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Field screening of rice (*Oryza sativa* L.) genotypes against leaf folder

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Abstract

In order to develop rice cultivars for resistance to leaf folder, *Cnaphalocrosis medinalis* (Guenee) some rice genotypes were screened under natural field conditions at the rice research farm of Birsra Agricultural University, Kanke, Ranchi during kharif 2018. Leaf folder incidence as percent leaf damage was recorded on 30, 40, 50, 60, 70, 80, 90 and 100 days after transplanting and scoring was done. Based on the resistance index and population, the experimental results revealed that genotypes Sinna Sivappu, MSM-3, MTU 1245, Suraksha, RP-2068-18-3-5, MSM-1, MSM-2, W1263, KAUPTB 0627-2-11-14-15 and Kavya were found promising and resistant against the leaf folder, receiving damaged leaves below 10 percent whereas remaining cultures except TN-1 were moderately resistant receiving (11-20% LDLF), TN-1 was moderately susceptible receiving the highest incidence of leaf damaged percent i.e. (20.82% LDLF) in the present studies. W-1263 could be responsible for realization of the highest grains yield (44.00 q/ha) among all the tested rice genotypes in the present studies.

Keywords: Leaf damage, genotypes, leaf folder, yield, varietal reaction

1. Introduction

Rice (*Oryza sativa* L.) is one of the most important staple foods for more than half of the world population including India. For most of the rural people of Jharkhand, agriculture is the main source of livelihood. Here the agriculture economy is characterized by dependence on nature, low investment, mono-cropping with paddy as the main crop, poor irrigation facilities, small and marginal holdings. The production and productivity of rice are 4988.06 thousand tone and 2971 kg per hectare, respectively in the state of Jharkhand (Anonymous, 2018) ^[1]. Kharif rice grown extensively over Jharkhand is mainly infested by stem borer, gall midge, leaf folder, brown plant hopper, case worm and termite in Kharif season. The incidence of leaf folder in Jharkhand is more pronounced compared to other defoliating larvae. It was earlier considered as a minor pest of rice growing areas but it has attained major pest status with the introduction of high yielding rice varieties and accompanying changes in cultural practices. All the stages of the crop are attacked by this pest but it is more problematic at boot leaf stage. Insect pests inflict an average of 21%-51% yield loss in rice, which leads to one of the major reasons for poorer crop productivity in India. Muthayya *et al.* (2014) ^[2].

Attempts to control this pest with chemical methods have given rise to many problems like pest resurgence, resistance to insecticides, destruction of natural enemies, development of new biotypes, pesticide residues in grains, etc. Hence the use of resistant rice varieties appears to be the most effective component for incorporation into an integrated pest management strategy. Ukwungwu *et al.* (1999) ^[5]. Field screening was conducted to identify resistant or tolerant rice varieties and genotypes as a tool for IPM programmes.

2. Materials and Methods

Twenty-eight rice genotypes were planted at rice research farm of Birsra Agricultural University, Kanke, Ranchi during 2018-2019. The experiment was laid out in Randomized Design with three replications and spacing of 20x15cm. These were raised under recommended agronomic practices without any plant protection measures and screened against leaf folder. Susceptible check TN-1 was planted. The leaf folder damage was recorded at 30, 40, 50, 60, 70, 80, 90 and 100 DAT. Grain's yield were also recorded after harvest on per plot basis and then converted into q/ha.

Based on the damage rating and scale, the status of rice genotypes was determined by following IRRI's Standard Evaluation System (SES).

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Table 1: Rice leaf folder

Scale	Percent leaf damage	Varietal reaction
0	0	Highly resistant/Immune
1	1-10	Resistant
3	11-20	Moderately resistant
5	21-35	Moderately susceptible
7	36-50	Susceptible
9	51-100	Highly susceptible

3. Results and Discussion

The incidence of the pest initiated from 40 DAT and the pest intensity was found to be increased gradually up to 80 DAT, then it began to decline with the maturity of the crop. The leaf folder damage was recorded at 30, 40, 50, 60, 70, 80, 90 and 100 DAT in term of percentage of leaf damage (LDLF%). A perusal of the result (Table-1) indicated that none of the test varieties were found to be free from the incidence of leaf folder.

