

Reaction of IR varieties to BPH population at Raipur, MP, India, 1991.

Variety	Seedlings tested (no.)	Replications (no.)	Av damage score ^a	Remark ^a
IR8	58	3	8.0	S
IR20	38	2	8.5	S
IR22	37	2	9.0	S
IR24	33	2	9.0	S
IR26	33	2	9.0	S
IR28	31	2	7.6	S
IR30	34	2	5.6	S
IR34	84	5	4.9	MR
IR36	62	4	4.8	MR
IR38	57	3	9.0	S
IR40	77	4	9.0	S
IR42	75	4	9.0	S
IR43	37	2	9.0	S
IR45	70	4	9.0	S
IR46	42	3	7.02	S
IR48	55	3	9.0	S
IR50	57	3	9.0	S
IR52	59	3	8.5	S
IR56	100	6	4.2	MR
IR62	91	5	2.5	R
IR64	19	6	1.8	R
PTB33	83	5	1.7	R
TN1	160	10	9.0	S
ASD7			9.0	S
Mudgo			9.0	S

^aBy the *Standard evaluation system for rice*. ^R = resistant, ^{MR} = moderately resistant, and ^S = susceptible.

resistant, and 16 other varieties are susceptible to the BPH population at Raipur (see table).

IR36, with the *bph-2* gene derived from CR94-13, is moderately resistant, but ASD7, which also possesses the *bph-2* gene, is highly susceptible to BPH at Raipur; this indicates IR36 may possess several other minor genes that confer resistance to BPH. Corollary to this, IR34 has the *Bph-1* gene derived from TKM6 and is moderately resistant to BPH but

resistant to biotypes 1 and 3 and susceptible to biotype 2 at IRRI. Mudgo (*Bph-1*) is highly susceptible to the Raipur BPH population.

Many of the varieties tested (IR26, IR28, IR30, IR38, IR40, IR42, IR43, IR45, IR46, IR48, IR50, and IR52) are susceptible to the Raipur BPH population, but resistant to biotypes 1 and 2 or 3 at IRRI. We conclude that the Raipur BPH population is different from that at IRRI and attacks a wider array of cultivars. ■

IRRN REMINDER

Reprint service. All items included in the *Rice literature update* are available at the IRRI Library and Documentation Service. Photocopies of original documents (not to exceed 50 pages) are supplied free to rice scientists of developing countries. Rice scientists elsewhere are charged US\$0.20 for each page or part of a page copied, plus postage. Payment should be in check or money order, payable to Library and Documentation Service, IRRI.

Address requests to Library and Documentation Service, IRRI, P.O. Box 933, Manila 1099, Philippines. Fax: (63-2) 817-8470, electronic mail: IN%"postmaster@IRRI.CGNET.COM"

Resistance of rice varieties and lines to whitebacked planthopper (WBPH) *Sogatella furcifera*

M. Riaz, M. Ahmad, and M. A. Butt, Rice Research Institute (IRRI), Kala Shah Kaku, Punjab, Pakistan

WBPH has become a serious pest of rice in the Punjab, Pakistan, although it was only a minor pest in early 1980. It begins to attack rice the 3d wk of Sep and causes considerable damage until harvest. The pest attack was severe in 1991 at IRRI's farm and in farmers' fields.

We screened 69 IRRI varieties and lines during 1991 for resistance to WBPH under field conditions. Seedlings were transplanted on 12 Jul into two rows with 20 hills each and replicated three times. Recommended crop management practices were followed. No plant protection cover was provided. Test entries were scored using the *Standard evaluation system for rice* (see table).

Results indicate that 31 varieties and lines are resistant, 10 moderately resistant, 9 moderately susceptible, 15 susceptible, and 3 highly susceptible to WBPH (see table). ■

Resistance of rice varieties and lines to WBPH. Punjab, Pakistan, 1991.

Variety or line	Score ^a	Rating ^b
Baggi Mun 122	7	S
Bamla Red 310-6	7	S
BRC16-127-4-1	1	R
BRC16-127-4-2	1	R
BR4-34-13-5	1	R
BR850-9-1-1	1	R
B3906 D-14-ST-16-48-3	1	R
B3906 F-13-13-ST-37	3	MR
CWA762069	1	R
IR13475-7-3-2	1	R
CR94-13	7	S
GH305 (Acc. 66838)	1	R
IR12665-7-1-3-6	1	R
IR13429-150-3-2-1-2	7	S
IR15527-21-2-3	7	S
IR28526-44-1-1	1	R
IR29429-B-3-B-1-4	3	MR
IR31429-14-2-3	7	S
IR31785-58-1-2-3-3	9	HS

