

Heterosis for Yield in Brinjal (*Solanum melongena* L.)

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Abstract: A study was conducted to assess the magnitude of heterosis and combining ability in a diallel mating involving 28 hybrids generated by crossing eight diverse genotypes and two commercial hybrid standard check (Krishna and Phule Arjun) in brinjal during 2011-12 at All India Coordinated Research Project on Vegetable Crops, Department of Horticulture, Mahatma Phule Krishi Vidyapeeth, Rahuri. The analysis of variance indicated presence of significant amount of variability among the genotypes for all the traits studied. Significant heterosis in desirable direction was recorded by 23, 19, 19 and 6 hybrids over better, top parent, standard check 1 and standard check 2 in kharif season for fruit yield. The maximum heterosis for fruit yield per plant was observed in the cross 5X8 i.e. RHRB-74 × DBSR-195 (55.06%) followed by 4x5 i.e. JBR-2 × RHRB-74 (48.94%), 6X7 i.e. RHRB-77 × Kudachi (37.88%) and 5X7 i.e. RHRB-74 × Kudachi (36.94%). The hybrid 5X8 i.e. RHRB-74 × DBSR-195 exhibited highly significant heterosis for all the characters except number of branches per.

Keywords: Heterosis, Hybrids, Brinjal.

INTRODUCTION

The brinjal (*Solanum melongena* L.) is a third most important vegetable crop in India, possesses a lot of genetic variability with respect to yield and its components which may be exploited through heterosis. The productivity of F₁ hybrids in brinjal has been reported to be high, compared to varieties and the use of hybrid cultivars has been predicted to increase in the country during the ensuing years. The superiority of F₁ hybrid over their parents is termed as heterosis. Heterosis provides an opportunity for improvement in earliness, uniformity, higher productivity and enhancement in quality characters. The values of heterosis expressed as percentage increase or decrease over better parent, top parent and standard hybrid checks. The positive effect of heterosis was considered as favorable for all the characters except days to 50% flowering where the heterosis in negative direction is important.

Hence, the present investigation was undertaken to elucidate information on heterosis in

addition to identification of potential hybrids for cultivation during kharif season.

MATERIALS AND METHODS

The present investigation entitled, "Genetic studies in brinjal (*Solanum melongena* L.) was conducted at All India Coordinated Research Project on Vegetable Crops, Department of Horticulture, Mahatma Phule Krishi Vidyapeeth, Rahuri during the year 2011-12. The experimental material comprised of eight elite homozygous lines of brinjal, 28 hybrids and two commercial standard checks viz., Krishna and Phule Arjun and experiment was laid out in a randomized block design with two replications for fruit yield and yield contributing characters namely, plant height, number of primary branches per plant, days to 50% flowering, fruit length, fruit breadth, fruit girth, pedicel length, fruit weight, number of fruits per plant and yield per plant. The crop was raised following recommended package of practices. Data was recorded on five random, competitive plants tagged for each entry, in each replication and the average values were computed.

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Table 1
Heterobeltiosis and standard heterosis for fruit yield, yield components and quality characters in brinjal

Character	Heterobeltiosis			Standard heterosis (SC 1)			Standard heterosis (SC 2)		
	Range	No. of desirable hybrids	Best hybrid combination	Range	No. of desirable hybrids	Best hybrid combination	Range	No. of desirable hybrids	Best hybrid combination
Plant height (cm)	-34.43 to 29.02	4	P1 × P6	-26.65 to 52.69	18	P1 × P4	-30.66 to 44.34	15	P1 × P4
Number of primary branches	-16.67 to 32.16	2	P1 × P6	-20.10 to 50.72	4	P1 × P6	-24.64 to 42.18	1	P1 × P6
Days to 50% flowering	-7.21 to -8.11	1	P4 × P7	-18.40 to -10.40	13	P4 × P5	-14.17 to -11.67	6	P4 × P5
Fruit length (cm)	-19.54 to 23.20	5	P4 × P5	-22.08 to 23.61	4	P1 × P6	-23.06 to 22.05	4	P1 × P6
Fruit breadth (cm)	-13.38 to 17.40	6	P1 × P4	-12.58 to 12.97	6	P1 × P4	-0.77 to 28.24	20	P1 × P4
Fruit girth (cm)	-13.29 to 17.45	6	P1 × P4	-12.58 to 12.90	5	P1 × P4	-0.73 to 28.21	20	P1 × P4
Pedicle length (cm)	-33.10 to 23.86	3	P2 × P5	-29.09 to 8.31	3	P2 × P5	-32.94 to 2.44	—	—
Number of fruits per plant	-76.79 to 18.26	1	P6 × P7	-34.50 to 118.00	7	P5 × P8	-49.52 to 68.03	4	P5 × P8
Average fruit weight (g)	-19.93 to 55.43	14	P5 × P8	-29.50 to 35.40	11	P1 × P6	-24.58 to 44.84	14	P1 × P6
Yield per plant (kg)	-15.17 to 78.11	23	P5 × P8	-28.94 to 55.06	19	P5 × P8	-41.92 to 26.73	6	P5 × P8

