International Journal of Entomology Research
www.entomologyjournals.com
ISSN: 2455-4758
Received: 22-07-2026, Accepted: 21-08-2026, Published: 05-09-2026
Volume 11, Issue 3, 2026, Page No. 453-458

Evaluation of different brinjal genotypes/cultivars against red spider mite, *Tetranychus urticae* Koch

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DOI: https://doi.org/10.66856/ijer.2026.11.2.11308

Abstract
To assess the susceptibility of different brinjal genotypes/cultivars to red spider mite, *Tetranychus urticae* Koch, ten genotypes/cultivars were evaluated under field conditions at Vegetable Research Station, Junagadh Agricultural University, Junagadh during *Kharif*, 2021-22. Based on pooled mite population (mites/4 cm² per leaf), the genotypes/cultivars ranked in descending order of susceptibility as GJB-2 (11.35) > JBGR-14-07 (10.76) > JBGR-10-208 (10.24) > GJB-3 (9.67) > PLR-1 (9.12) > JBL-18-08 (8.24) > JBL-18-01 (7.56) > GJLB-4 (6.81) > JBL-18-07 (5.38) > GRB-5 (4.26). Based on mite infestation, GRB-5 and JBL-18-07 were categorized as resistant (R), GJLB-4, JBL-18-01 and JBL-18-08 as moderately resistant (MR), PLR-1, GJB-3 and JBGR-10-208 as moderately susceptible (MS), and JBGR-14-07 and GJB-2 as susceptible (S). No genotype/cultivar was classified as highly resistant or highly susceptible. GRB-5 recorded the highest yield (29,923 kg/ha), followed by JBL-18-07 (26,823 kg/ha) and GJLB-4 (23,709 kg/ha).

Keywords: *Tetranychus urticae* Koch, red spider mite**,** brinjal, susceptibility and genotypes/varieties

Introduction
Brinjal or Eggplant (*Solanum melongena* L.) is a member of the Solanaceae family and having the chromosome number is 2n = 24. It is known as eggplant is refereed with various local name in different countries *viz.*, Aubergine (English and French), Quezi (Chinese), Eirfrucht (German), Melanzana pectonciano (Italian), Nasu (Japanese), Baklazan (Russian), Barenjena (Spanish), Baigan (Hindi) and Ringan (Gujrati). It is considered as a 'King of vegetables', originated from India where a wide range of wild types and land races occur (Thompson and Kelly, 1957) [6] Brinjal is named as "poor man's vegetable" because of its low cost of production, ease of culture and availability throughout the year as vegetable.

The brinjal crop is attacked by about 140 species of insect pests from seedling stage to harvesting stage of crop (Dwivedi *et al*., 2014) [2]. Brinjal shoot and fruit borer, *L. orbonalis* (Lepidopetra: Pyralidae) is the major pest throughout Asia (Purohit and Khatri 1973) [5]. The important insect pests are shoot and fruit borer [*Leucinodes orbonalis* (Guenee)], lacewing bug (*Urentius sentis* Distant), hadda beetle (*Epilachna vigintiocto punctata* Fabricius), leafhopper (*Amarasca bigutulla bigutulla* Ishida), brinjal stem borer (*Euzophera perticella* Rag.), whitefly (*Bemisia tabaci* Genn) and red spider mite (*Tetranychus urticae* Koch). While it's minor pests included aphid (*Aphis gossypii* Glover) and brinjal leaf roller (*Eublemma olivacea* Walker) *etc.* (Atwal and Dhaliwal, 2005) [1]. Pest complex in brinjal is responsible for severe reduction in yield of brinjal. A two spotted red spider mite *T. urticae* attacking brinjal is most important arthropod pest that devastates the crop's output. It can be found across India, but found BiharMysore, Rajasthan, Uttar Pradesh, Punjab, Haryana, Maharashtra.

