm in RCBG-6 to 77.40 cm in RCBG-4 with an average of 69.97 cm whereas, in testers, it was ranged from 63.49 cm in Shyamala to 78.16 cm in Gulabi with an average of 70.26 cm. Among hybrids, the cross RCBG-4 x Bhagyamathi shown highest plant height *i.e.* 89.32 cm followed by RCBG-3 x Gulabi (89.07 cm) and the lowest plant height was recorded in RCBG-3 x Bhagyamathi (62.60 cm) with an average mean of 78.45 cm (Table 2). Out of 21 hybrids, nine hybrids *viz*., RCBG-4 x Bhagyamathi (89.32), RCBG-3 x Gulabi (89.07), RCBG-7 x Gulabi (88.33), RCBG-5 x Gulabi (85.39), RCBG-6 x Gulabi (85.22), RCBG-4 x Gulabi (85.21), RCBG-7 x Bhagyamathi (83.10cm), RCBG-1 x Shyamala (82.85cm) and RCBG-2 x Gulabi (82.12cm) were recorded more plant height than best check Arka Anand (80.42cm). The present results are in close conformity with the earlier reports of Roy *et al.,* (2009), Kalaiyarasi *et al.,* (2017) and Patidar *et al.,* (2017).

The mean values of number of branches per plant among lines were ranged from 8.59 in RCBG-6 to 11.75 in RCBG-7 with an average of 9.99. In testers, it was ranged from 8.92 in Shyamala to 9.92 in Bhagyamathi with an average of 9.41. Among crosses, number of branches per plant were ranged from 7.89 (RCBG-5 x Shyamala) to 15.56 (RCBG-4 x Bhagyamathi) with an average mean of 11.10 which is superior to standard check Mahy Hari (10.32). The three hybrids *viz*., RCBG-2 x Gulabi (14.83), RCBG-1 x Bhagyamathi (13.68) and RCBG-6 x Gulabi (13.44) were at par with the superior performing hybrid *i.e*. RCBG-4 x Bhagyamathi (15.56). Roy *et al.*, (2009) and Kalaiyarasi *et al.*, (2017) are also reported similar type of results.

Numbers of flowers clusters per plant were varied from 18.88 (RCBG-6) to 20.89 (RCBG-4) with an average of 19.89 among lines. In testers, this character was ranged from 19.82 in Gulabi to 21.47 in Bhagyamathi with an average of 20.75. Number of flower clusters per plant exhibited a range of 19.66 in RCBG-5 x Gulabi to 23.67 in RCBG-2 x Bhagyamathi among hybrids, with an average of 21.63 which is superior to standard check Mahy Hari (20.06). The mean values of twenty one crosses for number of flower clusters per plant are given in Table 3. The four hybrids *viz*., RCBG-1 x Bhagyamathi (22.93), RCBG-4 x Shyamala (22.93), RCBG-4 x Bhagyamathi (22.90) and RCBG-2 x Gulabi (22.87) were at par with the RCBG-2 x Bhagyamathi which was registered highest number of flower clusters per plant *i.e.* 23.67.

Among lines, the mean values of number of flowers per cluster were ranged from 1.75 in RCBG-7 to 3.10 in RCBG-2 with an average of 2.26. In testers, it was varied from 1.56 in Shyamala to 3.58 in Bhagyamathi with an average value of 2.87. Among hybrids, this character was ranged from 1.44 (RCBG-7 x Shyamala) to 4.13 (RCBG-4 x Gulabi) with an average of 2.85. Among 21 hybrids, 8 hybrids *viz.*, RCBG-4 x Gulabi (4.13), RCBG-4 x Bhagyamathi (3.81), RCBG-3 x Bhagyamathi (3.80), RCBG-2 x Shyamala (3.67), RCBG-2 x Bhagyamathi (3.48), RCBG-1 x Bhagyamathi (3.41), RCBG-2 x Gulabi (3.20) and RCBG-1 x Shyamala (3.35) were recorded higher number of flowers per cluster than the standard check Mahy Hari (3.24).

Lines exhibited a range of 35.00 days in RCBG-2 to 44.67 days in RCBG-6 with an average of 38.09 days for first flowering. Among testers, it was ranged from 31.00 days (Shyamala) to 43.33 days (Gulabi) with an average of 37.33 days. In hybrids, this character was ranged from 32.00 days in RCBG-4 x Shyamala to 39.00 days in RCBG-6 x Bhagyamathi and RCBG-6 x Gulabi with an average of 35.84 days which is superior than early flowering best check Arka Anand (37.67 days). Four hybrids *viz*., RCBG-4 x Shyamala (32.00 days), RCBG-5 x Shyamala (32.33 days), RCBG-3 x Shyamala (32.67 days) and RCBG-5 x Bhagyamathi (32.67 days) were at par with the early flowering tester Shyamala (31.00 days).