The statistical analysis for heterosis was done as per Panse and Sukhatme (1967) and the magnitude of heterosis over mid parent (MP), better parent (BP) and standard check was calculated using Turner, (1953) and Hays *et al.*, (1955).

Per cent heterosis over better parent (BP)

$$\text{Percent heterosis over BP} = \frac{\bar{F}_1 - \overline{BP}}{\overline{BP}} \times 100$$

Per cent superiority over top parent (TP)

$$\text{Percent heterosis over TP} = \frac{\bar{F}_1 - \overline{TP}}{\overline{TP}} \times 100$$

Where,

Mean of the \bar{F}_1 hybrid

\overline{BP} = Mean of the better parent of that particular F_1 cross

\overline{TP} = Mean of the top parent of that particular character

RESULTS AND DISCUSSION

The analysis of variance revealed significant mean squares for the genotypes, parents and hybrids for fruit yield, yield components and quality characters studied, indicating the existence of sufficient variation in the material under investigation. Further, the parent *vs.* hybrids and control *vs.* hybrids components of variation were also significant for all the traits, indicating the existence of significant levels of heterobeltiosis and commercial heterosis for yield, yield components and quality characters in the material studied.

An analysis of hybrid vigour over better parent for fruit yield and yield components revealed maximum expression of heterosis for yield per plant followed by average fruit weight, plant height, number of primary branches, pedicle length, length of fruit, number of fruits, fruit girth, fruit breadth and days to 50% flowering and high hybrid vigour to an extent of 81.29, 58.79, 31.07, 25.00, 23.82, 23.24, 19.56, 16.09, 15.91 and -4.55 per cent, respectively was noticed for these traits. Similar results were reported earlier by Shafeeq *et al.* (2007), Timmapur *et al.* (2008), Biswas *et al.* (2013), Jayprabha *et al.* (2014) and Kandoliya *et al.* (2015) in brinjal.

Table 2
The magnitude of heterosis for different quantitative characters in brinjal