Table 2: Relative incidence of leaf folder in certain rice genotypes in terms of LDLF (%) for their relative resistance/tolerance/susceptibility

S. N.	Rice genotypes	Percentage of leaf damage caused by leaf folder (LDLF%) AT								Susceptibility/resistance status	Scale*
		40 DAT	50 DAT	60 DAT	70 DAT	80 DAT	90 DAT	100 DAT	Overall mean		
1	BPT 2231	10.30 (18.68)	11.60 (19.87)	13.30 (21.35)	14.60 (22.39)	16.30 (23.77)	12.50 (20.64)	11.40 (19.71)	12.85 (20.92)	Moderately resistant (MR)	3
2	BPT 2766	12.40 (20.58)	13.60 (21.62)	15.60 (23.22)	16.30 (23.78)	17.60 (24.76)	17.50 (24.69)	14.50 (22.32)	15.35 (23.03)	Moderately resistant (MR)	3
3	BPT 2782	8.30 (16.72)	10.50 (18.86)	12.60 (20.76)	14.30 (22.18)	14.50 (22.33)	12.30 (20.45)	11.30 (19.59)	11.97 (20.20)	Moderately resistant (MR)	3
4	BPT 2795	12.60 (20.77)	14.60 (22.43)	16.30 (23.80)	17.80 (24.92)	19.30 (26.03)	18.40 (25.36)	16.00 (23.56)	16.42 (23.89)	Moderately resistant (MR)	3
5	RP-2068-18-3-5	2.70 (9.23)	4.50 (12.12)	5.40 (13.40)	6.30 (14.42)	7.50 (15.84)	6.20 (14.26)	5.07 (12.83)	5.38 (13.34)	Resistant (R)	1
6	KAUPTB 0627-2-11	3.30 (10.36)	4.60 (12.37)	5.80 (13.90)	6.80 (14.93)	8.30 (16.56)	7.90 (16.17)	5.40 (13.42)	6.01 (14.08)	Resistant (R)	1
7	KAUPTB 0627-2-14	4.70 (12.42)	5.30 (13.25)	6.80 (15.05)	7.60 (15.92)	8.60 (17.01)	10.30 (18.64)	9.30 (17.72)	7.51 (15.88)	Resistant (R)	1
8	KAUPTB 0627-2-15	6.40 (14.61)	7.70 (16.05)	9.30 (17.70)	10.50 (18.85)	12.60 (20.75)	10.70 (18.93)	9.30 (17.73)	9.50 (17.90)	Resistant (R)	1
9	NWGR-12048	6.90 (15.11)	8.30 (16.70)	11.50 (19.57)	13.60 (21.59)	13.40 (21.43)	12.00 (20.21)	10.50 (18.87)	10.88 (19.20)	Moderately resistant (MR)	3
10	Sahbhagi Dhan	9.20 (17.62)	11.40 (19.68)	12.70 (20.83)	14.50 (22.33)	15.70 (23.26)	12.40 (20.58)	11.40 (19.76)	12.47 (20.66)	Moderately resistant (MR)	3
11	NWGR-8001	6.90 (15.21)	8.30 (16.71)	11.70 (19.96)	13.60 (21.59)	15.60 (22.23)	12.30 (20.44)	11.30 (19.57)	11.38 (19.69)	Moderately resistant (MR)	3
12	Sinna Sivappu	1.80 (7.64)	2.30 (8.56)	3.20 (10.17)	4.60 (12.08)	5.60 (13.39)	4.15 (11.62)	3.30 (10.00)	3.50 (10.60)	Resistant (R)	1
