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Studies on heterosis for yield and yield contributing characters in brinjal (*Solanum Melongena* L.)

RB Kolekar, SA Gaikwad, VB Girnare and Dr. VS Jagtap

Abstract
Half dialed analysis was carried out during *kharif*- 2017 at Instructional-Cum-Research Farm, Department of Horticulture, College of Agriculture, Latur, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani to study the heterosis per cent for yield and yield contributed characters. The 21 F_1 hybrids along with their seven parent ware evaluated. Observation were recorded on five randomly selected yield attributing character *viz.*, plant height, plant spread, number of primary branches, number of days required for first flowering, number of days required to 50% flowering, number of fruits per cluster, fruit diameter, fruit length, number of fruits per plant, fruit weight, yield per plant, yield per plot and yield per hectare tagged plant from each treatment for yield. The values of F_1 averaged over replications were used for estimating heterosis. Manifestation of heterosis of higher order for number of fruit plant^{-1}, length of fruit, weight of fruit, weight of fruit plant^{-1} and fruit yield ha^{-1}. The maximum heterosis over better parent for fruit yield ha^{-1} was observed to be 172.72%. Three potential heterosis cross combinations *viz.*, Kateri Vange x Brinjal CVK, Malapur Local x Manjari Gota, Brinjal CVK x Manjari Gota and Brinjal -64 x Brinjal CVK were identified as for promising for fruit yield per hectare.

Keywords: Brinjal (*Solanum Melongena* L.), genotype, heterosis

Introduction
Brinjal (*Solanum melongena* L.) is one of the most popular and widely cultivated vegetable crop which belongs to the family Solanaceae has the chromosome number 2n=24. Brinjal is practically the only vegetable that is available at an affordable price for rural and urban poor. So, it is known as "poor man's crop". Brinjal is widely cultivated in various parts of India and is considered one of the most remunerative vegetables (Pramanik, *et al.*, 2012) [11]. Brinjal originated in India and the major growing brinjal states are Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Orissa, Bihar, Uttar Pradesh, Gujarat and West Bengal. Brinjal fruits are commonly consumed in different culinary preparations and are rich in defensive nutrients (Hedges and Lister, 1928) [5]. Brinjal is often cross-pollinated and has considerable diversity for characteristic characteristics of plant types, fruit yield and yield and thus provides an opportunity to exploit genetic diversity for hybrid variety production. It is rich source of protein, P, Fe, Ca, K, Mg, Na and fibre (Nyadanu and Lowor, 2015) [8]. It has medicinal value for asthma, allergic rhinitis, constipation, skin infections, joint pains, dyspepsia and rheumatic diseases (Nwodo, *et al.*, 2011) [7]. Heterosis is a phenomenon in which the features of a progeny of distinct individuals have higher/lower values than the average of either of the original parents used for hybrid development (Birchler, *et al.*, 2010) [3]. Heterosis in cultivated plants has been used extensively. In this context, for almost a century, the genetic basis of heterosis has been studied. The popular reasons for the dominance of the heterosis phenomenon and the theory of over-dominance are two concepts. Heterosis is assumed in the dominance hypothesis to be the product of the complementation of the deleterious alleles that were present in the inbred parental lines. Whereas, the interpretation of over-dominance theories points out that the hybrid-specific allelic associations are such that the heterozygous alleles in the hybrid mixture work better than any of the homozygous ones (Birchler, *et al.*, 2010; Birchler, *et al.*, 2006 and Luo, *et al.*, 2001) [2-3, 6]. In addition, attempts to correctly decipher the molecular basis of heterosis continue, but breeders continue to enhance inbreeds. In comparison, new technologies such as profiling gene expression are underway; attempts are being made to exploit phenomena of heterosis.

Materials and Methods
The inbred lines of seven genotypes namely KateriVange (P_1), Malapur Local (P_2), Brinjal-64

(P_3), Brinjal CVK (P_4), Pune Kateri (P_5), ManjariGota (P_6), SuvarnaPratibha (P_7) were selected for the purpose of crossing programme and sown incrossing block at Instructional-Cum Research Farm, Department of Horticulture, College ofAgriculture, Latur. The 21 F_1 hybrids along with their seven parent ware evaluated. Observations wererecorded on five randomly selected tagged plant from each treatment for yield and yield attributing character *viz.*, plant height, plant spread, number of primary branches, length of fruit, diameter of fruit, number of fruit plant^{-1}, weight of fruit, weight of fruit plant^{-1}, fruit yield ha^{-1}. The values of F_1 averaged over replications were used for estimating heterosis. The magnitude of heterosis was calculated as percentage increase or decrease of F_1 mean over the mean of better parent (BP) (Turner, 1953 and Hays *et al*., 1955) [17, 4] and *per cent* superiority over standard hybrid check were calculated. The analysis of variance, for all traits under study, was carried out the method suggested by Panse and Sukhatme (1985) [9].