Cross	Plant height (cm)			Number of primary branches			Days to 50% flowering					
	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2	T.P	SC-1	SC-2	
1X2	-9.33	-15.12**	4.79	-0.94	4.76	-8.33	10.55	4.27	6.56*	23.81**	4.00	8.33
1X3	24.01**	16.09**	43.31**	35.47**	-16.67	-16.67	0.50	-5.21	3.54	11.43**	-6.40	-2.50
1X4	23.69**	23.69**	52.69**	44.34**	-3.08	-8.33	10.55	4.27	5.41	11.43**	-6.40	-2.50
1X5	16.58**	9.14*	34.73**	27.36**	26.21*	8.33	30.65*	23.22	0.90	6.67*	-10.40*	-6.67
1X6	29.02**	20.78**	49.10**	40.94**	-7.49	-12.50	5.53	-0.47	3.51	12.38**	-5.60	-1.67
1X7	14.77**	7.44	32.63**	25.38**	-20.5	-33.75**	-20.1	-24.64	2.59	13.33**	-4.80	-0.83
1X8	2.59	-3.96	18.56**	12.08*	-11.58	-30.00**	-15.58	-20.38	18.1**	18.1**	-0.80	3.33
2X3	-34.43**	-40.58**	-26.65**	-30.66**	-15.83	-15.83	1.51	-4.27	6.19*	14.29**	-4.00	0.00
2X4	-23.85**	-23.85**	-5.99	-11.13*	-11.89	-16.67	0.50	-5.21	5.41	11.43**	-6.40	-2.50
2X5	-22.63**	-40.58**	-26.65**	-30.66**	-2.86	-15.00	2.51	-3.32	7.21*	13.33**	-4.80	-0.83
2X6	2.09	-5.25	16.97**	10.57*	-7.49	-12.5	5.53	-0.47	-0.88	7.62*	-9.60	-5.83
2X7	6.34	-38.97**	-24.65**	-28.77**	23.81	8.33	30.65*	23.22	2.59	13.33**	-4.80	-0.83
2X8	-12.53*	-38.48**	-24.05**	-28.21**	4.76	-8.33	10.55	4.27	6.67*	6.67*	-10.40*	-6.67
3X4	0.00	0.00	23.45**	16.70**	-8.33	-8.33	10.55	4.27	11.71**	18.1**	-0.80	3.33
3X5	-2.32	-11.48*	9.28	3.30	4.17	4.17	25.63	18.48	8.11**	14.29**	-4.00	0.00
3X6	-15.07**	-21.18**	-2.69	-8.02	4.17	4.17	25.63	18.48	0.88	8.57**	-8.80	-5.00
3X7	10.62*	0.24	23.75**	16.98**	-17.08	-17.08	0.00	-5.69	-2.65	4.76	-12.00*	-8.33
3X8	7.94	-2.18	20.76**	14.15**	9.58	9.58	32.16*	24.64	-0.95	-0.95	-16.80**	-13.33*
4X5	-0.89	-0.89	22.36**	15.66**	32.16**	25.00*	50.75**	42.18**	-8.11**	-2.86	-18.40**	-15.00**
4X6	-24.58**	-24.58**	-6.89	-11.98*	-16.3	-20.83	-4.52	-9.95	-2.70	2.86	-13.60*	-10.00
4X7	-5.74	-5.74	16.37**	10.00	-11.89	-16.67	0.50	-5.21	-7.21*	-1.90	-17.60**	-14.17*
4X8	-11.08*	-11.08*	9.78	3.77	-7.49	-12.5	5.53	-0.47	0.00	0.00	-16.00**	-12.5*
5X6	0.44	-6.79	15.07**	8.77	-3.08	-8.33	10.55	4.27	-1.80	3.81	-12.80*	-9.17
5X7	24.11**	-4.69	17.66**	11.23*	11.65	-4.17	15.58	9.00	-4.50	0.95	-15.20**	-11.67*
5X8	24.42**	-4.45	17.96**	11.51*	6.80	-8.33	10.55	4.27	0.00	0.00	-16.00**	-12.5*
6X7	3.40	-4.04	18.46**	11.98*	-20.70	-25.00*	-9.55	-14.69	-3.51	4.76	-12.00*	-8.33
6X8	8.89	1.05	24.75**	17.92**	-7.49	-12.50	5.53	-0.47	6.67*	6.67*	-10.40*	-6.67
7X8	29.43**	-8.97*	12.38*	6.23	15.00	-4.17	15.58	9.00	16.19**	16.19**	-2.40	1.67
S.E.+	5.36	5.35	5.35	5.35	0.64	0.64	0.64	0.64	3.13	3.13	3.13	3.13
C.D. 5%	10.87	10.87	10.87	10.87	1.31	1.31	1.31	1.31	6.36	6.36	6.36	6.36
C.D. 1%	14.58	14.58	14.58	14.58	1.76	1.76	1.76	1.76	8.53	8.53	8.53	8.53