In lines, days to 50% flowering was ranged from 39.00 days in RCBG-5 to 47.67 days in RCBG-6 with an average of 43.29 days. For this trait, testers exhibited a range of 38.00 days in Shyamala to 46.67 days in Bhagyamathi and Gulabi with an average of 43.78 days. Among hybrids, days to 50% flowering was varied from 37.33 days (RCBG-5 x Bhagyamathi, RCBG-5 x Shyamala) to 45.33 days (RCBG-3 x Gulabi) with an average of 40.48 days. Among 21 hybrids, eleven hybrids were earlier in days to 50% flowering than best check Arka Anand (40.67 days) (Table 3). Among those earlier eleven hybrids, four hybrids *viz*., RCBG-5 x Bhagyamathi (37.33 days), RCBG-5 x

Shyamala (37.33 days), RCBG-4 x Shyamala (37.67 days) and RCBG-1 x Shyamala (37.67 days) were superior to the early flowering tester Shyamala (38.00 days). These findings are in consonance with the earlier findings of Das *et al.,* (2009) and Ramireddy *et al.,* (2011), Saidaiah *et al.,* 2010, 2012, Raghu *et al.,* 2012, Ravindrakumar *et al.,* (2012), Sunil *et al.,* (2013), Arun Kumar *et al.,* (2016), Rajasekhar reddy *et al.,* 2017, Ravali *et al.,* 2017, Triveni *et al.,* (2017), Pidigam *et al.,* 2019 and Srivatsava *et al.,* 2019.

The mean values for days to first harvest among lines were ranged from 52.33 days (RCBG-5, RCBG-2) to 62.67 (RCBG-6) with an average of 55.52 days. In tester, the character was varied from 47.67 days in Shyamala to 60.33 days in Gulabi with an average of 54.11 days. Days to first harvest among hybrids recorded a range of 49.00 days in RCBG-4 x Shyamala to 57.67 days in RCBG-6 x Gulabi with an average of 53.52 days which is earlier than the best check Arka Anand (55.33 days). The hybrids *viz*., RCBG-4 x Shyamala (49.00 days), RCBG-3 x Shyamala (49.67 days), RCBG-5 x Shyamala (50.33 days), RCBG-5 x Bhagyamathi (50.67 days) were at par with the early harvesting tester Shyamala (47.67 days).

Days to last harvest among lines were varied between 142.33 days (RCBG-3) to 155.67 days (RCBG-6) with a general mean of 146.62 days. Among testers, it was varied from 138.00 days in Shyamala to 156.33 days in Gulabi with an average of 147.00 days. In crosses, days to last harvest were ranged from 138.67 days (RCBG-3 x Shyamala) to 157.00 days (RCBG-6 x Bhagyamathi) with a general mean of 147.52 days. Among 21 crosses, the following six hybrids *viz*., RCBG-6 x Bhagyamathi (157.00 days), RCBG-6 x Gulabi (156.67 days), RCBG-4 x Gulabi (153.00 days), RCBG-6 x Shyamala (152.67 days), RCBG-2 x Gulabi (152.33 days) and RCBG-4 x Bhagyamathi (151.67 days) were superior to best check Mahy Hari (151.00 days).

In lines, the general mean of number of fruits per cluster was 1.67 with a range of 1.20 (RCBG-5) to 2.46 (RCBG-2). Among testers, it was ranged from 1.03 in Shyamala to 3.12 in Bhagyamathi with an average of 2.41. Numbers of fruits per cluster among hybrids were varied between 1.18 in RCBG-7 x Shyamala to 3.22 in RCBG-4 x Bhagyamathi with a general mean of 1.98. The four hybrids *viz*., RCBG-4 x Bhagyamathi (3.22), RCBG-4 x Gulabi (2.85), RCBG-2 x Bhagyamathi (2.83) and RCBG-1 x Bhagyamathi (2.75) were significantly superior to standard check Mahy Hari (2.69). Rani *et al.,* (2018) also reported similar trends of results.

Lines exhibited a range of 24.85 (RCBG-3) to 32.04 (RCBG-4) for number of fruits per plant with an average value of 27.44. In testers, this character was varied between 23.80 (Shyamala) to 30.56 (Bhagyamathi) with a general mean of 28.01. Number of fruits per plant among hybrids shown variation between 23.81 in RCBG-5 x Gulabi to 39.59 in RCBG-1 x Bhagyamathi with an average of 32.74. The hybrids *viz*., RCBG-1 x Bhagyamathi (39.59), RCBG-4 x Bhagyamathi (39.50), RCBG-2 x Bhagyamathi (38.05), RCBG-4 x Shyamala (37.01), RCBG-7 x Gulabi (36.82), RCBG-2 x Gulabi (36.60), RCBG-5 x Bhagyamathi (36.60), RCBG-6 x Gulabi (36.38), RCBG-1 x Gulabi (35.24) and RCBG-3 x Bhagyamathi (34.10) were significantly superior to best check Mahy Hari (33.51). The present results are in agreement with the earlier findings of Das *et al.,* (2009), Kamalakkannan *et al.,* (2007), Kumar *et al.,* (2013) and Rani *et al.,* (2018).

The mean values of number of marketable fruits per plant were varied between 20.41 in

RCBG-5 to 27.04 in RCBG-4 among lines with an average of 22.59. Testers shown a range of 18.80 (Shyamala) to 27.56 (Bhagyamathi) with an average of 24.01. In hybrids, the general mean for this trait was 28.93 with a range between 20.81(RCBG-5 x Gulabi) to 37.59 (RCBG-1 x Bhagyamathi). Among 21 crosses, eight hybrids, RCBG-1 x Bhagyamathi (37.59), RCBG-4 x Shyamala (35.00), RVBG-7 x Gulabi (33.82), RVBG-2 x Gulabi (33.60), RCBG-4 x Bhagyamathi (33.50), RCBG-2 x Bhagyamathi (33.05), RCBG-1 x Gulabi (32.24) and RCBG-5 x Bhagyamathi (31.60) were superior to best check Mahy Hari (30.31)(Table 5).

