DOI: http://dx.doi.org/10.18782/2320-7051.5063

ISSN: 2320 – 7051

Int. J. Pure App. Biosci. 5 (6): 289-294 (2017)







Expression of Economic Heterosis for Productive Traits in Brinjal Hybrids (Solanum melongena L.) Hybrids

Dhirendra Kumar*, R. K. Patel, Rupal Dhoot and Chandrabhan Ahirwar

Department of Genetics and Plant Breeding, N. M. College of Agriculture, Navsari Agricultural University, Navsari, Gujarat (India)

*Corresponding Author E-mail: dhirendra346@gmail.com Received: $26.06.2017 \mid Revised: 30.07.2017 \mid Accepted: 5.08.2017$

ABSTRACT

A diallel (8 x 8) analysis excluding reciprocal was made to assess the expression of heterosis using 28 eggplant hybrids along with their 8 parents and 2 checks in a RBD with 3 replications for fourteen productive traits namely, days to 50 % flowering, plant height(cm), primary branches per plant, secondary branches per plant, plant spread(cm2), fruit length(cm), fruit girth(cm), fruit weight(g), fruits per plant, fruit yield per plant(g), Total soluble solids (°Bx), Total phenol (mg g-1), Fruit dry weight (mg/100mg) and Total sugar (%). The analysis of variance for all the characters revealed that parents were found to be highly significant for all the character studied except primary branches per plant and fruit yield per plant, similarly hybrids were also found highly significant for all the characters. Parents vs. hybrids comparison was found highly significant for all the characters studied except plant spread. Hybrids PLR-1 x GBL-1, PLR-1 x Doli-5, KS-224 x Doli-5 and PLR-1 x GJB-2 recorded high per se performance, significant heterosis over local check Surati ravaiya for fruit yield per plant, which may be utilized for further breeding programme.

Key words: Brinjal, Heterosis, fruit yield, Total phenol (mg g-1), Total sugar (%).

INTRODUCTION

Brinjal (Solanum melongena L.) is very important and popular vegetable crop which is a self-pollinated, annual herbaceous versatile crop adapted to different agro-climatic regions and grown throughout the year. Brinjal originated in India and major brinjal growing states in India are Andhra Pradesh, Karnataka, Maharashtra, Orissa, Bihar, Uttar Pradesh, Gujarat and West Bengal. The fruits of brinjal

are widely consumed in various culinary preparations and are rich source of protective nutrients (Hedges and Lister⁵). In the face of increasing population, there is a need for increased production and productivity levels of brinjal. Exploitation of heterosis on a commercial scale in vegetable crops has resulted in the development of the several high yielding hybrid varieties.

Cite this article: Kumar, D., Patel R. K., Dhoot R. and Ahirwar C., Expression of Economic Heterosis for Productive Traits in Brinjal Hybrids (*Solanum melongena* L.) Hybrids, *Int. J. Pure App. Biosci.* 5(6): 289-294 (2017). doi: http://dx.doi.org/10.18782/2320-7051.5063

ISSN: 2320 - 7051

This technique has been proved to be the most important genetic tool for enhancing yield potential. And also information on combining ability is a pre-requisite, which employed to identify the desirable parents, combinations and provide information on the type of gene action involved in the inheritance of quantitative traits. This information is helpful in selecting the elite parents and desirable cross combinations to be used in breeding programme aimed at varietal improvement or exploitation of heterosis on a commercial scale.

MATERIALS AND METHODS

The experiment was carried out during rabi 2013-14 and late kharif 2014 at college farm, Navsari Agricultural University, Navsari (Gujarat) India. The experimental material consisted of eight parents namely, GJB-3, PLR-1, KS-224, Pant rituraj, GJB-2, GBL-1, Doli-5 and GOB-1 and their 28 hybrids derived from 8 x 8 diallel (excluding reciprocal) mating design (Table 1). The hybrids and parents were evaluated along with the two checks namely, surati ravaiya and GBH-2 in a randomized block design with three replications. Each plot consisted of ten plants in a row at 90 x 60 cm² inter and intra row spacing. All the recommended package of practices were adopted for raising a healthy crop. Five randomly selected plants, excluding the border ones, from each plot of all the three replications were tagged and used for recording the observations and average values were computed. The data recorded for 14 biometrical traits namely, days to 50 % flowering, plant height(cm), primary branches per plant, secondary branches per plant, plant spread(cm²), fruit length(cm), fruit girth(cm), fruit weight(g), fruits per plant, fruit yield per plant(g), Total soluble solids (°Bx), Total phenol (mg g-1), Fruit dry weight (mg/100mg) and Total sugar (%).

Days to 50 per cent flowering noted by number of days from transplanting to first flowering in 50 % of plants in a entry. Observations on plant height, primary branches per plant, secondary branches per plant, plant spread were recorded at last picking and Plant spread obtained multiplying both the directions (point of maximum spread in north - south and east west) value. In contrast, data on fruit length, fruit girth, fruit weight, fruits per plant and fruit yield per plant was obtained for each picking and the total was computed. The observations on fruit dry matter, total sugars, Total soluble solids and total phenols were recorded on five random fresh fruits, taken from each genotype in each replication and the mean values were calculated. Estimates of total sugars and total phenols were obtained following the procedures outlined by Dubois et al^4 and Bray and Thorpe³, respectively. However Total soluble solids recorded by Brix hand refractrometer (ERMA, Tokyo, Japan, Range 0-32%) and Fruit dry weight was determined by taking 5 g of green fruit sample and heating at 105 °C for five hours in oven. The magnitude of the heterosis was estimated as per the standard procedure.