Materials and Methods
The different ten genotypes/cultivars of brinjal *viz*., GJB-3, JBGR-10-208, JBL-19-08, JBL-18-01, GJB-2, GBL-18-07, GRB-5, GJLB-4, PLR-1 and JBGR-14-07 were screened for their relative resistance/susceptibility against red spider mite under field condition. Each genotypes/cultivar were sown in three replications with the spacing of 75 cm × 60 cm. The recommended crop husbandry was followed uniformly. The experimental plot was kept free from the insecticidal spray throughout the cropping season. An experiment was conducted to study the screening of different genotypes/cultivars against red spider mite on brinjal in a Randomized Block Design having three replications with the gross and net plot size of 4.2 m × 3.0 m and 3.0 m × 1.5 m, respectively during *Kharif*, 2021-22 at Vegetable Research Station, Junagadh Agricultural University, Junagadh.

The observations of red spider mite population on different genotypes/cultivars of brinjal were recorded on five randomly selected and tagged plants in each plot at weekly intervals. To record the data regarding red spider mite population, the whole plot was divided into 10 equal quadrates (1m x 1m). From each quadrate, five plants were randomly selected and tagged. Observations on population of brinjal red spider mite were commenced at one week after transplanting. Observations were recorded on red spider mite count from each tagged plant at weekly interval starting from one week after transplanting till harvesting of the crop. The observations on mite population was recorded from 2 x 2 cm² area of three leaves (upper, middle and lower) of same selected plants. The observations were recorded at weekly interval starting from one week after transplanting till the harvesting of crop. Thus, the obtained data was subjected to statistical analysis for assessing the

resistance and susceptibility of the brinjal genotype/cultivars against red spider mite.

Categorization of different genotypes/cultivars

The different brinjal genotypes/cultivars were also categorized in to Highly Resistant (HR), Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S) and highly susceptible (HS). For the purpose, the mean value of individual genotype/cultivars ($\bar{X}i$) was compared with the mean value of all genotypes/cultivars ($\bar{X}$) and standard deviation (SD). The retransformed data was used for the computation of $\bar{X}i$, $\bar{X}$ and SD in the case of each parameter.

Categorization scale used for different genotypes/cultivars	
Category of resistance	**Scale of resistance**
Highly Resistant (HR)	$\bar{X}$ i ≤ ($\bar{X}$ - 2SD)
Resistant (R)	($\bar{X}$ - SD) ≥ $\bar{X}$ i ≥ ($\bar{X}$ - 2SD)
Moderately Resistant (MR)	$\bar{X}$ I <$\bar{X}$ ≤ ($\bar{X}$ - SD)
Moderately Susceptible (MS)	$\bar{X}$ ≥ $\bar{X}$ i ≥($\bar{X}$ + SD)
Susceptible (S)	($\bar{X}$ + SD) < $\bar{X}$ i ≤ ($\bar{X}$ + 2SD)
Highly Susceptible (HS)	$\bar{X}$ i > ($\bar{X}$ + 2SD)

Results and Discussion

To check the susceptibility of brinjal genotype/cultivars against red spider mite, *T. urticae*, ten different genotypes/cultivars were screened out under field condition at Vegetable Research Station, Junagadh Agricultural University, Junagadh during *Kharif*, 2021-2022. The evaluation of different genotypes/cultivars was carried out based on abundance of red spider mite/4 cm^2 per leaf. Categorization of screened genotypes/cultivars of brinjal *viz.* GJB-3, JBGR-10-208, JBL-18-08, JBL-18-01, GJB- 2, JBL-18-07, GRB-5, GJLB-4, PLR-1 and JBGR-14-07 to check susceptibility against red spider mite, *T. urticae*. The periodical data of red spider mite population on brinjal genotypes/cultivars are described in Table 1 and Appendix-1. The results revealed that none of the genotypes/cultivars was found free from the incidence of this pest.

The data showed in Table 1 revealed that the descending order of susceptibility of different genotypes/cultivars based on number of red spider mite/4 cm^2 per leaf (given in bracket after each variety) in pooled over period was GJB-2 (11.35) > JBGR-14-07 (10.76) > JBGR 10-208 (10.24) > GJB-3 (9.67) > PLR-1 (9.12) > JBL-18-08 (8.24) > JBL 18-01 (7.56) > GJLB-4 (6.81) > JBL-18-07 (5.38) > GRB-5 (4.26). It was apparent from pooled over the period that there was a significant difference among various genotypes/cultivars on the incidence of red spider mite. In variety GRB-5 (4.26 mite/4 cm^2 per leaf) recorded significantly lower infestation than the rest of genotypes/cultivars. The next best genotype/cultivar was JBL-18-07 (5.38 mite/4 cm^2 per leaf) and GJLB-4 (6.81 mite/4 cm^2 per leaf), which were in line with each other in their resistance. Genotypes/cultivars PLR-1 (9.12 mite/4 cm^2 per leaf), GJB-3 (9.67 mite/4 cm^2 per leaf) and JBGR-10-208 (10.24 mite/4 cm^2 per leaf) were found to be susceptible to red spider mite. Among the evaluated genotypes/cultivars, the highest population was noticed in GJB-2 (11.35 mite/4 cm^2 per leaf) and it was at par with JBGR-14-07 (10.76 mite/4 cm^2 per leaf).