Cont. table 2

Cross	Fruit length (cm)			Fruit breadth (cm)			Fruit girth (cm)					
	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2
1X2	6.82	-4.99	5.46	4.12	3.91	3.91	8.03*	22.64**	4.04	4.04	8.06*	22.71**
1X3	-8.08	-14.36**	-4.94	-6.14	13.68**	5.21	9.39**	24.18**	13.76**	5.28	9.35**	24.18**
1X4	3.02	-8.37	1.71	0.42	17.40**	8.66*	12.97**	28.24**	17.45**	8.70**	12.90**	28.21**
1X5	14.34**	1.69	12.87**	11.45*	4.93	-2.89	0.97	14.62**	5.03	-2.80	0.97	14.65**
1X6	11.37**	11.37**	23.61**	22.05**	8.59*	2.42	6.49	20.88**	8.55*	2.48	6.45	20.88**
1X7	-3.89	-14.52**	-5.12	-6.31	9.39**	7.36*	11.62**	26.70**	9.49**	7.45*	11.61**	26.74**
1X8	-2.68	-13.44**	-3.92	-5.13	-2.41	-9.68**	-6.10	6.59	-2.35	-9.63**	-6.13	6.59
2X3	-7.17	-13.52**	-4.01	-5.22	-10.61**	-10.61**	-7.07*	5.49	-10.56**	-10.56**	-7.10*	5.49
2X4	4.28	-10.14*	-0.26	-1.52	-0.37	-0.37	3.58	17.58**	-0.31	-0.31	3.55	17.58**
2X5	7.20	-7.37	2.81	1.52	-5.03	-5.03	-1.26	12.09**	-4.97	-4.97	-1.29	12.09**
2X6	-5.53	-5.53	4.86	3.54	3.07	3.07	7.16*	21.65**	3.11	3.11	7.10*	21.61**
2X7	3.52	-9.68*	0.26	-1.01	-3.82	-3.82	0.00	13.52**	-3.73	-3.73	0.00	13.55**
2X8	0.19	-18.36**	-9.38*	-10.52*	-8.10*	-8.10*	-4.45	8.46*	-8.01*	-8.01*	-4.45	8.50*
3X4	12.04*	4.38	15.86**	14.39**	4.80	-4.38	-0.58	12.86**	4.76	-4.35	-0.65	12.82**
3X5	-10.47*	-16.59**	-7.42	-8.59	-2.04	-10.61**	-7.07*	5.49	-2.04	-10.56**	-7.10*	5.49
3X6	-10.06*	-10.06*	-0.17	-1.43	-2.96	-8.47*	-4.84	8.02*	-2.96	-8.39*	-4.84	8.06*
3X7	-7.25	-13.59**	-4.09	-5.3	-13.38**	-14.99**	-11.62**	0.33	-13.29**	-14.91**	-11.61**	0.37
3X8	3.30	-3.76	6.82	5.47	3.78	-5.31	-1.55	11.76**	3.74	-5.28	-1.61	11.72**
4X5	23.20**	6.45	18.16**	16.67**	12.90**	2.70	6.78*	21.21**	12.97**	2.80	6.77*	21.25**
4X6	-14.44**	-14.44**	-5.03	-6.23	-0.59	-6.24	-2.52	10.66**	-0.66	-6.21	-2.58	10.62**
4X7	-3.35	-15.67**	-6.39	-7.58	-3.23	-5.03	-1.26	12.09**	-3.16	-4.97	-1.29	12.09**
4X8	-1.96	-15.51**	-6.22	-7.41	11.57**	1.49	5.52	19.78**	11.60**	1.55	5.48	19.78**
5X6	-4.84	-4.84	5.63	4.29	-2.57	-8.10*	-4.45	8.46*	-2.63	-8.07*	-4.52	8.42*
5X7	12.32*	-2.00	8.78	7.41	-7.02*	-8.75**	-5.13	7.69*	-6.96*	-8.70**	-5.16	7.69*
5X8	4.53	-9.68*	0.26	-1.01	-2.17	-15.92**	-12.58**	-0.77	-2.17	-15.84**	-12.58**	-0.73
6X7	-15.98**	-15.98**	-6.73	-7.91	-3.23	-5.03	-1.26	12.09**	-3.16	-4.97	-1.29	12.09**
6X8	-14.67**	-14.67**	-5.29	-6.48	5.33	-0.65	3.29	17.25**	5.26	-0.62	3.23	17.22**
7X8	-19.54**	-29.80**	-22.08**	-23.06**	-3.80	-5.59	-1.84	11.43**	-3.80	-5.59	-1.94	11.36**
S.E.+	0.27	0.27	0.27	0.27	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.52
C.D. 5%	0.55	0.55	0.55	0.55	0.35	0.35	0.35	0.35	1.04	1.04	1.04	1.04
C.D. 1%	0.73	0.73	0.73	0.73	0.47	0.47	0.47	0.47	1.40	1.40	1.40	1.40

Cont. table 2

Heterosis for Yield in Brinjal (Solanum melongena L.)