continued on next page

Variety or line	Score ^a	Rating ^b
IR2035-117-3	1	R
IR31805-20-1-3-3	3	MR
IR32843-92-2-2-3	1	R
IR32876-54-2-2-2	1	R
IR33059-26-2-2	3	MR
IR33380-60-1-2-2	3	MR
IR33383-23-3-3-3	3	MR
IR34686-179-1-2-1	1	R
IR35293-125-3-2-3	5	MS
IR35366-28-3-1-2-2	1	R
TNI	7	S
IR35366-40-3-3-2-2	7	S
IR35366-62-1-2-2-3	1	R
IR35546-17-3-1-3	5	MS
IR39334-31-2-2-2	5	MS
IR39357-45-3-2-3	9	HS
IR43342-10-1-1-3-3	1	R
IR43491-140-1-2-3	1	R
IR43524-55-1-3-2	1	R
IR43526-523-1-1-1	1	R
TNI	7	S
IR60	7	S
IR65	7	S
Khaira Basant (Acc. 611691)	7	S
Khao Kad Bow (Acc. 64384)	1	R
Ramic Hudi (Acc. 64045)	1	R
RP1057-184-5-3-2	1	R
RP1442-2-2-3-5-1	7	S
RP1579-1864-70-33-54	7	R
RP1579-28-54	1	R
IR1552	5	MS
RP1579-52	5	MS
RP2068-16-9-5	1	R
RP2068-18-3-5	3	MR
RP2068-18-4-5	3	MR
RP2068-18-4-7	1	R
RP2068-32-2-3	1	R
RP2068-32-6-1	1	R
RP2084-2-3-1	3	MR
Suweon 339	5	MS
Tainung Sen Glutinous	5	MS
UPRH151 (Acc. 6160)	9	HS
UPRH193 (Acc. 61637)	9	HS
YSSI (Acc. 663931)	1	R
ZHEL 1 (Acc. 74587)	3	MR
3000	1	R
9101 (Acc. 74588)	5	MS
IR6	7	S
KS282	7	S

^a0 = no visible damage, 1 = partial yellowing of first leaf, 3 = first and 2d leaf partially yellow, 5 = pronounced yellowing and some stunting, 7 = wilting and severe stunting, and 9 = all test plants died. ^bHR = highly resistant, R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, and HS = highly susceptible.

Evaluation of brown planthopper (BPH)-resistant rice varieties for resistance to Angoumois grain moth (AGM)

Wu Jung Tsung and Zhang Liangyou, South China Agricultural University, Guangzhou, China

AGM *Sitotroga cerealella* Oliver causes severe damage to stored rice in China. We evaluated rice varieties with resistance to BPH *Nilaparvata lugens* Stål for their resistance to AGM.

AGM were reared on wheat seeds in the laboratory. The moisture content of rice seeds was adjusted to 13%. Five seeds, which served as one replication, were infested with 100 AGM eggs. The

Resistance of rice varieties to AGM and BPH.

Variety	AGM			BPH		
	Emerging adults (%)	Susceptibility index	Grain weight loss (%)	Damage ^a scale	Damage ^b scale	Reaction
ASD7	9.8	6.21	3.7	R	1.0	R
CR94-13	7.8	5.55	1.8	R	1.7	R
IR13240-108-2-2-3	8.3	5.65	3.5	R	1.0	R
IR19256-88-1	8.5	5.88	1.5	R	1.0	R
IR46	9.5	6.52	1.9	R	1.0	R
IR58	3.3	3.06	0.1	R	0.3	R
IR60	3.0	3.57	0.1	R	0.3	R
Kau 1727	3.0	2.32	2.6	R	1.0	R
Ping You Zhan	9.0	6.12	3.1	R	5.0	MR
San Ye Zhan	9.8	5.49	1.9	R	1.7	R
Suweon 294	4.2	3.66	2.5	R	1.0	R
Tie Liu Ai	4.0	4.10	3.0	R	4.2	MR
Balamawee	12.8	7.01	7.3	MR	1.0	R
Bao Xuan 2	11.0	8.25	2.5	MR	3.7	MR
BG 367-4	18.0	7.82	6.9	MR	0.5	R
C1321-9	14.0	8.06	3.9	MR	1.7	R
C1322-28	11.3	7.40	4.8	MR	1.7	R
C701045	14.5	8.46	4.4	MR	1.0	R
Gao Mei Zhan	19.5	8.64	6.1	MR	1.7	R
Hong Yuan	19.7	8.48	9.6	MR	1.0	R
IR4432-52-6-4	10.5	6.78	7.1	MR	1.7	R
IR13427-40-2-3-3	12.5	6.22	5.3	MR	1.0	R
IR26	15.5	7.52	6.4	MR	1.7	R
IR36	13.3	7.29	7.9	MR	3.0	R
Mudgo	17.0	8.71	6.6	MR	1.0	R
Pratap	13.8	6.99	2.7	MR	1.0	R
Yue Nan Xiang Mi	14.3	8.35	4.4	MR	2.3	R
7105	22.5	8.61	13.4	S	1.0	R
82-44-4	22.0	11.52	6.1	S	2.3	R
Duo Long	35.5	9.59	9.0	S	3.0	R
Hu Jing Kang	40.0	10.10	15.5	S	3.0	R
IR21141-24-2	30.7	11.13	6.5	S	1.0	R
Jar 80047	23.8	8.24	8.8	S	3.0	R
Qi Gui Zao 25	23.0	11.83	7.5	S	3.0	R
RNR 3070	21.3	9.55	4.8	S	1.0	R
San Gui Zhan 1	40.0	10.31	12.3	S	2.3	R
San Huang Zhan 2	38.0	10.93	10.6	S	3.0	R
Shan Ke 2	37.0	10.48	12.9	S	3.7	MR
Tai Nuo Xuan (C712068)	25.0	7.14	10.7	S	1.0	R
Triveni	23.5	9.23	6.8	S	2.3	R
Xin Hui Zhan 1	43.5	13.73	8.9	S	1.0	R
Xin Hui Zhan 2	24.0	10.36	4.9	S	1.0	R
Xin Jin Zhan 1	24.1	12.35	5.7	S	5.0	MR
Xin Jin Zhan 2	24.5	10.83	5.0	S	1.0	R

^aR = resistant. MR = moderately resistant. ^bBased on a plant damage rating of 1-9 where 0-3.5 = R, 3.6-5 = MR.