Moreover, the interaction effect between different genotypes/cultivars and period was found to be significant, which indicated that the incidence varies during the crop growth period.

Table 1: Infestation of red spider mite, *T. urticae* in different genotypes/cultivars of brinjal in pooled over periods.

Sr. No.	Genotypes/cultivars	Red spider mite/4 cm2 per leaf
1.	GJB-3	3.11^{cd} (9.67)
2.	JBGR-10-208	3.20^{bc} (10.24)
3.	JBL-18-08	2.87^{e} (8.24)
4.	JBL-18-01	2.75^{ef} (7.56)
5.	GJB-2	3.37^{a} (11.35)
6.	JBL-18-07	2.32^{g} (5.38)
7.	GRB-5	2.15^{h} (4.26)
8.	GJLB-4	2.61^{f} (6.81)
9.	PLR-1	3.02^{d} (9.12)
10.	JBGR-14-07	3.28^{ab} (10.76)
Interaction table		
S. Em ±: Treatment (T)		0.03
Period (P)		0.05
T × P		0.15
C. D. at 5%: (T)		0.09
P		0.14
T × P		NS
C. V. %		9.61

Note: Figures in parentheses are retransformed values; those outside are √x+0.5 transformed values.

Categorization of brinjal genotypes/cultivars for their susceptibility

An attempt was made categorize the different genotypes/cultivars of brinjal to red spider mite, *T. urticae* into six categories of resistance to *T. urticae viz.*, highly resistant (HR), resistant (R), moderately resistant (MR), moderately susceptible (MS), susceptible (S) and highly susceptible (HS) as per the scale adopted. The categorization was based on *T. urticae* population on brinjal by comparing the mean incidence of individual genotypes/cultivars ($\bar{X}i$) with the mean incidence of all the genotypes/cultivars ($\bar{X}$) and standard deviation (SD), which was represented in Table 2.

Based on the number of red spider mite/4 cm^2 per leaf pooled over period, none of genotypes/cultivars were observed under highly resistant and highly susceptible categories. However, the genotypes/cultivars GRB-5 (4.26 mite/4 cm^2 per leaf) and JBL-18-07 (5.38 mite/4 cm^2 per leaf) differed from 3.83 to 6.10 red spider mite/4 cm^2 per leaf were found to be resistant (R). The genotype/cultivar *viz.*, GJLB-4 (6.81 mite/4 cm^2 per leaf), JBL-18-01 (7.56 mite/4 cm^2 per leaf) and JBL-18-02 (8.24 mite/4 cm^2 per leaf) were grouped into moderately resistant (MR) as the infestation ranged from 8.37 to 10.65 red spider mites/4 cm^2 per leaf.

In the case of genotypes/cultivars PLR-1 (9.12 mite/4 cm^2 per leaf), GJB-3 (9.67 mite/4 cm^2 per leaf) and JBGR-10-208 (10.24 mite/4 cm^2 per leaf) recorded more than 8.37 but less than 10.65 red spider mite per 4 cm^2 per leaf, so categorized into moderately susceptible (MS). While, JBGR-14-07 (10.76 mite/4 cm^2 per leaf) and GJB-2 (11.35 mite/4 cm^2 per leaf) recorded more than 10.65 but less than 12.92 red spider mite/4 cm^2 per leaf, respectively was found to be susceptible (S).