Cross	Pedicel length (cm)				Number of fruits per plant			
	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2
1 × 2	-4.28	-7.72**	0.33	-5.11	-12.45	-84.28**	-34.50**	-49.52**
1 × 3	-4.51	-4.51	3.82	-1.81	-10.62	-78.29**	-9.56	-30.29**
1 × 4	-15.94**	-18.96**	-11.89**	-16.67**	-22.22**	-79.11**	-12.98	-32.93**
1 × 5	-9.75**	-13.00**	-5.4	-10.53**	-49.41**	-76.34**	-1.43	-24.02**
1 × 6	-21.17**	-24.01**	-17.37**	-21.86**	-17.73*	-78.32**	-9.68	-30.39**
1 × 7	-29.49**	-31.27**	-25.27**	-29.32**	-18.81*	-81.55**	-23.16**	-40.77**
1 × 8	-19.11**	-22.02**	-15.21**	-19.81**	-72.69**	-72.69**	13.75	-12.33*
2 × 3	-13.15**	-13.15**	-5.57	-10.69**	-27.89**	-82.49**	-27.04**	-43.77**
2 × 4	-27.49**	-33.64**	-27.85**	-31.76**	-4.02	-74.22**	7.38	-17.23**
2 × 5	23.86**	-0.38	8.31**	2.44	-46.98**	-75.20**	3.30	-20.38**
2 × 6	-2.85	-21.87**	-15.05**	-19.65**	-4.50	-74.84**	4.83	-19.20**
2 × 7	0.71	-1.83	6.73*	0.94	15.78	-73.70**	9.58	-15.54*
2 × 8	15.78**	-6.88*	1.25	-4.25	-80.59**	-80.59**	-19.15*	-37.69**
3 × 4	-3.67	-3.67	4.74	-0.94	-35.98**	-82.81**	-28.38**	-44.80**
3 × 5	-15.44**	-15.44**	-8.06**	-13.05**	-41.45**	-72.61**	14.09	-12.07*
3 × 6	-13.30**	-13.30**	-5.74	-10.85**	-2.59	-74.33**	6.94	-17.58**
3 × 7	-0.61	-0.61	8.06**	2.2	9.93	-73.30**	11.23	-14.27*
3 × 8	-14.76**	-14.76**	-7.32*	-12.34**	-65.96**	-65.96**	41.80**	9.30
4 × 5	-11.36**	-18.88**	-11.80**	-16.59**	-22.46**	-63.74**	51.07**	16.44**
4 × 6	-22.81**	-29.36**	-23.19**	-27.36**	-6.39	-74.86**	4.73	-19.28**
4 × 7	-22.75**	-24.69**	-18.12**	-22.56**	-6.39	-74.86**	4.73	-19.28**
4 × 8	-16.04**	-23.17**	-16.46**	-20.99**	-74.62**	-74.62**	5.72	-18.51**
5 × 6	-5.93	-24.85**	-18.29**	-22.72**	-23.94**	-64.43**	48.19**	14.22*
5 × 7	-2.12	-4.59	3.74	-1.89	-25.54**	-65.17**	45.09**	11.83*
5 × 8	6.22	-15.14**	-7.73*	-12.74**	-47.67**	-47.67**	118.00**	68.03**
6 × 7	-33.10**	-34.79**	-29.09**	-32.94**	18.26*	-68.84**	29.82**	0.06
6 × 8	11.82**	-20.41**	-13.47**	-18.16**	-71.53**	-71.53**	18.60*	-8.59
7 × 8	-18.59**	-20.64**	-13.72**	-18.40**	-76.79**	-76.79**	-3.30	-25.47**
S.E.+	0.17	0.17	0.17	0.17	2.42	2.42	2.42	2.42
C.D. 5%	0.35	0.35	0.35	0.35	4.92	4.92	4.92	4.92
C.D. 1%	0.47	0.47	0.47	0.47	6.60	6.60	6.60	6.60

Cross	Average fruit weight (g)				Yield per plant (kg)			
	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2
1 × 2	-1.90	-1.90	10.94	18.68*	-15.17**	-20.11**	-28.94**	-41.92**
1 × 3	6.02	6.02	19.89**	28.25**	29.21**	21.69**	8.24*	-11.54**
1 × 4	6.85	6.85	20.83**	29.26**	18.25**	18.25**	5.18	-14.04**
1 × 5	5.85	5.85	19.70**	28.05**	35.68**	32.80**	18.12**	-3.46
1 × 6	19.73**	19.73**	35.40**	44.84**	39.41**	37.57**	22.35**	0.00
1 × 7	0.67	0.67	13.84*	21.78**	3.37	-2.65	-13.41**	-29.23**
1 × 8	-19.93**	-19.93**	-9.45	-3.13	22.19**	15.08**	2.35	-16.35**
2 × 3	2.13	1.43	14.70*	22.70**	8.02	-7.41	-17.65**	-32.69**