Results and discussion

The analysis of variance of means was carried out to test the significance of differences among the treatments. The data pertaining to the analysis of variance for means is presented in Table-1. In the analysis of mean squares the differences due to the treatment were significant for all the characters except days to 50% flowering. The treatment means were further sub divided in to parents, crosses and parent versus crosses. The parents showed significant differences for all the characters, except days to first flowering, days to 50% flowering, yield per plant and yield per plot were found non-significant. The crosses were found significant for all the characters. The parent versus crosses showed significant differences for all the characters except number of primary branches per plant, days to first flowering, days to 50% flowering, pedicel thickness, days to horticultural maturity and % incidence of leaf curl were found non-significant.

Per cent heterosis over better parent and standard hybrid in Table-2.The cross combinations KateriVange x Brinjal CVK (61.65%) exhibited higher magnitude significant positive heterosis over better parent and KateriVange x Brinjal CVK (52.27%) showed maximum heterosis over standard check for plant height. The cross combination Malapur Local x ManjariGota (53.25%) exhibited highest positive significant heterosis over better parent and KateriVange x Brinjal CVK(76.67%) showed maximum heterosis over standard check for plant spread. Similar result was found by Shafeeq *et al.*, (2007) [14] and Hamada *et al.*, (2016) [3].

The cross combination KateriVange x Brinjal CVK (18.03%) exhibited highest positive significant heterosis over better parent and cross Brinjal J-64 x Brinjal CVK(97.37%) showed maximum heterosis over standard check for number of primary branches. Brinjal J-64 x SuvarnaPratibha (-19.21%) recorded highest significant negative heterosis and cross combination Malapur Local x Brinjal J-64(-17.42%) showed minimum negative heterosis over standard heterosis for days to first flowering. The cross combination Malapur Local x Brinjal J-64(-17.42%) showed minimum heterosis over better parent and cross Malapur Local x Brinjal CVK (-18.54) minimum heterosis over standard check for days to 50 *per cent* flowering. Similar result found by Sivakumar *et al.*, (2017) [16].

The cross combinations Brinjal CVK x Pune Kateri (-34.78%) was exhibited highest negative heterosis over better parent. The highest negative heterosis over standard hybrid check was recorded by KateriVange x SuvarnaPratibha (-23.30%) for pedicel length. The cross combinations Brinjal J-64x ManjariGota (38.37%) exhibited significantly highest positive heterosis over better parent and KateriVange x Brinjal CVK (75.65%) over standard check for pedicel thickness.

The cross combination Pune Kateri x SuvarnaPratibha (37.39%) exhibited significantly highest positive heterosis over better parent and the cross combinations Pune Kateri x SuvarnaPratibha (68.72%), depicted significantly positive heterosis over standard hybrid check for fruit length. The cross combination ManjariGota x SuvarnaPratibha (26.85%) exhibited significantly highest positive heterosis and ManjariGota x Suvarnapratibha (32.53%) showed highest heterosis over standard hybrid for fruit diameter. The cross combination Malapur Local x SuvarnaPratibha (42.86%) exhibited significantly highest heterosis over better parent and Brinjal J-64 x Brinjal CVK(130.77%) recorded highly significant positive heterosis over standard hybrid check for number of fruits per cluster. Similar results were found by Sivakumar *et al.*, (2017) [16].

The cross combination KateriVange x Brinjal CVK (-36.25%) highest negative heterosis over better parent. The highest negative heterosis over standard hybrid check were recorded by KateriVange x Brinjal CVK (-25.00%) for days to horticultural maturity.

The cross Brinjal J-64 x Brinjal CVK (44.89%) exhibited highest positive significant heterosis over better parent and the cross KateriVange x Brinjal CVK (46.19%) exhibited positive superiority ofheterosis over standard hybrid check for number of fruits per plant. The cross Malapur Local x ManjariGota (70.85%) exhibited highest positive significant heterosis over better parent. The cross ManjariGota x SuvarnaPratibha (41.82%), exhibited positive superiority ofheterosis over standard hybrid check for weight of fruit. Similar results were found by Reddy and Patel (2014) [13].