RESULTS AND DISCUSSION

The present investigation was undertaken to elucidate information on heterosis for fruit yield and its related traits in brinjal. The variance exhibited analysis of highly significant differences among the parents for all the characters except primary branches per plant and fruit yield per plant indicating considerable amount of genetic variability present in the selected materials. Highly significant differences observed for days to 50 per cent flowering, plant height, secondary branches per plant, plant spread, fruit length, fruit girth, fruit weight, fruits per plant, total soluble solids, total phenol, fruit dry weight and total sugar, which indicated that genotypes possessed more variability for all these characters. The mean square due to hybrids was also found highly significant for all the studied indicating characters significant genetic differences were present among hybrids. Highly significant parents *vs.* hybrids comparison for days to 50 per cent flowering, plant height, primary branches per plant, secondary branches per plant, fruit length, fruit girth, fruit weight, fruit yield per plant, total soluble solids, total phenol, fruit dry weight, total sugar indicated that substantial amount of hybrid vigour present for all these characters (**Table 2.**)

The extent of heterosis showed by hybrids over local check, Surati ravaiya and commercial check, GBH-2 is presented in Table 3. Among the fourteen attributes studied, highly significant negative heterosis over local check surati ravaiya for days to 50% flowering and phenol contents was -12.90 (GJB-3 x Doli-5) and -21.10 (Pant rituraj X GOB-1) respectively, whereas heterosis over commercial check, GBH-2 for days to 50% flowering and phenol contents was -11.48 (GJB-3 x Doli-5) and -32.02 (Pant rituraj X GOB-1) respectively. Highly significant and positive heterosis for plant height 22.18 (GJB-3 x PLR-1) per cent over Surati ravaiya and 11.63 (GJB-3 x PLR-1) per cent over GBH-2. standard heterosis for primary branches per plant was 43.72 (GJB-2 x GBL-1) per cent over Surati ravaiya and 11.97 (GJB-2 x GBL-1) per cent over GBH-2. Standard heterosis for secondary branches per plant was 91.22 (KS-224 x GBL-1) per cent over Surati ravaiya and 38.57 (KS-224 x GBL-1) per cent over GBH-2. For plant spread, standard heterosis expressed over local check Surati ravaiya was 171.92 (PLR-1 x Doli-5) per cent. Whereas heterosis over GBH-2 was 63.74 (PLR-1 X Doli-5) per cent. Heterosis for fruit length ranged from -41.85 (PLR-1 x Doli-5) to 9.28 per cent (PLR-1 X GOB-1) over Surati Ravaiya and -46.58 (PLR-1 x Doli-5) to 0.39 per cent (PLR-1 x GOB-1) over GBH-2. For fruit girth heterosis ranged from -19.09 (KS-224 x GOB-1) to 68.70 per cent (GJB-3 X GBL-1) over Surati ravaiya and -25.83 (KS-224 X GOB-1) to 54.64 per cent (GJB-3 X GBL-1) over GBH-2. Standard heterosis for

fruit weight ranged from -22.53 (Pant rituraj X Doli-5) to 30.33 (GJB-3 x Pant rituraj) per cent over Surati ravaiya and -24.91 (Pant rituraj X Doli-5) and 26.33 (GJB-3 X Pant rituraj) per cent over GBH-2. Twelve hybrids depicted significant positive standard heterosis over both checks. The amount of heterosis for fruits per plant existed between -9.74 (Doli-5 x GOB-1) and 63.41 (PLR-1 x GJB-2) per cent over Surati ravaiya. The heterosis over standard check GBH-2 varied from -30.17 (Doli-5 x GOB-1) to 26.42 (PLR-1 x GJB-2) per cent. The estimates of standard heterosis for total soluble solids was ranged between -10.35 (PLR-1 x GOB-1) and 42.48 (GJB-2 x GBL-1) per cent over Surati ravaiya and -14.76 (PLR-1 x GOB-1) to 35.47 (GJB-2 x GBL-1) per cent over GBH-2. Out of 28 hybrids, total 19 and 17 hybrids depicted significant positive heterosis over Surati ravaiya and GBH-2, respectively. Magnitude of heterosis for fruit dry weight varied from -18.29 (KS-224 x Doli-5) to 24.00 (GJB-2 x GOB-1) per cent over Surati ravaiya and -28.63 (KS-224 x Doli-5) to 8.31 (GJB-2 x GOB-1) per cent over GBH-2. The amount of standard heterosis existed between 7.30 (PLR-1 x GOB-1) to 114.99 (GJB-3 x GOB-1) per cent over Surati ravaiya and -18.81 (PLR-1 X GOB-1) to 62.69 (GJB-3 x GOB-1) per cent over GBH-2 for total sugar. Shafeeq et al¹² and Suneetha et al^{13} also reported highly significant heterosis for fruit yield and its contributing traits in brinjal. The maximum heterosis for fruit yield per plant ranged from -0.27 (Doli-5 x GOB-1) to 72.70 (PLR-1 x GBL-1) per cent over Surati ravaiya and -24.31 (Doli-5 x GOB-1 and Pant rituraj x GBL-1) to 31.07 (PLR-1 x GBL-1) per cent over GBH-2. Total 8 hybrids exhibited significant positive standard heterosis over Surati ravaiya for fruit yield per plant (Table 4). Similar trend was also reported by Prabhu et al⁸, Sao and Mehta¹¹, Kumar et al⁶ Pachiyappan et al^7 ; Singh et al^{10} ; Al-Hubaity and Teli¹; Biswas et al² and Reddy and Patel⁹.