In lines, fruit length was ranged from 6.97 cm in RCBG-6 to 10.57 cm in RCBG-1 with an average of 8.77 cm. This character showed a variation of 6.78 cm (Shyamala) to 11.87 cm (Gulabi) with a general mean of 8.53 cm among testers. In crosses, fruit length was varied from 6.63cm (RCBG-5 x Shyamala) to 11.26 cm (RCBG-1 x Gulabi) with an average of 8.02 cm. Eight hybrids *viz*., RCBG-1 x Gulabi (11.26 cm), RCBG-3 x Gulabi (9.36 cm), RCBG-4 x Gulabi (9.21 cm), RCBG-2 x Gulabi (8.74 cm), RCBG-4 x Bhagyamathi (8.67 cm), RCBG-7 x Gulabi (8.62 cm), RCBG-1 x Bhagyamathi (8.53 cm) and RCBG-5 x Gulabi (8.25 cm) were superior to the standard check Mahy Hari (8.12 cm). None of the hybrid shown superior performance than Arka Anand (14.18 cm), which recorded highest fruit length but one hybrid, RCBG-1 x Gulabi (11.26 cm) was at par with Arka Anand (14.18 cm). Similar results are observed in the earlier studies conducted by Kamalakkannan *et al.,* (2007) and Roy *et al.,* (2009).

The mean values of fruit width among lines were varied between 4.27 cm in RCBG-4 to 6.02 cm in RCBG-6 with an average value of 4.97 cm. In testers, this trait has a range of 3.66 cm (Gulabi) to 5.29 cm (Shyamala) with an average of 4.44 cm. Among hybrids, fruit width was ranged from 4.00 cm in RCBG-5 x Gulabi to 5.41 cm in RCBG-6 x Shyamala with a general mean of 4.64 cm. With respect to the fruit width, none of the hybrids were superior than the best check Mahy Hari (5.80cm) but the following hybrids *viz*., RCBG-6 x Shyamala (5.41 cm), RCBG-6 x Bhagyamathi (5.26 cm), RCBG-7 x Shyamala (5.21 cm), RCBG-1 x Bhagyamathi (5.05 cm) and RCBG-2 x Bhagyamathi (5.04 cm) were at par with Mahy Hari (5.80 cm).

In lines, the general mean of average fruit weight was 57.70 g with a range of 54.35 g (RCBG-2) to 68.40 g (RCBG-6). Among testers, it was ranged from 55.33 g in Shyamala to 56.39 g in Bhagyamathi with an average of 55.85 g. Average fruit weight among hybrids was varied between 52.92 g in RCBG-6 x Bhagyamathi to 71.77 g in RCBG-1 x Bhagyamathi with a general mean of 62.33 g which is superior than the standard check Mahy Hari(58.11 g). The six hybrids *viz*., RCBG-1 x Bhagyamathi (71.77 g), RCBG-7 x Shyamala (70.75 g), RCBG-3 x Bhagyamathi (69.12 g), RCBG-6 x Shyamala (66.50 g), RCBG-4 x Shyamala (65.49 g) and RCBG-2 x Bhagyamathi (65.10 g) were significantly superior to standard check Mahy Hari (58.11 g). Concurrent results are also reported earlier by Kamalakkannan *et al.,* (2007), Shafeeq *et al.,* (2007), Das *et al.,* (2009), Roy *et al.,* (2009), Ramireddy *et al.,* (2011), Kalaiyarasi *et al.,* (2017) and Kannan *et al.,* (2017).

The mean values of lines and testers for fruit yield per plant are presented in Table 4 and were varied between 1.35 kg in RCBG-3 to 1.64 kg in RCBG-4 among lines with an average of 1.51 kg. Testers showed a range of 1.36 kg (Shyamala) to 1.72 kg (Bhagyamathi) with an average of 1.59 kg. In hybrids, the general mean for this trait was 2.18 kg with a range between 1.22 kg (RCBG-7 x

Bhagyamathi) to 2.89 kg (RCBG-2 x Bhagyamathi). Majority of hybrids out yielded the best commercial check Mahy Hari (2.07 kg). The hybrids, RCBG-2 x Bhagyamathi(2.89 kg), RCBG-4 x Shyamala (2.83 kg), RCBG-1 x Bhagyamathi(2.71 kg), RCBG-7 x Shyamala (2.67 kg), RCBG-1 x Shyamala (2.59 kg) and RCBG-3 x Bhagyamathi(2.52 kg) showed significantly superior performance for fruit yield per plant than the standard check Mahy Hari (2.07 kg). These findings are in agreement with the earlier reports of Kamalakkannan *et al.*, (2007), Kumar *et al.*, (2013) and Rani *et al.*, (2018).