The cross combination KateriVange x Brinjal CVK (143.2%) significant positive heterosis over better parent and cross KateriVange x Brinjal CVK (95.98%) exhibited highest positive significant heterosis superiority over standard hybrid check for fruit yield per plant. The cross KateriVange x Brinjal CVK (160.11%) exhibited highest positive significant heterosis over better parent. The cross KateriVange x Brinjal CVK (98.64%) exhibited positive superiority ofheterosis over standard hybrid check for fruit yield per plot. The cross combinations KateriVange x Brinjal CVK (172.72%) recorded highly significant heterosis significant positive heterosis over better parent and cross KateriVange x Brinjal CVK (95.98%), exhibited highest positive significant heterosis superiority over standard hybrid check for fruit yield per hectare. Similar results were found by Ramani *et al.*, (2015) [12], Singh *et al*., (2016) [15], Patel *et al.*, (2017) [10] and Sivakumar *et al.*, (2017) [16].

Table 1: Analysis of variance for different characters in 7x7 half diallel of brinjal.

Source	d.f.	Plant height (cm)	Plant spread (cm^2)	No. of primary branches / plant	Days to first flowering	Days to 50 per cent flowering	Pedicel length (cm)	Pedicel thickness (mm)	Fruit length (cm)	No of fruits / cluster
Treatment	27	280.60**	311.73**	1.66**	17.89**	28.62	0.74**	1.92**	3.58**	0.46**
Parent	6	145.54**	325.60**	1.00**	10.96	19.67	1.15**	1.36	10.90**	0.38**
Crosses	20	294.06**	296.94**	1.94**	20.33**	32.72*	0.62**	2.16**	1.43**	0.51**
P x C	1	821.78**	524.24**	0.13	10.70	0.29	0.63*	0.51	2.70**	0.03
Error	27	30.45	21.72	0.20	7.08	15.68	0.11	0.61	0.18	0.09

Source	d.f.	Fruit diameter (cm)	Days to horticultural maturity	Fruit / plant	Wt. of fruit (g)	Yield / plant (kg)	Yield/plot (kg)	Yield/ha (q)	% incidence of leaf curl	% incidence of shoot and fruit borer
Treatment	27	0.58**	1.87**	28.09**	153.45**	0.20**	76.75**	24218.92**	96.61**	8.91**
Parent	6	0.36*	2.51**	19.79**	220.82**	0.03	10.62	16980.60**	86.31**	7.71**
Crosses	20	0.51**	1.76**	15.71**	99.52**	0.08**	29.26**	7979.04**	103.93**	8.70**
P x C	1	3.16**	0.28	325.93**	827.71**	3.57**	1423.23**	392446.30**	12.05	20.30**
Error	27	0.12	0.34	4.72	16.58	0.02	5.97	2690.72	6.80	0.09

* and ** significance at 5% and 1% level.

Table 2: *Per cent* heterosis over better parent and standard hybrid check for different characters in 7x7 half diallel of brinjal.