Table 2: Categorization of brinjal genotypes/cultivars for their susceptibility to red spider mite, *T. urticae.*

Category of resistance	Scale of resistance	Genotypes/cultivars
Based on mean no. of red spider mite/4 cm2 per leaf: $\bar{X}$ = 8.375 and SD = 2.27		
Highly Resistant (HR)	$\bar{X}$ i ≤ 3.83	-
Resistant (R)	6.10 ≥ $\bar{X}$ i ≥ 3.83	GRB-5 (4.26), JBL-18-07 (5.38)
Moderately Resistant (MR)	$\bar{X}$ i ≥ 8.37 ≥ 6.10	GJLB-4 (6.81), JBL-18-01 (7.56), JBL-18-08 (8.24)
Moderately Susceptible (MS)	8.37 < $\bar{X}$ I ≤ 10.65	PLR-1 (9.12), GJB-3 (9.67), JBGR-10-208 (10.24)
Susceptible (S)	10.65 < $\bar{X}$ i ≤ 12.92	JBGR-14-07 (10.76), GJB-2 (11.35)
Highly Susceptible (HS)	$\bar{X}$ i > 12.92	-

Note: Figures in parentheses are mite/4 cm^2 on brinjal.

Yield

The ten different genotypes/cultivars of brinjal tested against red spider mite, *T. urticae* for their susceptibility, the data presented in Table 3 on fruit yield revealed significant differences among the genotypes/cultivars under study. The chronological order of various genotypes/cultivars recorded highest yield, based on fruit yield (kg/ha) given bracket was: GRB-5 (29923) ≥ JBL-18-07 (26823) ≥ GJLB-4 (23709) ≥ JBL-18-01 (23209) ≥ JBL-18-08 (21923) ≥ PLR-1 (21306) ≥ GJB-3 (21039) ≥ JBGR-10-208 (20276) ≥ JBGR-14-07 (20015) ≥ GJB-2 (19260).

Among ten different genotypes/cultivars, GRB-5 was found the best variety and recorded significantly higher 29923 kg/ha fruit yield than the rest of the genotype/cultivar but it was statistically at par with the JBL- 18-07 (26823 kg/ha) which was followed by GJLB-4 (23709 kg/ha), JBL-18-01 (23209 kg/ha) JBL-18-08 (21923 kg/ha) and PLR-1 (21306 kg/ha).

There was no statistical difference in fruit yield obtain from the genotypes/cultivars GJB-3 (21039 kg/ha), JBGR-10-208 (20276 kg/ha), JBGR-14-07 (20015 kg/ha). GJB-2 (19260 kg/ha) was noted significantly the lowest fruit yield under investigation.

The results of present finding are in close conformity with Walia *et al.* (2012) [8] who reported that maximum damage was found in varieties Punjab Sadabahar, Punjab Neelam, Jamuni Gola and Punjab Moti (damage grade 4.00) while hybrid BH 1 had minimum damage grade of only 2.66. Overall data revealed that extent of damage was observed maximum in variety Punjab Sadabahar and minimum in hybrid BH 1.

Kumar *et al.* (2013) [4] also found similar results for screening of 23 aubergine cultivars/accessions of brinjal against two spotted spider mites. None of them were completely resistant to the carmine spider mite infestation. Three cultivars, namely Pechiparai, Pusa - 5 and Pusa purple cluster, had low resistance. Palur - 2, Arka Kusumakar, Elavambady, MBH - 114, Round beauty black, Pusa - 6, Pusa kranti and Pusa anmol were found susceptible. The rest of the genotypes were highly susceptible. Vinoth *et al.* (2013) [7] stated that varieties of brinjal *viz.*, Palur - 2, Arka kusumakar, Elavambady, MBH - 114, Round beauty black, Pusa - 6, Pusa kranti, Pusa anmol were found to be susceptible. On the basis of mite incidence, categorization and yield of brinjal fruits, cultivar Ankur 40 emerged out as resistant to *T. urticae*. Cultivars GAO 5, Arka anamika and

GO 2 were found moderately resistant to *T. urticae*. In contrast to this, Parbhani kranti was recorded as susceptible cultivar.