Among lines, the mean values for marketable fruit yield per plant were ranged from 1.14 kg in RCBG-3 to 1.39 kg in RCBG-4 with an average of 1.25 kg. In testers, it was varied from 0.82 kg in Shyamala to 1.47 kg in Bhagyamathi with an average value of 1.23 kg. Among hybrids, marketable fruit yield per plant was varied between 1.05 kg (RCBG-7 x Bhagyamathi) to 2.73 kg (RCBG-4 x Shyamala) with an average of 2.00 kg. The hybrids *viz*., RCBG-4 x Shyamala (2.73 kg), RCBG-2 x Bhagyamathi (2.66 kg), RCBG-1 x Bhagyamathi (2.63 kg), RCBG-7 x Shyamala (2.43 kg) and RCBG-1 x Shyamala (2.42 kg) were significantly superior than the best commercial check Mahy Hari (1.89 kg).

Table.1 RBD Analysis of variance for yield and yield contributing characters in brinjal

S.no.	Character	Mean Sum of Squares		
		Replications (df = 2)	Treatments (df = 32)	Error (df = 64)
1	Plant height (cm)	2.41	193.12**	11.33
2	Number of branches per plant	2.42	10.41**	2.13
3	Number of flower clusters per plant	1.37	4.57**	0.70
4	Number of flowers per cluster	0.05	1.69**	0.13
5	Days to first flowering	3.85	27.01**	2.83
6	Days to 50% flowering	3.03	26.23**	1.95
7	Days to first harvest	6.64	29.46**	4.07
8	Days to last harvest	6.03	83.84**	4.42
9	Number of fruits per cluster	0.01	1.35**	0.05
10	Number of fruits per plant	0.77	65.18**	5.45
11	Number of marketable fruits per plant	0.77	72.05**	5.45
12	Fruit length (cm)	0.39	8.67**	0.25
13	Fruit width (cm)	0.26	0.88**	0.11
14	Average fruit weight (g)	13.80	80.66**	11.91
15	Fruit yield per plant (kg)	0.10	0.72**	0.07
16	Marketable yield per plant (kg)	0.08	0.88**	0.06
17	Fruit yield per hectare (tons)	107.41	798.12**	78.00
18	Marketable yield per hectare (tons)	85.30	979.52**	70.36
19	Ascorbic acid content (mg/100g)	0.03	3.95**	0.03
20	Total phenols content (mg/100g)	2.51	311.25**	1.51

****** Significant at 1% level and ***** Significant at 5% level

Table.2 Mean performance of lines and testers for plant height (cm), number of primary branches per plant, number of flower clusters per plant, number of flowers per cluster, days to first flowering, days to 50% flowering, days to first harvest, days to last harvest, number of fruits per cluster and number of fruits per plant in brinjal

Treatments	Plant height (cm)	Number of branches per plant	Number of flower clusters per plant	Number of flowers per cluster	Days to first flowering	Days to 50% flowering	Days to first harvest	Days to last harvest	Number of fruits per cluster	Number of fruits per plant
LINES										
RCBG-1	76.63	9.72	19.23	2.16	38.33	44.00	56.33	142.33	1.64	25.80
RCBG-2	70.17	10.00	20.70	3.10	35.00	41.67	52.33	147.00	2.46	27.30
RCBG-3	74.58	9.92	19.91	1.86	37.33	45.33	55.00	142.33	1.43	24.85
RCBG-4	77.40	10.33	20.89	2.25	39.00	43.33	55.33	148.33	1.95	32.04
RCBG-5	65.35	9.64	19.46	2.66	35.33	39.00	52.33	144.33	1.20	27.41
RCBG-6	58.45	8.59	18.88	2.07	44.67	47.67	62.67	155.67	1.72	25.93
RCBG-7	67.19	11.75	20.14	1.75	37.00	42.00	54.67	146.33	1.23	28.79
Lines mean	69.97	9.99	19.89	2.26	38.09	43.29	55.52	146.62	1.67	27.44
TESTERS										
Bhagyamathi	69.14	9.92	21.47	3.58	37.67	46.67	54.33	146.67	3.12	30.56
Gulabi	78.16	9.39	19.82	3.47	43.33	46.67	60.33	156.33	3.09	29.68
Shyamala	63.49	8.92	20.97	1.56	31.00	38.00	47.67	138.00	1.03	23.80
Testers mean	70.26	9.41	20.75	2.87	37.33	43.78	54.11	147.00	2.41	28.01
Parental mean	70.11	9.70	20.32	2.57	37.714	43.53	54.82	146.81	2.04	27.73

Table.3 Mean performance of crosses for plant height (cm), number of primary branches per plant, number of flower clusters per plant, number of flowers per cluster, days to first flowering, days to 50% flowering, days to first harvest, days to last harvest, number of fruits per cluster and number of fruits per plant in brinjal