Parent/ Crosses	Plant height (cm)		Plant spread (cm^2)		Number of primary branches / plant		Days to first flowering		Days to 50% flowering	
	BP	SH	BP	SH	BP	SH	BP	SH	BP	SH
Kateri Vange x Malapur Local	20.00*	16.64*	-18.46**	28.85**	-16.36	21.05	0.00	-0.47	10.14	0.66
Kateri Vange x Brinjal J-64	11.66*	5.17*	-15.82*	33.02**	-16.79*	50.00**	0.83	0.36	-4.52	-1.99
Kateri Vange x Brinjal CVK	61.65**	52.27**	11.80*	76.67**	18.03*	89.47**	-7.32*	-0.95	-6.47*	-13.91*
Kateri Vange x Pune Kateri	-23.31	-27.76**	-8.37	44.79**	-13.64	25.00	-1.79	-2.25	5.59	0.00
Kateri Vange x ManjariGota	11.21*	4.76	-27.03**	15.31**	-17.27*	19.74	12.74	12.20	-0.71	-7.95
Kateri Vange x Suvarna Pratibha	14.94*	10.28*	-48.58**	-18.75	-3.51	44.74**	-7.64*	-5.45	-1.40	-6.62
Malapur Local x Brinjal J-64	1.65	-1.19	4.66*	28.54**	2.92	85.53**	-16.43**	-17.42*	-5.81	-3.31
Malapur Local x Brinjal CVK	-14.24	-16.64*	38.64**	44.27**	0.00	60.53**	-11.75*	-5.69*	-11.51*	-18.54**
Malapur Local x Pune Kateri	-21.01	-23.22**	-4.70	-0.83	-5.71	30.26	-3.12	-4.27	-4.90	-9.93*
Malapur Local x Manjari Gota	9.21*	6.15*	53.25**	59.48**	6.67*	47.37	-6.47	-7.58	9.29	1.32
Malapur Local x Suvarna Pratibha	6.45	3.47	39.14**	44.79**	5.26*	57.89**	4.63	7.11	0.70	-4.64
Brinjal J-64 x Brinjal CVK	1.95	-12.10	13.66*	39.58**	9.49*	97.37**	-16.63**	-10.90*	-6.45*	-3.97
Brinjal J-64 x Pune Kateri	-4.95	-18.04*	-5.68	15.83	-8.76	64.47**	-1.23	-4.98	-3.87	-1.32
Brinjal J-64 x Manjari Gota	9.42*	-2.66	-4.83	16.88	-45.99**	-2.63	-6.65	2.61	-2.58	0.00
Brinjal J-64 x Suvarna Pratibha	7.87*	3.50	-20.44*	-2.29	-9.49	63.16**	-19.21**	-17.30*	-13.55**	-11.26*
Brinjal CVK x Pune Kateri	18.57*	-11.33	-3.12	-2.29	-13.93	38.16	-18.18**	-12.56*	-2.80	-7.95
Brinjal CVK x Manjari Gota	1.79	-9.44	40.29**	41.25**	13.93**	82.89**	-9.76*	-3.55	4.29	-3.31
Brinjal CVK x Suvarna Pratibha	7.04*	2.70	-2.78	-8.13	-21.31**	26.32	-17.74**	-12.09*	-6.99*	-11.92*
Pune Kateri x Manjari Gota	8.52	-3.45	-0.43	0.42	9.62*	50.00**	15.35*	5.92	-4.20	-9.27*
Pune Kateri x Suvarna Pratibha	12.32**	-15.87	25.59*	26.67*	7.02*	39.47**	9.03	-6.87*	0.70	-4.64
ManjariGota x Suvarna Pratibha	8.89*	48.00*	-13.34	-12.74	12.28**	68.42**	-7.06	-4.86	-6.30*	-11.26*
S.E.D.±	5.51	5.51	4.66	4.66	0.45	0.45	2.66	2.66	3.96	3.96
C.D. at 5%	11.49	11.49	9.72	9.72	0.94	0.94	5.55	5.55	8.26	8.26
C.D. at 1%	15.26	15.26	12.91	12.91	1.25	1.25	7.37	7.37	10.97	10.97

* and** significance at 5% and 1% level, BP-Better parent, SH-Standard hybrid check.

Cont…

Table 2: Per cent heterosis over better parent and standard hybrid check for different characters in 7x7 half diallel of brinjal.

Parent/ Crosses	Pedicel length (cm)		Pedicel thickness (mm)		Length of fruit (cm)		Diameter of fruit (cm)		No of fruits / clusters	
	BP	SH	BP	SH	BP	SH	BP	SH	BP	SH
Kateri Vange x Malapur Local	-9.39*	13.86	5.66*	71.86**	4.21*	39.74**	-5.47	4.47	-12.50	7.69
Kateri Vange x Brinjal J-64	-8.69*	14.75	-20.16	29.87	-15.11	13.85	3.28	14.15*	-24.00	46.15
Kateri Vange x Brinjal CVK	10.56	38.94**	7.98*	75.65**	-15.68	13.08	15.54*	27.69**	13.64*	92.31**
Kateri Vange x Pune Kateri	-31.06**	-1.77	-2.06	59.31**	-13.57	24.10*	8.32	19.71*	-17.65*	7.69
Kateri Vange x Manjari Gota	-21.60**	-1.47	-29.01**	15.48	-19.31*	8.21	-7.00	2.78	25.00*	53.85*