13	WGL-825	10.50 (18.87)	12.50 (20.66)	13.80 (22.44)	15.70 (23.31)	16.70 (24.09)	13.80 (21.75)	12.30 (20.48)	13.61 (21.62)	Moderately resistant (MR)	3
14	WGL-1062	11.60 (19.89)	13.60 (21.62)	16.30 (21.78)	16.30 (23.78)	17.60 (24.75)	14.50 (22.36)	13.40 (21.37)	14.75 (22.51)	Moderately resistant (MR)	3
15	W-1263	2.70 (9.34)	4.60 (12.25)	5.80 (13.83)	6.70 (14.79)	7.80 (16.15)	6.30 (14.43)	5.40 (13.21)	5.61 (13.69)	Resistant (R)	1
16	IC 466451	14.50 (22.36)	15.30 (23.01)	16.40 (23.86)	18.30 (25.29)	19.70 (26.31)	18.50 (25.40)	19.94 (22.67)	17.52 (24.69)	Moderately resistant (MR)	3
17	MSM-1	2.60 (9.25)	4.50 (12.18)	5.70 (13.75)	6.40 (14.56)	7.70 (16.04)	6.20 (14.26)	5.30 (13.11)	5.48 (13.44)	Resistant (R)	1
18	MSM-2	3.80 (11.11)	4.64 (12.44)	5.83 (13.90)	7.71 (15.99)	7.70 (15.99)	8.20 (16.52)	5.80 (13.90)	6.24 (14.30)	Resistant (R)	1
19	MSM-3	1.80 (7.69)	2.70 (9.35)	3.50 (10.63)	4.70 (12.35)	5.90 (18.83)	4.60 (12.19)	3.40 (10.54)	3.8 (11.14)	Resistant (R)	1
20	Lalat	16.50 (23.94)	17.60 (24.77)	18.60 (25.53)	21.70 (22.74)	22.60 (28.36)	20.20 (26.67)	17.30 (24.55)	19.21 (25.98)	Moderately resistant (MR)	3
21	MTU 1245	2.50 (8.93)	2.70 (9.35)	3.70 (11.00)	4.30 (11.88)	6.70 (14.77)	5.30 (13.11)	3.80 (10.82)	4.41 (12.01)	Resistant (R)	1
22	BVS-1	10.30 (18.70)	12.40 (20.58)	13.70 (21.70)	14.60 (22.44)	16.70 (24.09)	13.30 (21.37)	12.20 (20.39)	13.31 (21.32)	Moderately resistant (MR)	3
23	BPT 2611	12.50 (20.68)	14.30 (22.20)	16.30 (23.79)	16.80 (24.17)	18.30 (25.30)	17.60 (24.76)	15.20 (22.93)	13.85 (21.80)	Moderately resistant (MR)	3
24	Swarna (Sub-1)	10.60 (18.99)	12.60 (20.72)	13.90 (21.86)	15.80 (23.36)	17.60 (24.75)	14.00 (21.94)	12.40 (20.50)	13.84 (21.80)	Moderately resistant (MR)	3
25	Kavya	3.80 (11.14)	4.70 (12.51)	6.30 (14.48)	7.20 (15.46)	8.30 (16.68)	8.80 (17.11)	6.30 (14.41)	6.48 (14.66)	Resistant (R)	1
26	IR-64 (drt-1)	14.80 (22.61)	15.90 (23.47)	18.50 (25.45)	19.70 (26.32)	20.15 (26.63)	18.50 (25.44)	16.40 (23.85)	17.70 (24.86)	Moderately resistant (MR)	3
27	Suraksha (RC)	2.50 (8.99)	3.70 (11.02)	5.50 (13.27)	6.30 (14.36)	6.90 (15.07)	5.70 (13.78)	4.60 (12.27)	5.02 (12.77)	Resistant (R)	1
28	TN-1 (SC)	15.90	17.60	19.80	22.60	26.70	25.60	17.60	20.82 (27.13)	Moderately	5