Treatments	Plant height	Number of branches per plant	Number of flower clusters per plant	Number of flowers per cluster	Days to first flowering	Days to 50% flowering	Days to first harvest	Days to last harvest	Number of fruits per cluster	Number of fruits per plant
CROSSES										
RCBG-1 x Bhagyamathi	79.25	13.68	22.93	3.41	34.67	39.00	52.33	144.33	2.75	39.59
RCBG-1 x Gulabi	71.83	9.82	21.54	2.75	37.67	42.33	55.33	144.67	2.28	35.24
RCBG-1 x Shyamala	82.85	10.89	22.00	3.35	34.33	37.67	51.67	141.67	2.34	29.16
RCBG-2 x Bhagyamathi	68.42	12.50	23.67	3.48	35.00	40.33	51.33	149.67	2.83	38.05
RCBG-2 x Gulabi	82.12	14.83	22.87	3.40	37.67	41.33	55.33	152.33	2.69	36.60
RCBG-2 x Shyamala	75.80	11.00	21.41	3.67	38.00	39.33	54.67	150.00	2.33	32.73
RCBG-3 x Bhagyamathi	62.60	9.32	20.23	3.80	38.33	44.00	56.00	144.33	2.52	34.10
RCBG-3 x Gulabi	89.07	10.40	20.67	2.33	36.67	45.33	54.33	143.33	1.87	32.02
RCBG-3 x Shyamala	72.71	9.50	20.60	1.80	32.67	38.33	49.67	138.67	1.33	26.77
RCBG-4 x Bhagyamathi	89.32	15.56	20.90	3.81	35.33	38.67	52.67	151.67	3.22	39.50
RCBG-4 x Gulabi	85.21	11.55	22.30	4.13	36.00	40.00	54.00	153.00	2.85	29.67
RCBG-4 x Shyamala	71.88	9.14	22.93	3.19	32.00	37.67	49.00	148.33	1.45	37.01
RCBG-5 x Bhagyamathi	77.95	9.90	22.34	2.95	32.67	37.33	50.67	141.33	1.52	36.60
RCBG-5 x Gulabi	85.39	12.44	19.66	3.09	37.67	42.67	55.33	143.00	1.23	23.81
RCBG-5 x Shyamala	66.65	7.89	22.48	2.12	32.33	37.33	50.33	139.67	1.22	29.01
RCBG-6 x Bhagyamathi	75.08	8.67	20.07	2.31	39.00	43.67	57.33	157.00	1.69	30.49
RCBG-6 x Gulabi	85.22	13.44	20.35	2.15	39.00	43.00	57.67	156.67	1.85	36.38
RCBG-6 x Shyamala	75.50	8.98	21.83	1.96	35.33	40.33	54.00	152.67	1.29	24.80
RCBG-7 x Bhagyamathi	83.10	10.25	21.46	2.76	38.33	42.00	56.67	147.33	1.65	28.57
RCBG-7 x Gulabi	88.33	10.17	22.10	1.99	36.67	41.33	54.67	150.00	1.46	36.82
RCBG-7 x Shyamala	79.12	13.19	21.85	1.44	33.33	38.33	51.00	148.33	1.18	30.61
Crosses mean	78.45	11.10	21.63	2.85	35.84	40.48	53.52	147.52	1.98	32.74
Grand mean	74.28	10.40	20.97	2.71	36.78	42.00	54.17	147.17	2.01	30.24
CHECKS										
Arka Anand	80.42	8.81	19.46	3.17	37.67	40.67	55.33	143.67	2.38	31.82
Mahy Hari	73.27	10.32	20.06	3.24	40.00	44.00	56.67	151.00	2.69	33.51
S.E (m) ±	1.94	0.84	0.48	0.21	0.97	0.80	1.16	1.21	0.13	1.35
C.D(0.05)	5.49	2.38	1.36	0.59	2.74	2.28	3.29	3.43	0.37	3.81
C.D(0.01)	7.28	3.17	1.81	0.78	3.64	3.03	4.37	4.55	0.50	5.06

Table.4 Mean performance of lines and testers for number of marketable fruits per plant, fruit length (cm), fruit width (cm), average fruit weight (g), fruit yield per plant (kg), marketable fruit yield per plant (kg),yield per hectare (tons), marketable yield per hectare (tons), ascorbic acid content (mg/100g) and total phenols content (mg/100g) in brinjal

Treatments	Number of marketable fruits per plant	Fruit length (cm)	Fruit width (cm)	Average fruit weight (g)	Fruit yield per plant (kg)	Marketable fruit yield per plant (kg)	Fruit yield per hectare(tons)	Marketable fruit yield per hectare(tons)	Ascorbic acid content (mg/100g)	Total phenols content (mg/100g)
LINES										
RCBG-1	20.80	10.57	5.50	57.81	1.57	1.31	52.22	43.66	7.79	37.88
RCBG-2	21.30	7.77	4.50	54.35	1.58	1.28	52.66	42.55	6.53	28.67
RCBG-3	20.85	8.04	4.75	57.15	1.35	1.14	45.10	37.99	5.30	39.36
RCBG-4	27.04	10.40	4.27	54.73	1.64	1.39	54.77	46.44	6.17	54.09
RCBG-5	20.41	7.28	4.55	55.32	1.55	1.19	51.55	39.66	5.40	43.75
RCBG-6	21.93	6.97	6.02	68.40	1.48	1.28	49.44	42.55	5.39	44.78
RCBG-7	25.79	10.34	5.19	56.17	1.42	1.18	47.43	39.33	4.41	35.40
Lines mean	22.59	8.77	4.97	57.70	1.51	1.25	50.45	41.74	5.86	40.56
TESTERS										
Bhagyamathi	27.56	6.96	4.38	56.39	1.72	1.47	57.22	49.10	5.72	59.44
Gulabi	25.68	11.87	3.66	55.64	1.68	1.39	56.00	46.22	6.43	43.77
Shyamala	18.80	6.78	5.29	55.33	1.36	0.82	45.44	27.55	5.32	41.20
Testers mean	24.01	8.53	4.44	55.85	1.59	1.23	52.87	40.96	5.82	48.14
Parental mean	23.30	8.65	4.71	56.78	1.55	1.24	51.67	41.35	5.84	44.35