Kateri Vange x Suvarna Pratibha	-1.88	-23.30*	-18.96	31.82	-48.91**	37.69**	7.00	18.26*	0.00	23.08
Malapur Local x Brinjal J-64	8.40	17.99	26.26*	54.55	-3.53	5.13	7.32	6.41	-44.00**	7.69
Malapur Local x Brinjal CVK	22.49*	33.33**	-4.08	37.23*	2.59*	11.79	0.26	-4.96	-18.18	38.46*
Malapur Local x Pune Kateri	-18.01*	16.81	-26.93*	13.96	-18.75*	16.67	-17.05*	-11.73	17.65*	53.85*
Malapur Local x ManjariGota	38.36**	19.17	7.78*	31.93	-30.37**	-13.59	23.70*	14.87*	-37.50	-23.08
Malapur Local x SuvarnaPratibha	-12.23**	-2.65*	-5.82	40.15*	-52.43**	28.21	9.95*	14.87*	42.86**	53.85*
Brinjal J-64 x Brinjal CVK	1.90	10.91	-3.33	38.31*	-11.35	-3.85	15.61*	14.63*	20.00*	130.77**
Brinjal J-64 x Pune Kateri	-5.18	35.10**	-38.93**	-4.76*	-18.93*	16.41	19.32*	26.96**	16.00*	123.08**
Brinjal J-64 x Manjari Gota	-20.60*	-13.57*	38.37**	68.61	11.98*	38.97**	5.00	4.11	-28.00*	38.46
Brinjal J-64 x Suvarna Pratibha	-2.93	7.67	-22.91	14.72	-39.68**	62.56**	13.43*	18.50*	-36.00**	23.08
Brinjal CVK x Pune Kateri	-34.78**	-7.08*	-27.00*	13.85	-19.46*	15.64	-14.09	-8.59	-13.64	46.15*
Brinjal CVK x Manjari Gota	-4.61	3.83	0.30	43.51	16.74**	44.87**	14.03*	8.10	-13.64	46.15*
Brinjal CVK x Suvarna Pratibha	14.89	27.43**	-33.67**	-1.30*	-49.19**	36.92**	23.38**	28.90**	-13.64	46.15*
Pune Kateri x Manjari Gota	-7.87*	31.27**	-16.24	30.63	-1.79	41.03**	4.55	11.25	-20.59	3.85
Pune Kateri x Suvarna Pratibha	5.18	49.85**	23.53*	19.26*	37.39**	68.72**	5.91	0.12	17.65*	7.69
Manjari Gota x Suvarna Pratibha	0.00	10.91	-7.27	37.99*	-41.48**	57.69**	26.85**	32.53**	-18.75	0.00
S.E.D.±	0.32	0.32	0.78	0.78	0.42	0.42	0.34	0.34	0.30	0.30
C.D. at 5%	0.67	0.67	1.63	1.63	0.88	0.88	0.71	0.71	0.63	0.63
C.D. at 1%	0.90	0.90	2.16	2.16	1.17	1.17	0.95	0.95	0.63	0.63

* and** significance at 5% and 1% level, BP-Better parent, SH-Standard hybrid check.

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Table 2: *Per cent* heterosis over better parent and standard hybrid check for different characters in 7x7 half diallel of brinjal

Parent/ Crosses	Days to horticultural maturity		Number of fruits/per plant		Wt. of fruit (g)	
	BP	SH	BP	SH	BP	SH
Kateri Vange x Malapur Local	8.89	8.09	-11.16	-1.43	4.36	27.01*
Kateri Vange x Brinjal J-64	-2.07	4.41	3.00	14.29	-16.63	1.46
Kateri Vange x Brinjal CVK	-36.25**	-25.00**	31.76**	46.19**	12.68*	37.13**
Kateri Vange x Pune Kateri	-5.43	-10.29*	1.29	12.38	11.16*	35.28**
Kateri Vange x Manjari Gota	6.98	1.47	3.86	15.24	-0.61	20.96
Kateri Vange x Suvarna Pratibha	-7.51	17.65	-2.58	8.10	-5.05	27.62*
Malapur Local x Brinjal J-64	-11.72*	-5.88	15.91	-2.86	11.66*	27.62*
Malapur Local x Brinjal CVK	-7.50	8.82	29.55*	8.57	45.08**	9.23
Malapur Local x Pune Kateri	-20.00*	-20.59*	27.66*	14.29	0.00	-5.46
Malapur Local x Manjari Gota	-14.07*	-14.71*	13.04	23.81*	70.85**	29.47**
Malapur Local x Suvarna Pratibha	-13.29*	10.29	25.57	5.24	4.04	39.84**
Brinjal J-64 x Brinjal CVK	-15.00*	0.00	44.89**	21.43*	-9.50	3.43
Brinjal J-64 x Pune Kateri	-23.45**	-18.38*	24.47	11.43	16.20	32.81**
Brinjal J-64 x Manjari Gota	-12.41*	-6.62	10.87	21.43*	-3.67	10.10
Brinjal J-64 x Suvarna Pratibha	-23.70**	-2.94	25.71	4.76	5.05	41.20**
Brinjal CVK x Pune Kateri	-14.38*	0.74	42.55**	27.62*	-12.01	-16.81
Brinjal CVK x Manjari Gota	-23.13**	-9.56*	24.78*	36.67**	28.66*	-2.49
Brinjal CVK x Suvarna Pratibha	-4.05	22.06*	19.89*	0.48	-0.09	34.29**
Pune Kateri x Manjari Gota	5.13	-9.56*	21.30*	32.86**	21.41*	14.79
Pune Kateri x Suvarna Pratibha	5.20	20.59*	27.13*	13.81	21.95**	4.91
ManjariGota x Suvarna Pratibha	-6.94	18.38*	23.91*	35.71**	5.51	41.82**
S.E.D.±	0.58	0.58	2.17	2.17	4.07	4.07
C.D. at 5%	1.21	1.21	4.53	4.53	8.49	8.49
C.D. at 1%	1.61	1.61	6.02	6.02	11.28	11.28