Kavad *et al.* (2015) [3] screened out 12 genotypes/cultivars of brinjal to mites and found that genotype JDNB-119, JBL-08-07, JBL-08-08, JB-12-06, AB-08-14 and AB-13-14 and Jambli (Pant bahar) were most susceptible, which recorded significant higher mite population and were at par with each other. Genotype JDNB 120 yielded significantly higher fruits (254.8 q/ha) than JDNB 119, JBL 08-07, JBL 08-08 and JB 12-06. Genotype AB 13-14 was registered significantly lower fruit yield and it was at par with AB 08-14, AB 12-10 and JB 12-06.

Table 3: Yield performance of different genotypes/cultivars of brinjal to red spider mite, *T. urticae.*

Sr. No.	Genotypes/cultivars	Yield (Kg/ha)
1.	GJB-3	21039^{e}
2.	JBGR-10-208	20276^{e}
3.	JBL-18-08	21923 ^{de}
4.	JBL-18-01	23209^{cd}
5.	GJB-2	19260^{e}
6.	JBL-18-07	26823^{ab}
7.	GRB-5	29923^{a}
8.	GJLB-4	23709^{bc}
9.	PLR-1	21306de
10.	JBGR-14-07	20015^{e}
S. Em ±		1073
C. D. at 5 %		3190
C. V. %		8.17

Appendix-1: Relative susceptibility of different genotypes/cultivars of brinjal to red spider mite, *T. urticae.*

Sr. No.	Genotypes/ cultivars	No. of mite / 4 cm2											
		Standard Meteorological Weeks (SMW)											
		36	37	38	39	40	41	42	43	44	45	46	47
1.	GJB-3	1.25 (1.60)	1.61 (2.58)	2.24 (5.02)	2.79 (7.80)	3.05 (9.28)	3.46 (11.98)	3.91 (15.31)	4.56 (20.79)	4.38 (19.17)	4.25 (18.05)	3.91 (15.28)	3.89 (15.09)
2.	JBGR-10-208	1.39 (1.90)	1.65 (2.73)	2.35 (5.52)	2.89 (8.34)	3.15 (9.94)	3.51 (12.33)	4.00 (16.02)	4.70 (22.09)	4.41 (19.43)	4.32 (18.68)	4.03 (16.24)	3.91 (15.29)
3.	JBL-18-08	1.05 (1.10)	1.46 (2.12)	2.06 (4.22)	2.45 (6.02)	2.87 (8.24)	3.34 (11.12)	3.70 (13.71)	4.42 (19.53)	4.31 (18.59)	4.03 (16.26)	3.74 (13.99)	3.77 (14.20)
4.	JBL-18-01	0.98 (1.00)	1.40 (1.95)	1.97 (3.88)	2.36 (5.56)	2.80 (7.86)	3.28 (10.73)	3.61 (13.02)	4.25 (18.08)	4.27 (18.24)	3.95 (15.60)	3.58 (12.84)	3.68 (13.57)
5.	GJB-2	1.64 (2.70)	1.79 (3.21)	2.37 (5.61)	2.90 (8.39)	3.25 (10.56)	3.65 (13.33)	4.07 (16.59)	4.80 (23.00)	4.77 (22.76)	4.41 (19.44)	4.35 (18.92)	4.14 (17.14)
6.	JBL-18-07	0.79 (0.60)	1.21 (1.47)	1.62 (2.61)	1.91 (3.63)	2.38 (5.65)	2.87 (8.26)	3.21 (10.31)	3.82 (14.57)	3.84 (14.76)	3.50 (12.23)	3.31 (10.93)	3.25 (10.57)
7.	GRB-5	0.71 (0.50)	1.15 (1.33)	1.53 (2.33)	1.82 (3.31)	2.27 (5.17)	2.76 (7.60)	3.01 (9.03)	3.52 (12.37)	3.61 (13.02)	3.15 (9.89)	2.95 (8.72)	2.87 (8.22)
8.	GJLB-4	0.91 (0.80)	1.38 (1.90)	1.91 (3.64)	2.29 (5.23)	2.69 (7.23)	3.25 (10.57)	3.53 (12.43)	4.10 (16.78)	4.21 (17.68)	3.81 (14.54)	3.53 (12.48)	3.52 (12.36)
9.	PLR-1	1.15 (1.30)	1.51 (2.27)	2.15 (4.62)	2.60 (6.74)	2.95 (8.68)	3.37 (11.35)	3.73 (13.94)	4.50 (20.22)	4.33 (18.70)	4.21 (17.74)	3.83 (14.66)	3.78 (13.06)
10.	JBGR-14-07	1.56 (2.40)	1.70 (2.89)	2.36 (5.56)	2.89 (8.37)	3.18 (10.08)	3.58 (12.85)	4.03 (16.27)	4.75 (22.58)	4.67 (21.77)	4.35 (18.94)	4.25 (18.03)	3.97 (15.74)
S. Em. ±		0.06	0.07	0.12	0.13	0.14	0.16	0.17	0.20	0.21	0.21	0.19	0.19
C. D. at 5 %		0.18	0.21	0.36	0.39	0.42	0.48	0.51	0.60	0.63	0.63	0.57	0.56
C. V. %		9.38	8.62	9.88	9.09	8.38	8.64	8.09	8.01	8.54	9.07	8.96	9.01