Table.5 Mean performance of crosses for number of marketable fruits per plant, fruit length (cm), fruit width (cm), average fruit weight (g), fruit yield per plant (kg), marketable fruit yield per plant (kg), yield per hectare (tons), marketable yield per hectare (tons), ascorbic acid content (mg/100g) and total phenols content (mg/100g) in brinjal

Treatments	Number of marketable fruits per plant	Fruit length (cm)	Fruit width (cm)	Average fruit weight (gm)	Fruit yield per plant (kg)	Marketable fruit yield per plant (kg)	Fruit yield per hectare(tons)	Marketable fruit yield per hectare(tons)	Ascorbic acid content (mg/100g)	Total phenols content (mg/100g)
CROSSES										
RCBG-1 x Bhagyamathi	37.59	8.53	5.05	71.77	2.71	2.63	90.22	87.75	9.13	54.25
RCBG-1 x Gulabi	32.24	11.26	4.11	63.75	2.15	2.05	71.77	68.20	7.98	49.12
RCBG-1 x Shyamala	23.16	7.24	4.44	62.84	2.59	2.42	86.33	80.76	7.11	60.79
RCBG-2 x Bhagyamathi	33.05	7.75	5.04	65.10	2.89	2.66	96.33	88.76	7.77	56.39
RCBG-2 x Gulabi	33.60	8.74	4.30	56.00	2.46	2.32	81.99	77.43	8.32	43.30
RCBG-2 x Shyamala	28.73	7.30	4.83	64.05	2.28	2.08	75.99	69.39	7.00	47.31
RCBG-3 x Bhagyamathi	29.10	7.85	4.61	69.12	2.52	2.28	84.10	76.01	6.98	52.12
RCBG-3 x Gulabi	29.02	9.36	4.42	64.22	1.99	1.83	66.22	61.13	6.29	58.54
RCBG-3 x Shyamala	24.77	6.88	4.78	62.65	2.39	2.26	79.55	75.28	5.93	47.02
RCBG-4 x Bhagyamathi	33.50	8.67	4.34	56.24	1.52	1.24	50.66	41.24	7.57	72.29
RCBG-4 x Gulabi	27.68	9.21	4.21	59.61	2.24	2.17	74.77	72.44	8.76	72.67
RCBG-4 x Shyamala	35.00	7.88	4.68	65.49	2.83	2.73	94.33	90.99	6.81	67.47
RCBG-5 x Bhagyamathi	31.60	6.94	4.49	61.78	1.58	1.33	52.66	44.20	6.60	58.38
RCBG-5 x Gulabi	20.81	8.25	4.00	55.34	2.03	1.88	67.66	62.76	6.11	54.47
RCBG-5 x Shyamala	25.01	6.63	4.72	57.63	1.85	1.64	61.66	54.76	6.87	51.11
RCBG-6 x Bhagyamathi	28.49	7.47	5.26	52.92	1.33	1.23	44.44	40.97	5.72	55.78
RCBG-6 x Gulabi	28.38	7.89	4.41	61.93	1.79	1.39	59.55	46.21	5.09	46.40
RCBG-6 x Shyamala	21.80	6.89	5.41	66.50	2.44	2.30	81.44	76.64	4.96	48.69
RCBG-7 x Bhagyamathi	24.57	7.42	4.54	58.03	1.22	1.05	40.77	35.10	6.23	57.75
RCBG-7 x Gulabi	33.82	8.62	4.62	63.30	2.26	2.13	75.33	71.06	5.52	48.30
RCBG-7 x Shyamala	25.61	7.75	5.21	70.75	2.67	2.43	89.10	80.91	5.49	53.65
Crosses mean	28.93	8.02	4.64	62.33	2.18	2.00	72.61	66.76	6.77	55.04
Grand mean	26.11	8.33	4.67	59.55	1.86	1.62	62.14	54.05	6.31	49.69
CHECKS										
Arka Anand	28.82	14.18	3.85	57.81	1.87	1.72	62.22	57.33	6.77	42.44
Mahy Hari	30.31	8.12	5.80	58.11	2.07	1.89	68.89	63.11	7.56	35.69
S.E (m) ±	1.35	0.29	0.20	1.99	0.15	0.14	5.10	4.84	0.10	0.71
C.D(0.05)	3.81	0.81	0.55	5.63	0.43	0.41	14.41	13.68	0.28	2.01
C.D(0.01)	5.06	1.08	0.74	7.48	0.57	0.54	19.14	18.18	0.37	2.67

In lines, total yield per hectare was ranged from 45.10tons in RCBG-3 to 54.77 tons in RCBG-4 with an average of 50.45 tons. It has a variation of 45.44 tons (Shyamala) to 57.22 tons (Bhagyamathi) with a general mean of 52.87 tons among testers. In crosses, fruit yield per hectare was varied from 44.44 tons (RCBG-6 x Bhagyamathi) to 96.33 tons (RCBG-2 x Bhagyamathi) with an average of 72.61 tons. Eight hybrids *viz*., RCBG-2 x Bhagyamathi (96.33 tons), RCBG-4 x Shyamala (94.33 tons), RCBG-1 x Bhagyamathi (90.22 tons), RCBG-7 x Shyamala (89.10 tons), RCBG-1 x Shyamala (86.33 tons) and RCBG-3 x Bhagyamathi (84.10 tons) exhibited superior performance compared to best commercial check Mahy Hari (68.89 tons).