Table 1: Parental materials and its sources

Sr. No.	Genotypes	Source
1	PLR-1	Vegetable Research Station, Palur
2	KS-224	CSAUA&T, Kanpur
3	Pant Rituraj	GBPUAT, Pantnagar
4	Doli-5	AAU,Anand
5	GJB-2	JAU, Junagadh
6	GBL-1	JAU, Junagadh
7	GJB-3	JAU, Junagadh
8	GOB-1	JAU, Junagadh
9	GBH-2 (Check)	JAU, Junagadh
10	Surati Ravaiya (Check)	NAU, Navsari

Table 2: Analysis of variance (mean squares) for various characters in brinjal

Source of	d.f.	Days to 50	Plant	Primary	Secondary	Plant	Fruit	Fruit
variations/		%	height	branches	branches	spread	length (cm)	girth
Characters		flowering	(cm)	per plant	per plant	(cm ²)		(cm)
Replication	2	3.66	10.18	0.21	1.93	1383.71	1.73	3.04
Genotypes	35	10.49**	153.36**	1.38**	6.92**	11529.38**	10.68**	30.37**
Parents	7	6.67**	168.84**	0.65	6.93**	22855.16**	10.36**	16.01 **
Hybrids	27	12.10**	134.49**	1.39**	6.64**	8743.20**	10.79**	32.79**
Parents Vs. Hybrids	1	7.10**	1641.17**	6.46**	14.35**	7475.99	9.78**	65.66**
Error	70	1.64	5.54	0.31	1.18	3824.62	1.23	5.21
Source of	d.f	Fruit	Fruits per	Fruit yield	Total	Total	Fruit dry	Total
variations/		weight (g)	plant	per plant	soluble	phenol (mg	weight	sugar
Characters								
				(g)	solids (°Bx)	g ⁻¹)	(mg/100mg)	(%)
Replication	2	10.98	4.24	(g) 460.63	solids (° Bx) 0.07	g -1) 0.07	(mg/100mg) 0.13	0.02
Replication Genotypes	2 35	10.98 155.49**	4.24 52.97**					
_				460.63	0.07	0.07	0.13	0.02
Genotypes	35	155.49**	52.97**	460.63 1823.26**	0.07	0.07 592.12**	0.13	0.02
Genotypes Parents	35 7	155.49** 492.84**	52.97**	460.63 1823.26** 1005.68	0.07 0.58** 0.80**	0.07 592.12** 0.80**	0.13 2.23** 2.14**	0.02 0.57** 0.49**

^{*} Significant at 5 % level, ** Significant at 1 % level

Table 3: magnitude of heterosis over local check and commercial check for various yield and yield parameters in brinjal