Conti…

Sr. No.	Genotypes /cultivars	No. of mite / 4 cm2											
		Standard Meteorological Weeks (SMW)											
		48	49	50	51	52	1	2	3	4	5	6	7
1.	GJB-3	3.63 (13.15)	3.59 (12.85)	3.58 (12.78)	3.52 (12.37)	3.49 (12.20)	3.39 (11.46)	3.26 (10.61)	2.96 (8.73)	2.58 (6.65)	2.29 (5.25)	1.78 (3.17)	1.36 (1.86)
2.	JBGR-10-208	3.74 (13.97)	3.66 (13.36)	3.63 (13.14)	3.58 (12.83)	3.56 (12.65)	3.49 (12.16)	3.35 (11.21)	3.07 (9.44)	2.76 (7.59)	2.35 (5.52)	1.95 (3.78)	1.44 (2.08)
3.	JBL-18-08	3.57 (12.74)	3.38 (11.45)	3.18 (10.09)	3.06 (9.37)	2.99 (8.93)	2.97 (8.81)	2.86 (8.15)	2.65 (7.00)	2.39 (5.71)	2.02 (4.06)	1.46 (2.13)	1.20 (1.43)
4.	JBL-18-01	3.49 (12.17)	3.05 (9.31)	3.10 (9.63)	2.94 (8.65)	2.88 (8.31)	2.84 (8.04)	2.72 (7.37)	2.54 (6.47)	2.19 (4.79)	1.82 (3.31)	1.41 (1.99)	1.02 (1.05)
5.	GJB-2	3.99 (15.89)	3.83 (14.66)	3.81 (14.52)	3.73 (13.92)	3.69 (13.61)	3.56 (12.67)	3.49 (12.18)	3.20 (10.19)	2.92 (8.54)	2.55 (6.49)	2.24 (5.02)	1.52 (2.32)
6.	JBL-18-07	3.11 (9.65)	2.68 (7.16)	2.46 (6.05)	2.39 (5.73)	2.32 (5.38)	2.31 (5.34)	2.17 (4.72)	1.91 (3.64)	1.63 (2.66)	1.35 (1.81)	1.09 (1.18)	0.85 (0.72)
7.	GRB-5	2.78 (7.74)	2.45 (6.00)	2.38 (5.64)	2.33 (5.41)	2.18 (4.76)	2.18 (4.75)	2.05 (4.20)	1.74 (3.03)	1.50 (2.24)	1.08 (1.16)	0.94 (0.88)	0.71 (0.50)
8.	GJLB-4	3.33 (11.11)	2.91 (8.49)	2.89 (8.36)	2.68 (7.16)	2.76 (7.63)	2.63 (6.90)	2.53 (6.39)	2.21 (4.89)	1.87 (3.49)	1.47 (2.16)	1.36 (1.84)	0.96 (0.92)
9.	PLR-1	3.58 (12.80)	3.56 (12.69)	3.55 (12.58)	3.42 (11.70)	3.39 (11.47)	3.35 (11.21)	3.11 (9.64)	2.80 (7.84)	2.50 (6.27)	2.10 (4.40)	1.70 (2.88)	1.26 (1.60)
10.	JBGR-14-07	3.81 (14.55)	3.75 (14.07)	3.73 (13.90)	3.60 (12.97)	3.58 (12.78)	3.54 (12.55)	3.47 (12.02)	3.19 (10.14)	2.86 (8.18)	2.48 (6.17)	2.12 (4.50)	1.48 (2.20)
S. Em. ±		0.19	0.18	0.16	0.16	0.17	0.18	0.15	0.17	0.16	0.12	0.13	0.07
C. D. at 5 %		0.56	0.54	0.48	0.48	0.51	0.54	0.45	0.49	0.48	0.36	0.39	0.21
C. V. %		9.01	8.94	8.30	8.34	9.45	10.29	8.75	10.03	10.24	8.72	8.74	10.51

Note: Figures in parentheses are retransformed values; those outside are √x+0.5 transformed values.