In lines, the general mean for total marketable yield per hectare was 41.74 tons with a range of 37.99 tons (RCBG-3) to 46.44 tons (RCBG-4). Among testers, it was ranged from 27.55 tons in Shyamala to 49.10 tons in Bhagyamathi with an average of 40.96 tons. Total marketable yield per hectare among hybrids were varied between 35.10 tons in RCBG-7 x Bhagyamathi to 90.99 tons in RCBG-4 x Shyamala with a general mean of 66.76 tons (Table 5). The hybrids *viz*., RCBG-4 x Shyamala (90.99 tons), RCBG-2 x Bhagyamathi (88.76 tons), RCBG-1 x Bhagyamathi (87.75 tons), RCBG-7 x Shyamala (80.91 tons) and RCBG-1 x Shyamala (80.76 tons) were significantly superior to commercial check Mahy Hari (63.11 tons).

Ascorbic acid content was ranged from 4.41 mg/100g (RCBG-7) to 7.79 mg/100g (RCBG-1) in lines, 5.32 mg/100g (Shyamala) to 6.43 mg/100g (Gulabi) in testers and among hybrids it was varied between 4.96 mg/100g in RCBG-6 x Shyamala to 9.13 mg/100g in RCBG-1 x Bhagyamathi with general means of 5.86 mg/100g, 5.82 mg/100g and 6.77 mg/100g respectively. Among 21 hybrids, six hybrids *viz*., RCBG-1 x Bhagyamathi (9.13 mg/100g), RCBG-4 x Gulabi (8.76 mg/100g), RCBG-2 x Gulabi (8.32 mg/100g), RCBG-1 x Gulabi (7.98 mg/100g), RCBG-2 x Bhagyamathi (7.77 mg/100g), and RCBG-4 x Bhagyamathi (7.57 mg/100g) were superior to best check Mahy Hari (7.56 mg/100g). The presents results are in line with the previous findings of Kumar *et al.,* (2013) and Rani *et al.,* (2018).

In lines, total phenols content was varied from 28.67 mg/100g in RCBG-2 to 54.09 mg/100g in RCBG-4 with an average of 40.56 mg/100g. In testers, it was varied from 41.20 mg/100g (Shyamala) to 59.44 mg/100g (Bhagyamathi) with an average of 48.14 mg/100g. Hybrids shown a general mean of 55.04 mg/100g for total phenols content and the range was varied from 43.30 mg/100g (RCBG-2 x Gulabi) to 72.67 mg/100g (RCBG-4 x Gulabi) (Table 5). None of the hybrids shown superior performance than the best check Mahy Hari(35.69). The hybrids *viz*., RCBG-2 x Gulabi (43.30), RCBG-6 x Gulabi (46.40) and RCBG-3 x Shyamala (47.02) were on par with the next best check Arka Anand (42.44). Anologues kind of results are reported by Kumar *et al.,* (2013).

The overall means of lines, testers and cross combinations revealed that, most of the crosses exhibited high *perse* performance than parents involved. The cross RCBG-4 x Bhagyamathi exhibited highest mean performance for plant height (89.32 cm), number of branches per plant (15.56) and number of fruits per cluster (3.22). With respect to the earliness characters like days to first flowering and days to first harvest, RCBG-4 x Shyamala (32 days, 49 days), RCBG-5 x Shyamala (32.33 days, 50.33 days), RCBG-3 x Shyamala (32.67 days, 49.67 days) and RCBG-5 x Bhagyamathi (32.67 days, 50.67 days) are considered as

best cross combinations. The hybrid RCBG-1 x Bhagyamathi recorded highest number of marketable fruits per plant (37.59), average fruit weight (71.77 g) and ascorbic acid content (9.13 mg/100g).

Based on mean performance, the top five promising crosses for marketable yield per plant were RCBG-4 x Shyamala (2.73 kg), RCBG-2 x Bhagyamathi (2.66 kg), RCBG-1 x Bhagyamathi (2.63 kg), RCBG-7 x Shyamala (2.43 kg) and RCBG-1 x Shyamala (2.42 kg). However, these crosses also exhibited superior performance for other yield and yield related characters. These hybrids may be subjected to multilocational and multiseasonal trials for further use in crop improvement.

References

Bavage, M. S., Madalageri, M.B. and Mulge, R. 2005. Hybrid performance in round fruited brinjal (*Solanum melongena* L.). *The Karnataka Journal of Agricultural Sciences*. 1(3): 95-97.

Das, S., Mandal, A.B. and Hazra, P. 2009. Study of heterosis in brinjal (*Solanum melongena* L.) for yield attributing traits. *Journal of Crop and Weed.* 5(2): 25-30.

Dept. of Horticulture, Govt. of Telangana, 2020. RSS Database, Ministry of Agriculture, Government of Telangana.

Dharwad, A.N., Patil, S.A. and Salimath, P.M. 2011. Heterosis and combining ability analysis for productivity traits in brinjal (*Solanum melongena* L.). *Karnataka Journal of Agricultural Sciences*. 24(5): 622-625.

