

PERFORMANCE OF SOME PROMISING GALL MIDGE RESISTANT RICE CULTURES

The rice gall midge, *Orseolia oryzae* (Wood Mason) Mani is a serious pest of rice in the *kharif* season in many rice growing states of India. The chemical control is not effective because of the fact that the pest is an internal feeder and the chemicals applied against the pest mostly get washed away due to the heavy rain during the season. Hence, the better solution for the control of the pest is the use of gall midge resistant varieties. In the present study twenty eight promising cultures received through AiCRIP were evaluated under natural infestation at Cuttack. On the basis of resistance to gall midge, IET 7325 and IET 7326 recorded nil incidence of silver shoot at Cuttack. The above two cultures were also free from gall midge at Mangalore. These two cultures also recorded low incidence of silver shoot (below 4 per cent) at Bhubaneswar and Faizabad (Anon., 1980).

The field experiment was conducted during kharif 1980 at the Central Rice Research Institute with 28 promising cultures and with a resistant and a susceptible check. A randomised block design was adopted with a spacing of 20 x 15 cm in two replications. The plots of 9.1 sqm were fertilised with 60 N: 50 P₂O₅: 30 K₂O kg/ha. Observation was taken by counting total tillers and silver shoots of 10 per cent plants of each culture at randomly 30 and 50 days after transplanting. The yields were assessed by harvesting total plants of each culture except the border line. The data collected were statistically analysed and presented in Table 1.

The maximum silver shoot incidence of 29.2 per cent was recorded in the culture R 35-2750 (IR 8 x W 1263). Two cultures, WGL 28712 and WGL 26415 (Surekha x Kakatiya) were found free from gall midge. Twenty cultures recorded silver shoot incidence below 9 per cent whereas in susceptible (Jaya) and resistant (Surekha) check, the incidence was 13.8 and 0.65 per cent respectively. The maximum yield of 3.8 t/ha was recorded in the culture, RP 1655-278-222 (IET 6314 x Vikram). The yields of twenty-one cultures were above 2.5 t/ha (Table 1). Out of these, four cultures viz., CR 94-72-1-3-1 [(Ptb. 21 x Ptb. 18) x IR 87, OR 140-9-3 (CR 94 x RPW 6-13), RP 1655-278-228 (IET 6314 x Vikram) and CR 157-398-284 (Vijaya x Ptb.10) recorded 3.5 t/ha and silver shoot incidence was also less (below 4 per cent). Although, in the culture R 35-2750 (IR 8 x W 1263) silver shoot incidence was 29.2 per cent, the yield was also high (3.7 t/ha). This may be due to the fact that this variety has got recovering ability by secondary tillers.

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Table 1

The gall midge reaction and yield performance of some gall midge resistant cultures to rice gall midge in *kharif*, 1980

Sl No	Designation	Cross	Silver shoot%	Yield (t/ha)
1	R 35-2750	IR 8 x W1263	29.2 (3285)	3.7 (2.20)
2	R 25-2752	IR 8 x W 1263	18.5 (19.59)	2.3 (1.40)
3	R 2384	IR 68-1 x Jaya	16 (22.15)	2.0 (1.30)
4	CR 157-380-55-11-308	Vijaya x Ptb. 10	1.2 (5.09)	3.0 (1.80)
5	CR 157-392-41-212	Vijaya x Ptb. 10	1.5 (5.57)	2.8 (1.70)
6	CR 204-392-116-75-295	CR 94-MR 1550 x Jayanthi	1.5 (4.74)	3.4 (2.05)
7	RP 974-92-1-2	Sona x RP 9-4	14.1 (20.70)	2.9 (1.75)
8	CR 94-72-1-3-1	(Ptb. 21 x Ptb. 18) x IR 8	1.8 (6.92)	3.5 (2.10)
9	CR 140-9-3	CR 94 x RPW 6-13	0.8 (4.57)	3.7 (2.20)
10	OR 158-7-1	GMR 1518x Pankaj	1.4 (0.57)	2.9 (1.72)
11	OR 127-3	Hema x RPW 6-13	1.5 (8.63)	3.3 (2.00)
12	OR 130-2-5	Hema x IR 8 x Siam 29	0.4 (2.10)	3.3 (2.00)
13	OR 158-13-1	(IR 8 x Siam 29) x Parijat	0.6 (0.57)	3.4 (2.05)
14	CR 200-788-3	RPW 6-13 x Vijaya	2.2 (8.52)	2.7 (1.62)
15	RP 1655-278-222	IET 6314 x Vikram	3.5 (11.68)	3.8 (2.30)
16	CR 157-392-284	Vijaya x Ptb. 10	0.1 (0.57)	3.5 (2.12)
17	CR 404-19	CR 94-1512-6 x Pusa 2-21	0.4 (0.57)	2.6 (1.55)
18	CR 404-24	CR 94-1512-6 x Pusa 2-21	3.3 (12.15)	1.6 (0.96)
19	CR 404-56	CR 94-1512-6 x Pusa 2-21	3.8 (13.57)	1.1 (0.68)
20	RP 825-71-4-11-4	Vijaya x Ptb. 21	1.3 (2.12)	3.3 (1.95)
21	RP 1090-461-243	Sona x RPW 6-12	8.4 (14.14)	2.2 (1.30)
22	RP 1465-703-269	RP 348 x IET 2815	16.6 (27.69)	1.5 (0.90)
23	RP 1555-349-271	CR 57-MR 1523 x RP 9-4	21.1 (24.38)	2.5 (1.50)
24	CR 94-CRRP 51-6288	(Ptb. 21 x Ptb. 18) x IR 8	3.1 (8.99)	1.7 (1.02)
25	RP 1466-602-252	RP 348-2 x IET 2815	24.7 (29.54)	1.5 (0.9)
26	WGL-28711	Surekha x Kakatiya	22.9 (28.28)	3.0 (1.77)
27	WGL-28712	Surekha x Kakatiya	0 (0.57)	2.2 (1.35)
28	WGL-26415	Surekha x Kakatiya	0 (0.57)	3.4 (2.02)
29	Surekha		0.6 (4.81)	3.1 (1.85)
30	Jaya		13.8 (22.36)	2.0 (1.27)

For incidence of silver shoot C.D. at 1% level = (7.9) C.D. at 5% level = (5.8)

For yield data C.D. at 1% level = (0.6) C.D. at 5% level = (0.4)

Figures in parentheses are angular values

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1980 ൽ കട്ടാക്കിലെ നെൽ ഗവേഷണ കേന്ദ്രത്തിൽ നടത്തിയ പഠനത്തിൽ വിവിധ തരം നെൽ ഇനങ്ങൾക്ക് ഗാരമിഡ്ജ് കീടബാധയെ ചെറുത്തു നിർത്താനുള്ള ശേഷിയും നെൽ ഉല്പാദനശേഷിയും നിരീക്ഷിച്ചത് ഈ ഗവേഷണക്കുറിപ്പിൽ വിശദീകരിച്ചിരിക്കുന്നു.

Central Rice Research Institute
Cuttack 753 006, Orissa, India

P. Samal
B. C. Misra

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