		(23.48)	(24.77)	(26.39)	(28.37)	(31.09)	(30.37)	(24.76)		susceptible (MS)	
	S.Em (\pm)	(0.74)	(0.83)	(0.91)	(1.13)	(1.12)	(1.24)	(1.14)	(1.00)		
	CD (P=0.05)	(2.11)	(2.37)	(2.59)	(3.22)	(3.20)	(3.50)	(3.26)	(2.85)		
	CV (%)	(8.28)	(8.44)	(8.45)	(9.82)	(9.22)	10.88)	(10.99)	(9.30)		

Figures under the parentheses are angular transformed values

RC-Resistant check

SC-Susceptible check

*Based on the scale of SES of IRRI, Philippines

3.1 The leaf damage recorded at 40 DAT

The minimum incidence of leaf folder was recorded in case of Sinna Sivappu (1.80% LDLF) which remained at par with that of MSM-3 (1.81% LDLF), MTU 1245 (2.50% LDLF), Suraksha (2.52% LDLF), MSM-1 (2.60% LDLF), RP-2068-18-3-5 (2.70% LDLF), W1263 (2.70% LDLF) followed by KAUPTB 0627-2-11 (3.30% LDLF) which remained at par with that of MSM-2 (3.80% LDLF), Kavya (2.80% LDLF), KAUPTB 0627-2-14 (4.70% LDLF) followed by KAUPTB 0627-2-15 (6.40% LDLF), Sahbhagi Dhan (9.20% LDLF), WGL-1062 (11.60% LDLF), IC466451 (14.50% LDLF) against the highest incidence of 15.90% LDLF in case of TN-1(SC). The maximum incidence of leaf folder was recorded in case of TN-1(SC) (15.90% LDLF) which remained at par with that of Lalat (16.50% LDLF), IR 64 (drt-1) (14.80% LDLF), IC 466451 (14.50% LDLF) followed by BPT 2795 (12.60% LDLF).

It was encouraging and interesting to mention here that almost similar trends of reaction of the test rice genotypes against the leaf folder were observed throughout the cropping season, right from 40 to 100 DAT.

3.2 The leaf damage recorded at 50 DAT

The results showed that lowest incidence of leaf folder was found in case of Sinna Sivappu (2.30% LDLF) which remained at par with that of MSM-3 (2.70% LDLF), MTU 1245 (2.70% LDLF) followed by Suraksha (3.70% LDLF), KAUPTB 0627-2-15 (7.70% LDLF), BPT 2782 (10.50% LDLF), Lalat (17.60% LDLF), against the highest incidence of 17.60% LDLF in case of TN-1 (SC). The highest incidence of leaf folder was noticed in case of TN-1 (SC) (15.90% LDLF) followed by BPT 2611 (14.30% LDLF).

3.3 The leaf folder damage recorded at 60 DAT

The lowest incidence of leaf folder was noticed in case of Sinna Sivappu (3.20% LDLF) which remained at par with that of MSM-3 (1.81% LDLF), MTU 1245 (3.70% LDLF) followed by Suraksha (3.70% LDLF), KAUPTB 0627-2-15 (9.30% LDLF), BPT 2782(12.60% LDLF), BPT 2782 (13.60% LDLF), BPT 2611 (16.30% LDLF), against the highest incidence of 17.60% LDLF in case of TN-1(SC). The highest incidence of leaf folder was noticed in case of TN-1(SC) (19.80% LDLF) followed by BPT 2611 (16.30% LDLF).