Cont. table 2

Cross	Average fruit weight (g)				Yield per plant (kg)			
	B.P	T.P	SC-1	SC-2	B.P	T.P	SC-1	SC-2
2 × 4	13.93*	13.15*	27.95**	36.87**	54.50**	54.50**	37.41**	12.31**
2 × 5	-5.43	-6.08	6.21	13.61	25.95**	23.28**	9.65**	-10.38**
2 × 6	-0.36	-1.04	11.91	19.71**	33.51**	31.75**	17.18**	-4.23
2 × 7	-6.21	-6.86	5.33	12.68	51.23**	29.63**	15.29**	-5.77*
2 × 8	-7.83	-8.46	3.51	10.73	2.92	-6.88	-17.18**	-32.31**
3 × 4	47.07**	4.25	17.89**	26.12**	-5.82	-5.82	-16.24**	-31.54**
3 × 5	41.18**	-3.86	8.72	16.30*	42.43**	39.42**	24.00**	1.35
3 × 6	23.23**	-11.90*	-0.37	6.58	21.45**	19.84**	6.59	-12.88**
3 × 7	27.88**	-7.85	4.20	11.47	51.85**	30.16**	15.76**	-5.38
3 × 8	4.57	-28.79**	-19.48**	-13.86	41.81**	28.31**	14.12**	-6.73*
4 × 5	22.14**	-13.42*	-2.1	4.73	67.46**	67.46**	48.94**	21.73**
4 × 6	45.23**	3.83	17.41*	25.60**	38.10**	38.10**	22.82**	0.38
4 × 7	42.84**	2.93	16.40*	24.52**	37.04**	37.04**	21.88**	-0.38
4 × 8	30.95**	-7.17	4.97	12.3	24.60**	24.60**	10.82**	-9.42**
5 × 6	3.93	-25.70**	-15.98*	-10.12	41.82**	39.95**	24.47**	1.73
5 × 7	14.55	-17.46**	-6.66	-0.14	57.30**	53.97**	36.94**	11.92**
5 × 8	55.43**	-37.66**	-29.50**	-24.58**	78.11**	74.34**	55.06**	26.73**
6 × 7	30.25**	-6.14	6.14	13.54	57.10**	55.03**	37.88**	12.69**
6 × 8	41.59**	1.22	14.47*	22.45**	54.69**	52.65**	35.76**	10.96**
7 × 8	25.64**	-9.46	2.38	9.52	22.81**	11.11**	-1.18	-19.23**
S.E.+	4.50	4.50	4.50	4.50	0.07	0.07	0.07	0.07
C.D. 5%	9.14	9.14	9.14	9.14	0.15	0.15	0.15	0.15
C.D. 1%	12.27	12.27	12.27	12.27	0.20	0.20	0.20	0.20

Studies on hybrid vigour over the standard check 1 and 2 revealed maximum expression of commercial heterosis for yield per plant followed by average fruit weight, number of primary branches, plant height, pedicel length, length of fruit, number of fruits, fruit girth, fruit breadth, days to 50% flowering and high hybrid vigour to an extent of 78.11, 55.43, 32.16, 29.43, 23.86, 23.20, 18.26, 17.45, 17.40 and -8.11 per cent, respectively was noticed for these traits. Similar results were reported earlier by Shafeeq *et al.* (2007) and Dharwad *et al.* (2011) in brinjal.

The existence of considerable levels of better parent and commercial heterosis in the hybrids studied for fruit yield per plant and majority of yield components during *kharif*, indicated their potential for cultivation. Significant and desirable levels of heterobeltiosis for fruit yield per plant were observed in 23 hybrids, while nineteen hybrids had exhibited significant and desirable levels of

standard heterosis over standard check 1 and six over standard check 2. An analysis of these crosses exhibiting significant and desirable heterosis for fruit yield per plant with regards to expression of heterosis for yield contributing characters also revealed desirable levels of heterosis for few yield attributes and quality traits indicating that fruit yield was the result of combinational heterosis of its component characters. A greater manifestation of heterosis for fruit yield was also noticed in crosses involving at least one good parent, identified on the basis of *per se* performance for the trait. Similar findings were reported earlier by Deshmukh *et al.* (2014) and Biswas *et al.* (2013) in brinjal.

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