Hybrids/	Dove t	o 50 %	1			branches	s in brin	y branches					1	
1	•	ering	Plant he	ight (cm)		plant	1	plant	Plant spr	read (cm ²)	Fruit len	ngth (cm)	Fruit gi	rth (cm)
Characters			I C(0/)	CC(n/)					I C(0/.)	CC(0/.)	I C(0/)	CC(0/.)	I C(0/.)	CC(0/)
arn a ny n d	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	CC(%)
GJB-3 x PLR-1	-8.06**	-6.56**	22.18**	11.63**	-2.80	-24.27**	30.95*	-5.11	59.54*	-3.93	15.45	5.83	-18.80*	-25.41**
GJB-3 x KS-224	-8.06**	-6.56**	21.51**	11.01**	12.49	-12.36	51.38**	9.70	63.20*	-1.73	49.09*	36.67	-0.89	-8.96
GJB-3 x Pant rituraj	-4.84**	-3.28*	17.79**	7.61**	1.36	-21.03**	36.48*	-1.10	75.90**	5.92	0.78	-7.62	0.47	-7.71
GJB-3 x GJB-2	-2.42	-0.82	13.29**	3.50*	12.20	-12.58	72.20**	24.78*	103.93**	22.80	7.14	-1.79	-14.19	-21.17*
GJB-3 x GBL-1	-2.42	-0.82	6.87**	-2.37	24.91*	-2.68	68.13**	21.84*	44.42	-13.04	68.70**	54.64*	0.56	-7.62
GJB-3 x Doli -5	-12.90**	-11.48**	12.61**	2.88	6.17	-17.28*	43.09**	3.69	78.40**	7.43	29.48	18.69	-13.04	-20.12*
GJB-3 x GOB-1	-1.61	0.00	9.80**	0.31	36.83**	6.60	51.54**	9.82	56.65*	-5.67	18.31	8.45	0.19	-7.97
PLR-1 x KS-224	0.81	2.46	7.32**	-1.95	2.66	-20.02*	38.32**	0.24	55.26*	-6.51	21.95	11.79	5.71	-2.89
PLR-1 x Pant rituraj	-2.42	-0.82	2.14	-6.69**	7.68	-16.11*	61.41**	16.97	138.10**	43.37**	-12.60	-19.88	-31.44**	-37.02**
PLR-1 x GJB-2	-4.84**	-3.28*	-3.15	-11.52**	21.39*	-5.43	83.36**	32.88**	115.43**	29.73	7.40	-1.55	-31.06**	-36.67**
PLR-1 x GBL-1	-4.03**	-2.46	7.88**	-1.44	0.50	-21.70**	35.39*	-1.89	43.42	-13.64	37.79	26.31	-17.94	-12.99
PLR-1 x Doli-5	-3.23*	-1.64	-5.97**	-14.09**	14.00	-11.19	53.55**	11.27	171.92**	63.74**	50.91*	38.33	-41.85**	-46.58**
PLR-1 x GOB-1	-0.81	0.82	6.08**	-3.09	14.57	-10.74	54.36**	11.86	46.23	-11.94	34.42	23.21	9.28	0.39
KS-224 x Pant rituraj	0.81	2.46	-1.91	-10.39**	-8.18	-28.47**	56.31**	13.28	93.27**	16.38	44.29	32.26	4.90	-3.64
KS-224 x GJB-2	-0.81	0.82	-5.41**	-13.58**	18.52	-7.66	2.44	25.77*	31.74	-20.67	47.79	35.48	8.60	-0.24
KS-224 x GBL-1	-1.61	0.00	-11.60**	-19.24**	34.67**	4.92	91.22**	38.57**	125.51**	35.79*	40.39	28.69	-8.96	-16.37*
KS-224 x Doli-5	-0.81	0.82	-3.83*	-19.24**	38.12**	7.61	86.12**	34.88**	92.49**	15.91	10.91	1.67	-8.96	-10.57*
								-34.05**					-10.26 -18.33*	
KS-224 x GOB-1	-1.61	0.00	-15.20**	-22.53**	3.95	-19.02*	-9.00		32.16	-20.42	-19.09	-25.83		-24.98**
Pant rituraj x GJB-2	-8.06**	-6.56**	-2.03	-10.49**	5.53	-17.79*	60.22**	16.10	97.72**	19.06	-7.27	-15.00	-32.36**	-37.87**
Pant rituraj x GBL-1	-4.03**	-2.46	1.24	-7.51**	-3.23	-24.61**	30.46*	-5.46	67.54*	0.89	-10.65	-18.10	-4.52	-12.30
Pant rituraj x Doli-5	-5.65**	-4.10**	-7.55**	-15.53**	10.70	-13.76	65.47**	19.91	153.76**	52.80**	35.45	24.17	-0.52	-8.61
Pant rituraj x GOB-1	-8.87**	-7.38**	-3.27	-11.63**	3.73	-19.18*	23.41	-10.57	71.52*	3.28	-13.51	-20.71	4.71	-3.81
GJB-2 x GBL-1	-5.65**	-4.10**	6.87**	-2.37	43.72**	11.97	84.12**	33.42**	84.00**	10.80	59.87*	46.55*	-28.09**	-33.94**
GJB-2 x Doli-5	-5.65**	-4.10**	5.07**	-4.01*	43.50**	11.80	80.38**	30.71**	117.26**	30.82	23.51	13.21	-26.57**	-32.55**
GJB-2 x GOB-1	-4.84**	-3.28*	8.67**	-0.72	7.39	-16.33*	44.72**	4.87	65.20*	-0.52	3.51	-5.12	-24.55**	-30.69**
GBL-1 x Doli -5	-1.61	0.00	9.35**	-0.10	8.54	-15.44*	46.18**	5.93	83.62**	10.57	19.22	9.29	-28.09**	-33.94**
GBL-1 x GOB-1	-2.42	-0.82	5.18**	-3.91*	-2.37	-23.94**	31.65*	-4.60	45.21	-12.56	10.26	1.07	-30.11**	-35.80**
Doli-5 x GOB-1	2.42	4.10**	5.29**	-3.81*	4.38	-18.68*	40.65**	1.92	61.34*	-2.85	40.65	28.93	-17.10	-23.85**
Hybrids/	Emit w	oight (g)	Emite n	or plant	Fruit yield	d per plant	Total solu	ıble solids	Total phor	ol (ma a-l)	Fruit dr	y weight	Total av	100r (9/-)
Hybrids/ Characters	Fruit w	eight (g)	Fruits p	er plant	1	d per plant g)		ible solids Bx)	Total pher	nol (mg g ⁻¹)		y weight 00mg)	Total su	ıgar (%)
_	Fruit w	eight (g)	Fruits p	er plant	1				Total pher	rol (mg g ⁻¹)			Total su	rgar (%)
_			_		(g)	(°I	Bx)	_		(mg/1	00mg)		
Characters	LC(%)	CC(%)	LC(%)	CC(%)	LC(%)	g) CC(%)	LC(%)	CC(%)	LC(%)	CC(%)	(mg/1 LC(%)	00mg)	LC(%)	CC(%)
Characters GJB-3 x PLR-1	LC(%) 20.43**	CC(%) 16.73**	LC(%)	CC(%)	LC(%) 31.83	CC(%) 0.05	(°I LC(%) 4.98	CC(%) -0.19	LC(%) 24.77**	CC(%)	(mg/1 LC(%) 13.76**	00mg) CC(%) -0.64	LC(%) 30.37**	CC(%)
Characters GJB-3 x PLR-1 GJB-3 x KS-224	LC(%) 20.43** 10.57**	CC(%) 16.73** 7.17**	LC(%) 6.99 -5.11	CC(%) -17.23* -26.59**	LC(%) 31.83 12.18	CC(%) 0.05 -14.86	(°I LC(%) 4.98 -3.61	CC(%) -0.19 -8.36*	LC(%) 24.77** -4.59	CC(%) 7.51 -17.79**	(mg/1 LC(%) 13.76** -8.16	O0mg) CC(%) -0.64 -19.79**	LC(%) 30.37** 17.95*	CC(%) -1.34 -10.75*
Characters GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj	LC(%) 20.43** 10.57** 30.33**	CC(%) 16.73** 7.17** 26.33**	LC(%) 6.99 -5.11 5.15	CC(%) -17.23* -26.59** -18.65*	LC(%) 31.83 12.18 39.97	g)	(°I LC(%) 4.98 -3.61 13.38**	CC(%) -0.19 -8.36* 7.80*	LC(%) 24.77** -4.59 -7.34	CC(%) 7.51 -17.79** -20.16**	(mg/1 LC(%) 13.76** -8.16 -3.39	00mg) CC(%) -0.64 -19.79** -15.61**	LC(%) 30.37** 17.95* 45.36**	CC(%) -1.34 -10.75* 10.00
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82**	CC(%) 16.73** 7.17** 26.33** 20.02**	LC(%) 6.99 -5.11 5.15 1.53	CC(%) -17.23* -26.59** -18.65* -21.45**	LC(%) 31.83 12.18 39.97 28.53	g) CC(%) 0.05 -14.86 6.23 -2.45	(°I LC(%) 4.98 -3.61 13.38**	CC(%) -0.19 -8.36* 7.80* -4.36	LC(%) 24.77** -4.59 -7.34 6.88	CC(%) 7.51 -17.79** -20.16** -7.91	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32	LC(%) 30.37** 17.95* 45.36** 24.46**	CC(%) -1.34 -10.75* 10.00 -5.82
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x Doli -5	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16**	CC(%) -0.19 -8.36* 7.80* -4.36 -1.67	LC(%) 24.77** -4.59 -7.34 6.88 15.14**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x Doli -5 GJB-3 x GOB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92**	CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x Doli -5 GJB-3 x GOB-1 PLR-1 x KS-224	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92**	CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17*	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86*	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 12.83** -12.36** 3.39 -8.80**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36*	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38 18.81**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 17.95*	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75*