3.4 Percent leaf folder damage at 70 DAT

The minimum leaf folder incidence was observed in case of Sinna Sivappu (4.60% LDLF) which remained at par with that of MTU 1245 (4.30% LDLF), MSM-3 (4.70% LDLF), Suraksha (6.30% LDLF), RP-2068-18-3-5 (6.30% LDLF), MSM-1 (6.40% LDLF), W1263 (6.70% LDLF) followed by MSM-2 (6.40% LDLF), NWGR 12048 (13.60% LDLF), BPT 2795 (17.80% LDLF), against the highest incidence of 22.60% LDLF in case of TN-1(SC). The maximum leaf folder incidence was observed in case of TN-1 (SC) (22.60% LDLF) followed by (13.60% LDLF).

3.5 Percent leaf folder damage at 80 DAT

The percentage of LDLF was ranged from (5.60%) Sinna Sivappu to TN-1 (26.70). The results showed that leaf folder incidence was found least in case of Sinna Sivappu (5.60% LDLF) which remained at par with that MSM-3 (5.90% LDLF), MTU 1245 (6.70% LDLF), Suraksha (6.90% LDLF), RP-2068-18-3-5 (7.50% LDLF), MSM-1 (7.70% LDLF), W1263 (7.80% LDLF), MSM-2 (7.70% LDLF), KAUPTB 0627-2-15 (8.30% LDLF), followed by Kavya (7.80% LDLF), KAUPTB 0627-2-15 (12.60% LDLF), W825 (16.70% LDLF) against the highest incidence of 26.70% LDLF in case of TN-1(SC).

The maximum leaf folder incidence was observed in case of TN-1 (26.70% LDLF) followed by (13.60% LDLF) W825 (16.70% LDLF).

3.6 Percent leaf folder damage at 90 DAT

The results showed that leaf folder incidence was found least in case of Sinna Sivappu (4.15% LDLF) which remained at par with that MSM-3 (4.60% LDLF), MTU 1245 (5.30% LDLF), Suraksha (5.70% LDLF), RP-2068-18-3-5 (6.20% LDLF), MSM-1 (6.20% LDLF), W-1263 (6.30% LDLF) followed by KAUPTB 0627-2-15 (7.90% LDLF), NWGR 12048 (7.70% LDLF), WGL 1062 (14.50% LDLF) against the highest incidence of 25.60% LDLF in case of TN-1(SC). The maximum leaf folder incidence was observed in case of TN-1 (25.60% LDLF) followed by IR 64 (Drt-1) (18.50% LDLF) and WGL 825 (13.80% LDLF).

Almost similar trend of pest incidence was found in case of overall mean of all the seven observations recorded at 40 to 100 DAT.

3.7 Overall mean percent of leaf damage recorded at 40, 50, 60, 70, 80, 90 and 100 DAT

The observations on the incidence of leaf folder in the terms of LDLF% were recorded at 10 days interval starting 1st at 40 DAT. A perusal of overall mean results of all the seven observations revealed that the incidence of leaf damage caused by leaf folder was found in ascending order from 40 to 80 DAT in general with the advancement of vegetative growth, tillering stage and panicle initiation stage in rice plant and then incidence of leaf damage decreased after 80 DAT to 100 DAT at the attainment of the maturity stage of the plant. Mean of seven observations of LDLF (%) recorded at 40, 50, 60, 70, 80, 90 and 100 DAT were calculated in order to find out the response of the rice genotypes against leaf folder pertaining to intensity of incidence of leaf damage by the pest. The overall perusal of the results (Table-1) based on mean of seven observations indicated that Sinna Sivappu received the minimum incidence of LDLF (3.5% LDLF) which, in turn, remained at par with that of MSM-3 (3.80% LDLF), MTU-1245 (4.41% LDLF), Suraksha (5.02% LDLF), RP-2068-18-3-5 (5.38% LDLF) and MSM-1 (5.48% LDLF) against the highest incidence of 20.82% LDLF in case of TN- 1(SC) (20.82% LDLF) followed by Lalat (19.21% LDLF), IR 64 (drt-1) (17.70% LDLF), IC 466451 (17.52% LDLF) which