* and** significance at 5% and 1% level, BP-Better parent, SH-Standard hybrid check.

Cont…

Table-2: *Per cent* heterosis over better parent and standard hybrid check for different characters in 7x7 half diallel of brinjal.

Parent/ Crosses	Yield / plant (kg)		Yield/plot (kg)		Yield/ha (q)	
	BP	SH	BP	SH	BP	SH
Kateri Vange x Malapur Local	95.50**	22.47	110.62**	28.21	104.72**	22.46
Kateri Vange x Brinjal J-64	103.30**	13.33	94.31**	15.45	99.63**	13.38
Kateri Vange x Brinjal CVK	143.22**	95.98**	160.11**	98.64**	172.72**	95.98**
Kateri Vange x Pune Kateri	87.67**	48.74**	88.77**	50.75**	100.10**	48.73**
Kateri Vange x Manjari Gota	111.72**	64.02**	78.47**	37.12*	73.64**	35.29*
Kateri Vange x Suvarna Pratibha	46.62	34.83*	46.62	36.66	-2.05	34.82*
Malapur Local x Brinjal J-64	93.30**	21.09	101.63**	22.74	102.43**	21.09
Malapur Local x Brinjal CVK	43.65	15.75	53.62	17.32	61.07	15.75
Malapur Local x Pune Kateri	46.85	16.38	47.70	17.96	56.57	16.38
Malapur Local x Manjari Gota	102.52**	56.90**	106.98**	59.03**	101.18**	56.74**

Malapur Local x Suvarna Pratibha	56.31	43.74*	56.31	45.69**	4.42	43.73*
Brinjal J-64 x Brinjal CVK	52.64	22.99	63.23	24.66	71.15**	22.99
Brinjal J-64 x Pune Kateri	77.52**	40.69*	78.56**	42.60**	89.27**	40.68*
Brinjal J-64 x Manjari Gota	56.53	21.26	59.97	22.91	55.64	21.26
Brinjal J-64 x Suvarna Pratibha	57.25	44.60	57.25	46.56**	4.96	44.46*
Brinjal CVK x Pune Kateri	76.32**	42.07*	80.31**	44.00**	91.14**	42.07*
Brinjal CVK x Manjari Gota	61.48**	30.11	71.65**	31.88**	66.40**	29.65
Brinjal CVK x Suvarna Pratibha	39.44	28.22	39.81	30.31*	-6.90	28.15
Pune Kateri x Manjari Gota	88.25**	49.20**	89.35**	51.22**	91.49**	49.19**
Pune Kateri x Suvarna Pratibha	27.00	16.78	27.00	18.37	15.16	16.78
Manjari Gota x Suvarna Pratibha	104.69**	88.22**	104.69**	90.77**	15.99	59.65**
S.E.D.±	0.14	0.14	2.44	2.44	51.87	51.87
C.D. at 5%	0.30	0.30	5.10	5.10	108.20	108.20
C.D. at 1%	0.40	0.40	6.77	6.77	143.72	143.72

* and** significance at 5% and 1% level, BP-Better parent, SH-Standard hybrid check

Conclusion

The present study revealed the direct relationship between heterosis and per se performance of hybrids for several characters. Among the hybrids studied, KateriVange x Brinjal CVK, Malapur Local x ManjariGota, Brinjal CVK x ManjariGota and Brinjal-64 x Brinjal CVK were found to promising for fruit yield and components over its parents.

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