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x Doli -5 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56*	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38 18.81**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** -2.37 -0.79	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 43.59** 17.95* 48.32**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24*
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x GD-1 FJR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-2 PLR-1 x GJB-1 PLR-1 x GJB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 63.41** 61.22** 37.77**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38 18.81** 15.14**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** -1.79 -0.79 32.81**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** -0.78 18.45** 8.86* 14.12** 10.94* 14.24**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 43.59** 17.95* 48.32** 52.47**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GDL-1 GJB-3 x GDL-1 FLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-2 PLR-1 x GDL-1 PLR-1 x GDL-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85*	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55*	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35*	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38 18.81** 54.13** 70.18**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** -0.78 18.45** 8.86* 14.12** 10.94* 14.24**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 17.95* 48.32** 52.47** 7.30	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GDL-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-1 PLR-1 x GGB-1 FLR-1 x GOB-1 KS-224 x Pant rituraj	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85* -8.44**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** 2.60 -11.25**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54*	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77*	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 1.38 18.81** 54.13** 70.18**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 17.95* 48.32** 52.47** 7.30 8.48	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91**
Characters GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-1 PLR-1 x GOB-1 KS-224 x Pant rituraj KS-224 x Pant rituraj	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 4.39 14.33** 5.85* -8.44** -3.21	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 1.18 10.81** 2.60 -11.25** -6.18*	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77*	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 39.91** 12.39*	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** -3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** -0.78 18.45** 14.12** 10.94* 14.24** -3.59 23.27** 11.55*	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 52.47** 7.30 8.48 77.51**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33**
Characters GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x ODoli -5 GJB-3 x GOB-1 PLR-1 x Fant rituraj PLR-1 x Pant rituraj PLR-1 x GBL-1 PLR-1 x GBL-1 PLR-1 x GBL-1 FLR-1 x GBL-1 KS-224 x Pant rituraj KS-224 x Pant rituraj	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 4.39 14.33** 5.85* -8.44** -3.21 2.08	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 2.60 -11.25** -6.18* -1.06	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94 -2.03	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** 13.46**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 39.91** 12.39* 4.13	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** -0.78 18.45** 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x RS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GBL-1 PLR-1 x GBL-1 PLR-1 x GOB-1 KS-224 x Pant rituraj KS-224 x Pant rituraj KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85* -8.44** -3.21 2.08 7.04*	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** 2.60 -11.25** -6.18* -1.06 3.75	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -5.59 16.55* -15.54* -7.94 -2.03 8.51	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 19.34** 15.23**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56*	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 39.91** 12.39* 4.13 15.14**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 46.64** 20.55** -3.16 -10.28* -0.79	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -28.63**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* -18.81** -17.91** 34.33** 17.16**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GOB-1 FLR-1 x GOB-1 KS-224 x Pant rituraj KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-1 KS-224 x GJB-1 KS-224 x GJB-1 KS-224 x GJB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85* -8.44** -3.21 2.08 7.04* 3.90	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 2.60 -11.25** -6.18* -1.06 3.75 0.71	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26** 57.21**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -5.59 16.55* -15.54* -7.94 -2.03 8.51 21.62**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 19.34** 15.23** 18.16**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** 13.46** 9.56* 12.35**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -4.92 -0.32 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x RS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GBL-1 PLR-1 x GBL-1 PLR-1 x GOB-1 KS-224 x Pant rituraj KS-224 x Pant rituraj KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** 2.60 -11.25** -6.18* -1.06 3.75	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -5.59 16.55* -15.54* -7.94 -2.03 8.51	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 19.34** 15.23**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56*	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 39.91** 12.39* 4.13 15.14**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 46.64** 20.55** -3.16 -10.28* -0.79	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -28.63**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* -18.81** -17.91** 34.33** 17.16**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GOB-1 FLR-1 x GOB-1 KS-224 x Pant rituraj KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-1 KS-224 x GJB-1 KS-224 x GJB-1 KS-224 x GJB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85* -8.44** -3.21 2.08 7.04* 3.90	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 2.60 -11.25** -6.18* -1.06 3.75 0.71	