were rated as susceptible for leaf folder attack in the present studies. The results revealed that Sinna Sivappu, MSM-3, MTU 1245, Suraksha, RP-2068-18-3-5 and MSM-1 emerged as promising against the leaf folder, receiving LDLF incidence below 10 percent in the present studies as against the significantly higher pest incidence recorded in case of TN-1, Lalat, IR 64 (drt-1) and IC 466451. The degree of orders of intensity of leaf folder incidence i.e. LDLF (%) were: Sinna Sivappu (3.5% LDLF) < MSM-3 (3.80% LDLF) < MTU-1245 (4.41% LDLF) < Suraksha (5.02% LDLF) < RP-2068-18-3-5 (5.38% LDLF) < MSM-1 (5.48% LDLF) < W 1263 (5.61% LDLF) < KAUPTB 0627-2-11 (6.01% LDLF) < MSM-2 (6.24% LDLF) < Kavya (6.48% LDLF) < KAUPTB 0627-2-14 (7.51% LDLF) < KAUPTB 0627-2-14 (9.50% LDLF) < NWGR 12048 (10.88% LDLF) < NWGR 8001 (11.38% LDLF) < BPT 2782 (11.97% LDLF) < Sahbhagi Dhan (12.47% LDLF) < BPT 2231 (12.85% LDLF) < BVS-1 (13.31% LDLF) < WGL 825 (13.61% LDLF) < Swarna Sub-1 (13.84% LDLF) < BPT 2611 (13.85% LDLF) < WGL 1062 (14.75% LDLF) < BPT 2766 (15.35% LDLF) < in BPT 2795 (16.42% LDLF) < IC 466451 (17.52% LDLF) < IR 64 (Drt-1) (17.70% LDLF) < Lalat (19.21% LDLF) < TN-1 (20.82% LDLF) the present studies.

3.8 Susceptibility/resistance status of different rice genotypes against leaf folder, Kharif, 2018

Based on the scale of standard evaluation system of IRRI, Philippines, these 28 rice genotypes were categorized into immune/resistance/moderately resistance/moderately susceptible/highly susceptible categories, and the results are presented in (Table-1). Sinna Sivappu, MSM-3, MTU 1245, Suraksha, RP-2068-18-3-5, MSM-1, MSM-2, W1263, KAUPTB 0627-2-11-14-15 and Kavya were found promising and resistant against the leaf folder, receiving damaged leaves below 10 percent whereas remaining cultures except TN-1 were moderately resistant receiving (11-20% LDLF), TN-1 was moderately susceptible receiving the highest incidence of leaf damaged percent i.e. (20.82% LDLF) in the present studies.

These findings were almost in agreement with that of earlier findings of Prasad (2010) [4] who opined that the transplanted rice crop was infested with three major pests viz. YSB, GM and leaf folder. One entry viz. Suraksha remained moderately resistant to all the three-pest species as all the three-pest species were found to damage below 10% in these two varieties. Padmavathi *et al.* (2017) [3] reported that, a rapid field screening method has been developed to evaluate a large number of genotypes to identify resistant sources against rice leaf folder. Using this method, they identified that TN-1 as most susceptible and W-1263 as resistant genotype which also endorsed the findings of the present investigation.

3.9 Effect of overall mean incidence of leaf folder on grain's yield in different rice genotypes

The results are presented in (table-2). Highest grains yield of rice (44.00 q/ha) was obtained in case of W-1263 and it remained at par with that of Swarna (Sub-1) (41.00 q/ha), Kavya (39.20 q/ha) followed by Suraksha (38.40 q/ha), MTU 1245 (32.00 q/ha), KAUPTB 0627-2-11 (27.50 q/ha) and BPT 2766 (22.00 q/ha). The lowest yield grain was recorded in case of BPT 2231 (20.6 q/ha) which remained at par with BPT 2766 (22.00 q/ha), BPT 2782 (24.00 q/ha) and BPT 2795 (25.00 q/ha) followed by RP-206818-3-5 (25.50 q/ha) in the present studies. Yield of grains in the different genotypes of

rice was found in decreasing order of:

W-1263 (44.00 q/ha) > Swarna (Sub-1) (41.00 q/ha) > Kavya (39.20 q/ha) > Suraksha (38.40 q/ha) > Sinna Sivappu (38.00 q/ha) > NWGR-12048 (34.66 q/ha) > MTU 1245 (32.00 q/ha) > NWGR 8001 (30.77 q/ha) > Sahbhagi Dhan (29.00 q/ha) >

Table 3: Effect of the overall mean incidence of leaf folder on grain's yield in some rice genotypes.

S. No.	Rice genotypes	LDLF (%) due to leaf folder	Grain's yield (q/ha)
1	BPT 2231	12.85	20.60
2	BPT 2766	15.35	22.00
3	BPT 2782	11.97	24.00
4	BPT 2795	16.42	25.00
5	RP-206818-3-5	5.38	25.50
6	KAUPTB 0627-2-11	6.01	27.50
7	KAUPTB 0627-2-14	7.51	27.03
8	KAUPTB 0627-2-15	9.50	28.00
9	NWGR-12048	10.88	34.66
10	Sahbhagi Dhan	12.47	29.00
11	NWGR-8001	11.38	30.77
12	Sinnasivappu	3.50	38.00
13	WGL-825	13.61	26.09
14	WGL-1062	14.75	26.40
15	W-1263	5.61	44.00
16	IC-466451	17.52	26.80
17	MSM-1	5.48	29.00
18	MSM-2	6.24	26.00
19	MSM-3	3.80	26.60
20	Lalat	19.21	25.60
21	MTU 1245	4.41	32.00
22	BVS-1	13.31	27.00
23	BPT-2611	13.85	30.00
24	Swarna (Sub-1)	13.84	41.00
25	Kavya	6.48	39.20
26	IR-64 (drt-1)	17.70	30.70
27	Suraksha (RC)	5.02	38.40
28	TN-1 (SC)	20.82	26.70
S.Em (±)		(1.00)	(1.75)
CD (P=0.05)		(2.85)	(4.97)
CV (%)		(9.30)	(9.65)

BPT 2611 (30.00 q/ha) > MSM-1 (29.00 q/ha) > KAUPTB 0627-2-15 (28.00 q/ha) > KAUPTB 0627-2-15 (27.50 q/ha) > KAUPTB 0627-2-14 (27.03 q/ha) > IC 466451 (26.80 q/ha) > Suraksha (26.75 q/ha) > MSM-1 (26.60 q/ha) > BVS -1 (27.00 q/ha) > IC 466451 (26.80 q/ha) > TN-1 (26.75 q/ha) > MSM-3 (26.60) > WGL 1062 (26.40) > WGL 825 (26.09) > MSM-2 (26.00 q/ha) > Lalat (25.60 q/ha) > RP-206818-3-5 (25.50 q/ha) > BPT 2795 (25.00 q/ha) > BPT 2782 (24.00 q/ha) > BPT 2766 (22.00 q/ha) > BPT 2231 (20.60 q/ha) in the present investigations conducted under field conditions.

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5. Conclusions

Genotypes Sinna Sivappu, MSM-3, MTU 1245, Suraksha, RP-2068-18-3-5, MSM-1, MSM-2, W1263, KAUPTB 0627-2-11-14-15 and Kavya were found promising and resistant against the leaf folder, receiving damaged leaves below 10 percent whereas remaining genotypes except TN-1 were

moderately resistant receiving (11-20% LDF), TN-1 was moderately susceptible receiving the highest incidence of leaf damaged percent i.e. (20.82% LDF). W-1263 could be responsible for realization of the highest grains yield (44.00 q/ha) among all the tested rice varieties.

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