Conclusion

The resistance/susceptibility of different genotypes/cultivars of brinjal against red spider mite, *T. urticae* was assessed based on number of mite/4 cm^2 per leaf. The data showed that the descending order of susceptibility of different genotypes/cultivars in pooled over period was GJB-2 (11.35) > JBGR-14-07 (10.76) > JBGR 10-208 (10.24) > GJB-3 (9.67) > PLR-1 (9.12) > JBL-18-08 (8.24) > JBL 18-01 (7.56) > GJLB-4 (6.81) > JBL-18-07 (5.38) > GRB-5 (4.26). It was apparent from pooled over the period that there was a significant difference among various genotypes/cultivars on the incidence of red spider mite. In variety GRB-5 recorded significantly lower infestation than the rest of genotypes/cultivars. The next best genotype/cultivar was JBL-18-07 and GJLB-4, which were in line with each other in their resistance. Genotypes/cultivars PLR-1, GJB-3 and JBGR-10-208 were found to be susceptible to red spider mite. Among the evaluated genotypes/cultivars, the highest population was noticed in GJB-2 and it was at par with JBGR-14-07. Moreover, the interaction effect between different genotypes/cultivars and period was found to be significant, which indicated that the incidence varies during the crop growth period.

Based on the number of red spider mite/4 cm^2 per leaf pooled over period, none of genotypes/cultivars were observed under highly resistant and highly susceptible categories. However, the genotypes/cultivars GRB-5 (4.62 mite/4 cm^2 per leaf) and JBL-18-07 (5.38 mite/4 cm^2 per leaf) differed from 3.83 to 6.10 red spider mite/4 cm^2 per leaf were found to be resistant (R). The genotype/cultivar *viz.*, GJLB-4 (6.81 mite/4 cm^2 per leaf), JBL-18-01 (7.56 mite/4 cm^2 per leaf) and JBL-18-02 (8.24 mite/4 cm^2 per leaf) were grouped into moderately resistant (MR) as the infestation ranged between 8.37 to 10.65 red spider mite/4 cm^2 per leaf. In the case of genotypes/cultivars PLR-1 (9.12), GJB-3 (9.67 mite/4 cm^2 per leaf) and JBGR-10-208 (10.24 mite/4 cm^2 per leaf) recorded more than 8.37 but less than 10.65 red spider mite/4 cm^2 per leaf, so categorized into moderately susceptible (MS). While, JBGR- 14-07 (10.76 mite/4 cm^2 per leaf) and GJB-2 (11.35 mite/4 cm^2 per leaf) recorded more than 10.65 but less than 12.92 red spider mites per three leaves and found to be susceptible (S). Considering the yield of the genotypes/varieties, revealed that significant differences among the genotype/cultivar under study. The chronological order of various genotype/cultivar recorded highest yield, based on fruit yield (kg/ha) given bracket was: GRB-5 (29923) ≥ JBL-18-07 (26823) ≥ GJLB-4 (23709) ≥ JBL-18-01 (23209) ≥ JBL-18-08 (21923) ≥ PLR-1 (21306) ≥ GJB-3 (21039) ≥ JBGR-10-208 (20276) ≥ JBGR-14-07 (20015) ≥ GJB-2 (19260). Among the different genotypes/cultivars, GRB-5 was found the best variety and recorded significantly higher 29923 kg/ha fruit yield than the rest of the genotype/cultivar but it was at par with the JBL-18-07(26823 kg/ha) which was followed by GJLB-4 (23709 kg/ha), JBL-18-01 (23209 kg/ha) JBL-18-08 (21923 kg/ha) and PLR-1 (21306 kg/ha).

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