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26** 57.21**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -5.59 16.55* -15.54* -7.94 -2.03 8.51 21.62**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55**	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 19.34** 15.23** 18.16**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** 13.46** 9.56* 12.35**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -4.92 -0.32 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GBL-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GOB-1 FLR-1 x GOB-1 KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GOB-1 PAnt rituraj x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 2.60 -11.25** -6.18* -1.06 3.75 0.71 -1.64	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -15.54* -7.94 -2.03 8.51 21.62** 1.35	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55** 47.75*	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 19.34** 15.23**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56* 12.35** 12.91**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26 -12.84*	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72 -24.90**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -4.92 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92 -7.42	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.06** 53.66**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GOB-1 KS-224 x PANT rituraj KS-224 x GJB-2 KS-224 x GJB-1 KS-224 x GOB-1 PANT rituraj x GJB-2 PANT rituraj x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 2.60 -11.25** -6.18* -1.06 3.75 0.71 -1.64 5.23*	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -6.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55** 47.75* 42.36 -0.27	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 18.16** 19.22** 2.44 11.30** 11.30*	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56* 12.35** 12.91**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26 -12.84* 37.16**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72 -24.90** 18.18**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -4.92 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92 -3.10 -1.3.2**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.66** 53.65** 62.13**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GDL-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GOB-1 FLR-1 x GOB-1 KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-1 Pant rituraj x GJB-2 Pant rituraj x GJB-2	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -5.85* -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -22.53**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00** 13.54 16.24	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -2.03 8.51 21.62** 1.35 -12.16 -10.07	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 47.75* 42.36 -0.27 22.25	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 18.16** 19.22** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 18.16** 19.34**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56* 12.35** 11.92** -7.80*	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26 -12.84* 37.16** 16.06**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72 -24.90** 18.18** 0.00	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -4.92 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92 -7.42 -13.12** -5.13	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.66** 53.65** 62.13** 19.13**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-1 PLR-1 x GOB-1 KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-2 FART rituraj x GJB-1 PANT rituraj x GJB-1 PANT rituraj x GJB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 27.85** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -5.85* -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -22.53** -0.93	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91** -3.98	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00** 13.54 16.24 38.30**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16 -10.07 6.99	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 47.75* 42.36 -0.27 22.25 18.32	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21 -10.20	(°1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 18.16** 18.16** 19.22** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 18.16** 19.34**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 9.56* 12.35** 17.92** -7.80* 10.12**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26 -12.84* 37.16** 16.06** -21.10**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72 -24.90** 18.18** 0.00 -32.02**	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61 -13.71**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 -3.24 -0.96 -13.33** -3.46 -4.92 -0.32 -3.10 -0.21 -15.79** -7.66 -2.57 -13.23** -4.92 -7.42 -13.12** -5.13 -24.63**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.66** 53.65** 62.13** 19.13** 56.61**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.16** 12.24* 15.82** 16.27** 22.69** -9.85 18.51**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GDB-1 FLR-1 x GOB-1 KS-224 x GJB-2 KS-224 x GJB-2 KS-224 x GJB-2 FLR-1 x GJB-1 FLR-1 x GJB	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -22.53** -0.93 11.99**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91** -3.98 8.55**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00** 13.54 16.24 38.30** -0.66	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16 -10.07 6.99 -23.14**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 47.75* 42.36 -0.27 22.25 18.32 27.29	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21 -10.20 -3.39	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 24.02** -3.03 15.23**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 12.35** 12.91** 17.92** -7.80* 10.12** 35.47**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 12.39* 4.13 15.14** 8.26 -12.84* 37.16** 16.06** -21.10**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -3.16 -10.28* -0.79 -6.72 -24.90** 18.18** 0.00 -32.02** -11.46*	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61 -13.71**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -4.92 -7.42 -13.12** -5.13 -24.63** -13.55**	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.65** 62.13** 19.13** 56.61** 109.66**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69** -9.85 18.51**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GDB-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GBL-1 PLR-1 x GOB-1 KS-224 x PANT rituraj KS-224 x GBL-1 KS-224 x GBL-1 PANT rituraj x GJB-2 PANT rituraj x GJB-2 PANT rituraj x GJB-2 PANT rituraj x GJB-2 PANT rituraj x GOB-1 PANT rituraj x GOB-1 GJB-2 x GBL-1 GJB-2 x GBL-1 GJB-2 x GBL-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -22.53** -0.93 11.99** 16.28**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91** -3.98 8.55** 12.70**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00** 13.54 16.24 38.30** -0.66 26.64**	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** -5.