Kalaiyarasi, G., Ram, S.R.R. and Saravanan, K.R.2017. Studies in mean and combining ability effects for parents and their hybrids in brinjal (*Solanum melongena* L.). *Plant Archives*.17(2):961-966.

Kamalakkannan, T., Karuppaiah, P., Sekar, K. and Senthilkumar, P. 2007. Line x tester analysis in brinjal for yield and shoot and fruit borer tolerance. *Indian Journal of Horticulture.* 64(4):420-424.

Kannan, K., Thangavel, P. and Padmavathi, S. 2017. Combining ability studies in brinjal (*Solanum melongena* L.). *Plant Archives.* 7(1):79-82.

Kumar, S.R., Arumugam, T., Anandakumar, C.R., Balakrishnan, S. and Rajavel, D.S. 2013. Heterosis expression, interrelationship, direct and indirect effects of component characters on yield in intervarietal crosses of eggplant (*Solanum melongena* L.). *African Journal of Biotechnology*. 12(45): 6366-6375.

Patel, K.K. and Sarnaik, D.A. 2003. Performance study of long fruited genotypes of brinjal under Raipur conditions. *The Orissa Journal of Horticulture*. Vol.31(1):74-77.

Patidar, D., Shitap, M.S. and Patel, N.A.2017. Heterosis studies for fruit yield and its component in long type brinjal (*Solanum melongena* L.). *Electronic Journal of Plant Breeding*.8(4):1169-1176.

Pidigam, S, Suchandranath Babu Munnam, Srinivas Nimmarajula, Narshimulu Gonela, Srivani S Adimulam, Hari Yadla, Lavanya Bandari and Geetha Amarapalli, 2019. Assessment of genetic diversity in yardlong bean (*Vigna unguiculata* (L.) Walp subsp. sesquipedalis Verdc.) germplasm from India using RAPD markers. *Genetic Resources and Crop Evolution* 66, 1231–1242.

Prabhu, M., Natarajan, S. and Pugalendhi, L. 2005. Studies on heterosis and mean performance in brinjal (*Solanum melongena* L.). *Vegetable Science.* 32(1):86-96.

Raghu B, J Suresh, A Geetha, P Saidaiah and

S Sudheer Kumar 2012 Heterosis for grain yield and its component traits in maize (Zea mays L.) J. Res. ANGRAU, 40(1):83-90

Rajashekar Reddy Dodla, P Saidaiah, K Ravinder Reddy, SR Pandravada 2017. Mean Performance of Cluster Bean Genotypes for Yield, Yield Parameters and Quality Traits. Int. J. Curr. Microbiol. App. Sci, 6(9): 3685-3693

Ramireddy, S.R.K.M., Lingiah, H.B., Reddy, P.V.K., Naresh, P. and Kuchi, V.S. 2011. Combining ability studies for yield and yield attributing characters in brinjal (*Solanum melongena* L.). *Plant Archives*. 11(2): 849-852.

Rani, M., Kumar,S. and Kumar, M.2018. Estimation of heterosis for yield and its contributing traits in brinjal(*Solanum melongena* L.). *Journal of Environmental Biology*.39:710-718.

Ravali BK, R Reddy, P Saidaiah and N Shivraj, 2017 Variability, Heritability and Genetic advance in brinjal (*Solanum melongena* L.) International Journal of Current Microbiology and Applied Sciences 6: 42-47

Ravali BK, R Reddy, P Saidaiah, N Shivraj, 2017. Variability, Heritability and Genetic advance in brinjal (*Solanum melongena* L.). International Journal of Current Microbiology and Applied Sciences 6: 42-47

Roy, U., Roy, T., Sarkar, S. and Hazra, P. 2009. Manifestation of hybrid vigour in brinjal (*Solanum melongena* L.). *Journal of Crop and Weed*. 5(1):116-118.

Saidaiah, P, Kumar, SS and Ramesha, MS, 2010. Variability for yield and yield component attributes in rice. Crop Research (Hisar), 39: 91-93.

Saidaiah, P, Ramesha, MS and Sudheer Kumar, S 2012. Evaluation of CMS system based rice hybrids for heterosis over locations, ORYZA, 48 (3): 153-162.

Sharma, B., Pathania, N.K. and Gautham, V. 2004. Combining ability studies in brinjal (*Solanum melongena* L). *Himachal Journal of Agricultural Research*. 30:54-59.

Singh, S., Krishnakumar, S. and Katyal, S. L. 1963. Fruit culture in India. *Indian Council of Agricultural Research.* New Delhi. 412.

Srivastava S, P Saidaiah, N Shivraj and K Ravinder Reddy 2019. Yield and Quality Based Phenotyic Evaluation of Germplasm of Brinjal (Solanum melongena L.) Under Semi-Arid Conditions. Int. J. Curr. Microbiol. App. Sci, 8(7): 415-422

Triveni, D, Saidaiah, P, Ravinder reddy, K. and Pandravada, S. R. 2017a. Mean performance of the parents and hybrids for yield and yield contributing traits in tomato. *International Journal of Current Microbiology and Applied Sciences*. 6(11): 613-619.

Vavilov, N.I. 1951. The origin, variation, immunity and breeding of cultivated plants. *Chron. Bot.* 13: 1-364.

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