Trends in Biosciences 8(18), Print : ISSN 0974-8431, 4813-4814, 2015

Varietal Screening of Rice Against Rice Blue Beetle, *Leptispa pygmaea* Baly.

K.M. PATEL, K.G. PATEL AND K.B. PATEL

Department of Agricultural Entomology
N.M. College of Agriculture
Navsari Agricultural University
Navsari- 396 450 (Gujarat)

ABSTRACT

Eighteen varieties were screened for their field reaction against Leptispa pygmaea Baly at NARP farm, NAU, Navsari during kharif season. None of the varieties was found to be completely resistant. Out of eighteen varieties viz., IR-22, GR-102, GR-103 and GR-104 with scale-1 considered as resistant whereas, IR-28, GR-6, GR-7, Ratna and GR-12 with scale-3 considered as moderately resistant. These genotypes can be used in breeding programme to develop resistant variety.

Key words *Rice, Blue Beetle, Leptispa pygmaea Baly, varietal screening*

Being a staple food crop, rice is facing the various pest problems starting from its seedling stage to maturity. The number of insect pests associated with rice is more than 70 species in India. Rice blue beetle, *Leptispa pygmaea* Baly (Chrysomelidae : Coleoptera) considered as a minor pest has recently assumed a serious status by causing pest outbreaks in the rice growing tracts of southern districts *viz.*, Navsari, Surat, Valsad and Ahwa-Dang. A Study was under taken in order to identify any source of resistance against the pest by screening eighteen available rice varieties.

MATERIALS AND METHODS

To screen out the varieties for their relative resistance or susceptibility against rice blue beetle, a field experiment was conducted at NARP farm, NAU, Navsari during *kharif* season. Eighteen varieties were transplanted in the field with a spacing 20 x 15 cm in two replications.

To assess the per cent intensity and damage caused by blue beetle, *L. pygmaea*, the observations were recorded as per standard week starting from 30 days after transplanting till harvest. The observations were recorded by counting the total number of leaves and total number of damaged leaves from randomly selected five spots, each consisting of five hills. The data thus obtained were converted to per cent infestation.

The below mention technique as suggested by Karthikeyan and Jacob, 2007 for evaluation of rice varieties for resistant to *L. pygmaea,* are used.

% damaged leaves	Scale	Reaction
0	0	Immune
1-10	1	Resistant
11-25	3	Moderately resistant
26-50	5	Moderately susceptible
51-75	7	Susceptible
75-100	9	Highly susceptible

RESULTS AND DISCUSSION

The data presented in Table-1 revealed that all varieties showed more or less per cent damaged leaves of rice blue beetle. The minimum per cent damaged leaves (0.17) were found in varieties IR-22 and GR-104 coincided with scale-1 followed by per cent damaged leaves, 0.19 for GR-102, 0.21 for GR-103, 0.33 for Ratna, 0.36 for GR-7, 0.40 for GR-12, 0.45 for IR-28, 0.45 for GR-6, 0.67 for GR-10, 0.68 for GR-101, 0.72 for Narmada, 1.29 for Masuri, 1.37 for Jaya, 1.49 for Gurjari, 1.91 for IR-66 and 2.25 for GR-11. The maximum per cent damaged leaves were found in variety GR-3 (2.36). Based on corrected per cent damage and scale, the varieties having scale-1 *viz*., IR-22, GR-102, GR-103, GR-104 considered as resistant, varieties having scale-3 *viz*., IR-28, GR-6, GR-7, Ratna, GR-12 considered as moderately resistant, varieties having scale-5 *viz*., GR-10, Narmada, GR-101 considered as moderately susceptible, varieties having scale-7 *viz*., Gurjari, Jaya,

Table 1. Per cent damaged leaves of rice blue beetle, *L. pygmaea* on different varieties of paddy

Varieties	Per cent infested leaves	Corrected % damage	Scale	Reaction
IR-28	0.45	19.02*	3	MR
IR-66	1.91	80.80	9	HS
GR-3(Susceptible Check)	2.36	99.99	9	HS
GR- 6	0.45	19.23	3	MR
GR-7	0.36	15.21	3	MR
Ratna	0.33	13.91	3	MR
Gurjari	1.49	62.94	7	S
Jaya	1.37	58.09	7	S
GR-10	0.67	28.27	5	MS
GR-11	2.25	95.46	9	HS
GR-12	0.40	16.82	3	MR
IR-22	0.17	7.08	1	R
Masuri	1.29	54.49	7	S
Narmada	0.72	30.31	5	MS
GR-101	0.68	28.63	5	MS
GR-102	0.19	8.03	1	R
GR-103	0.21	8.97	1	R
GR-104	0.17	7.36	1	R

Corrected per cent damage was calculated from formula given by (Grag, 1984).

$$\text{*Corrected \% damage} = \frac{\text{\% damaged leaves in test entry}}{\text{\% damaged leaves in susceptible check}} \times 100$$

Masuri considered as susceptible and varieties having scale-9 *viz*., GR-3, GR-11 and GR-66 considered as highly susceptible. This information can be utilized to develop improved resistance varieties against blue beetle.

LITERATURE CITED

Garg, D.K. 1984. Field resistance to rice leaf folder. *IRRN*, **9** (4) : 9-10.

Karthikeyan, K. and Jacob, S. 2007. Performance of rice varieties against the rice blue beetle, *Leptispa pygmaea* Baly (Coleoptera : Chrysomelidae). *Oryza*, **44** (4) : 365-368.

Received on 23-08-2015 *Accepted on 28-08-2015*