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16 -10.07 6.99 -23.14** -2.03	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55** 47.75* 42.36 -0.27 22.25 18.32 27.29 22.33	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21 -10.20 -3.39 -7.15	C1 LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 24.02** -3.03 15.82** 42.48** 12.30**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 13.46** 12.35** 12.91** 17.92** -7.80* 10.12** 35.47** 6.78	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 54.13** 70.18** 39.91** 12.39* 4.13 15.14** 8.26 -12.84* 37.16** 16.06** -21.10** 2.75	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -10.28* -0.79 -6.72 -24.90** 18.18** 0.00 -32.02** -11.46* 1.19	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61 -13.71** -1.02 8.61	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -28.63** -4.92 -7.42 -13.12** -5.13 -24.63** -13.55** -5.13	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 48.32** 53.06** 53.65** 62.13** 19.13** 56.61** 109.66** 43.59**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69** -9.85 18.51** 58.66**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-2 GJB-3 x GDB-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GBL-1 PLR-1 x GOB-1 KS-224 x PANT rituraj KS-224 x GJB-2 KS-224 x GJB-2 FJR-1 x GJB-2 FJR-1 x GJB-1 FJR-1 x GJB-1 FJR-1 x GJB-1 GJB-2 x GJB-1 FJR-1 x GJB-2 FJR-1 x GJB-1 FJR-	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -0.93 11.99** 16.28** -4.19	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91** -3.98 8.55** 12.70** -7.14**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 57.21** 31.00** 13.54 16.24 38.30** -0.66 26.64** 0.00	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16 -10.07 6.99 -23.14** -2.03 -22.64**	LC(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55** 47.75* 42.36 -0.27 22.25 18.32 27.29 22.33 22.05	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21 -10.20 -3.39 -7.15 -7.37	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 15.23** 15.23** 15.23** 15.23** 15.23** 17.87** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 13.46** 12.91** 17.92** -7.80* 10.12** 35.47** 6.78 13.46**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 15.14** 54.13** 70.18** 39.91** 4.13 15.14** 8.26 -12.84* 37.16** 16.06** -21.10** 2.75 17.43** 15.14**	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -10.28* -0.79 -6.72 -24.90** 18.18** 0.00 -32.02** -11.46* 1.19 -0.79	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61 -13.71** -1.02 8.61 24.00**	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -28.63** -4.92 -7.42 -13.12** -5.13 -24.63** -13.55** -5.13 -8.31*	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 7.30 8.48 77.51** 54.83** 53.06** 19.13** 19.13** 56.61** 109.66** 43.59**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69** -9.85 18.51** 58.66** 8.66 17.16**
GJB-3 x PLR-1 GJB-3 x KS-224 GJB-3 x Pant rituraj GJB-3 x GJB-2 GJB-3 x GJB-1 GJB-3 x GDB-1 GJB-3 x GOB-1 PLR-1 x KS-224 PLR-1 x Pant rituraj PLR-1 x GJB-2 PLR-1 x GJB-2 PLR-1 x GDB-1 KS-224 x PANT rituraj KS-224 x GJB-2 KS-224 x GJB-2 FJR-1 x GJB-2 KS-224 x GJB-2 FJR-1 x GJB-1 GJB-2 x GJB-1 CJB-2 x GJB-1 CJB-2 x GJB-1 CJB-2 x GJB-1 GJB-2 x GJB-1	LC(%) 20.43** 10.57** 30.33** 23.82** 9.48** 12.83** -12.36** 3.39 -8.80** 4.39 14.33** 5.85* -8.44** -3.21 2.08 7.04* 3.90 1.48 8.57** -0.93 11.99** 16.28** -4.19 28.64**	CC(%) 16.73** 7.17** 26.33** 20.02** 6.11* 23.92** 9.36** -15.05** 0.21 -11.61** 1.18 10.81** 2.60 -11.25** -6.18* -1.06 3.75 0.71 -1.64 5.23* -24.91** -3.98 8.55** 12.70** -7.14** 24.68**	LC(%) 6.99 -5.11 5.15 1.53 -0.44 -6.11 0.66 39.21** 38.65** 63.41** 61.22** 37.77** 50.66** 9.17 19.00 26.64** 40.26** 13.54 16.24 38.30** -0.66 26.64** 0.00 0.44	CC(%) -17.23* -26.59** -18.65* -21.45** -22.97** -27.36** -22.13** 7.70 7.26 26.42** 24.73** 6.59 16.55* -15.54* -7.94 -2.03 8.51 21.62** 1.35 -12.16 -10.07 6.99 -23.14** -2.03 -22.64** -22.30**	C(%) 31.83 12.18 39.97 28.53 27.57 22.58 16.19 24.88 46.17* 52.24** 72.70** 60.81** 32.11 7.05 20.94 51.64** 60.55** 47.75* 42.36 -0.27 22.25 18.32 27.29 22.33 22.05 47.75*	g) CC(%) 0.05 -14.86 6.23 -2.45 -3.18 -6.97 -11.81 -5.22 10.94 15.54 31.07 22.05 0.27 -18.75 -8.21 15.09 21.85 12.13 8.04 -24.31 -7.21 -10.20 -3.39 -7.15 -7.37 12.13	(°I LC(%) 4.98 -3.61 13.38** 0.59 3.42 18.16** 19.92** -2.44 12.30** -3.61 15.23** 17.87** -10.35* -9.77* 19.34** 15.23** 18.16** 19.34** 19.34** 15.23** 15.23** 17.87* 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34** 19.34**	3x) CC(%) -0.19 -8.36* 7.80* -4.36 -1.67 12.35** 14.02** -7.24 6.78 -8.36* 9.56* 12.07** -14.76** -14.21** 13.46** 12.35** 12.91** 17.92** -7.80* 10.12** 35.47** 6.78 13.46** 13.18**	LC(%) 24.77** -4.59 -7.34 6.88 15.14** 1.38 -7.80 20.18** 15.14** 15.14** 54.13** 70.18** 39.91** 15.14** 8.26 -12.84* 37.16** 16.06** -21.10** 2.75 17.43** 15.14** 12.39*	CC(%) 7.51 -17.79** -20.16** -7.91 -0.79 -12.65** -20.55** 3.56 -12.65** 2.37 -0.79 32.81** 46.64** 20.55** -10.28* -0.79 -6.72 -24.90** 18.18** 0.00 -32.02** -11.46* 1.19 -0.79 -3.16	(mg/1 LC(%) 13.76** -8.16 -3.39 14.12** 18.20** 13.39** -0.78 18.45** 8.86* 14.12** 10.94* 14.24** -3.59 23.27** 11.55* -0.65 -18.29** 8.86* 6.00 -0.53 8.61 -13.71** -1.02 8.61 24.00** 3.31	00mg) CC(%) -0.64 -19.79** -15.61** -0.32 3.24 -0.96 -13.33** 3.46 -4.92 -0.32 -3.10 -0.21 -15.79** 7.66 -2.57 -13.23** -28.63** -4.92 -7.42 -13.12** -5.13 -24.63** -13.55** -5.13 8.31* -9.77*	LC(%) 30.37** 17.95* 45.36** 24.46** 29.19** 53.06** 114.99** 19.72** 43.59** 52.47** 7.30 8.48 77.51** 54.83** 53.06** 19.13** 56.61** 109.66** 43.59** 54.83** 54.83**	CC(%) -1.34 -10.75* 10.00 -5.82 -2.24 15.82** 62.69** -9.40 8.66 -10.75* 12.24* 15.37** -18.81** -17.91** 34.33** 17.16** 12.24* 15.82** 16.27** 22.69** -9.85 18.51** 58.66** 8.66 17.16**

ISSN: 2320 - 7051

Table 4: Best heterotic crosses and their performance for fruit yield and related parameters

Promising	Fruit yield per	Standard heterosis	Significant l	heterosis for other traits over
hybrids	plant (g)	(surati ravaiya)	Mid parents	Standard check (surati ravaiya)
PLR-1 x GBL-1	3184.70	72.70	PH, TSS, TS	DFF, SBPP, FPP, TSS, FDW, TS
PLR-1 x Doli-5	2965.56	60.81	PS, FW, FDW	DFF, SBPP, PS, FL, FW, FPP, TSS, FDW, TS
KS-224 x Doli-5	2960.64	60.55	PBPP, PS, FG, FW, TSS, TS	PBPP, SBPP, FW, FPP, TSS, TS
PLR-1 x GJB-2	2807.43	52.24	PBPP, SBPP, PS	DFF, PBPP, SBPP, PS, FPP

DFF = Days to 50 % flowering

PH = Plant height (cm)

PBPP= Primary branches per plant

SBPP= Secondary branches per plant

 $PS = Plant spread (cm^2)$

FL = Fruit length (cm)

FG = Fruit girth (cm)

FW = Fruit weight (g)

FPP = Fruits per plant

TSS = Total soluble solids (°Bx) TP = Total phenol (mg g⁻¹) TS = Total sugar (%)

FDW= Fruit dry weight (mg/100mg)

REFERENCES

- 1. Al-Hubaity, A. I. and Teli, J. A. Combining ability and heterosis in eggplant (*Solanum melongena* L.). *Mesopotamia J. of Agric.* **41(1):** 23-35 (2013).
- 2. Biswas, L.; Mehta, N. and Ansari Sabina, F. Hybrid vigour studies in brinjal (Solanum melongena L.). Global J. of Science Frontier Research Agriculture and Veterinary, 13(9): 7-11 (2013).
- 3. Bray, H.G. and Thrope, W.V. Analysis of phenolic compound of interest in metabolism. *Methods of Biochem. Analysis*, **1:** 27-52 (1954).
- 4. Dubois, M., Gilles, K.A., Hamilton, J.K., Robers, P.A. and Smith, F. A calorimetric method for the determination of sugar. *Nature*, pp.168 (1951).
- 5. Hedges, L.J. and Lister, C.E. Nutritional attributes of spinach, silver beet and eggplant. *Crop Food Res Confidential Rep No.* 1928 (2007).
- Kumar, S.R., Arumugam, T., Anandakumar, C.R., Balakrishnan, S. and Rajavel, D.S. Estimation of Heterosis and Specific Combining Ability for Yield, Quality, Pest and Disease Incidence in eggplant (Solanum melongena L.). Bull. Env. Pharmacol. Life Sci., 2(1): 03-15 (2012).
- 7. Pachiyappan, R.; Saravanan, K and Kumar, R. Heterosis is yield and yield

- components in eggplant (Solanum melongena L.). Int. J. of Curr. Agric. Sci., **2(6):** 17-19 (2012).
- 8. Prabhu, M., Natarajan, S. and Pugalendhi, L. Studies on heterosis and mean performance in brinjal (*Solanum melongena* L.). *Veg. Sci.*, **32(1):** 86-87 (2005).
- 9. Reddy, E. E. P. and Patel, A. I. Heterosis studies for yield and yield attributing characters in brinjal (Solanum melongena L.). *Scholarly J. Agric. Sci.*, **4(2)**: 109-112 (2014).
- 10. Singh, K.; Sidhu, A. S. and Kumar, A. Heterosis for fruit yield and its components in brinjal (*Solanum melongena* L.). *J. Hort. Sci.*, **7(2):** 142 144 (2012).
- 11. Sao, A. and Mehta, N. Heterosis in relation to combining ability for fruit yield and quality attributes in brinjal (*Solanum melongena* L.). *Electron. J. Plant Breed.*, **1(4):** 783-788 (2010).
- 12. Shafeeq, A., Madhusudan, K., Hanchinal, R.R., Vijayakumar, A.G. and Salimath, P.M. Heterosis in brinjal (*Solanum melongena* L.). *Karnataka J. Agric. Sci.*, **20(1)**: 33-40 (2007).
- **13.** Suneetha, Y., Kathiria, K.B.; Patel, J.S. and Srinivas, T. Studies on heterosis and combining ability in late summer brinjal (*Solanum melongena* L.). *Indian J. Agric. Res.*, **42(3):** 171-176 (2008).