

with 11-20% leaf damage and could be used as donors (see table). Mala and Govind were high yielding and may be recommended for hispa endemic areas.

Seventeen boro (winter) rice cultivars were similarly screened under nethouse conditions. Five had 12- 17% leaf damage.

Nonpreference for feeding may be the resistance mechanism in the varieties tested. □

Field screening of rice cultivars for resistance to gall midge (GM) *Orseolia oryzae*

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GM is a major rice pest of increasing incidence in southern Tamil Nadu. Severe incidence of silver shoot caused by GM has been observed in Chengalpattu-MGR district during Aug on sornavari (Apr-May to Aug-Sep) rices and during Nov-Dec on late samba (Aug-Sep to Jan-Feb) crops.

We drew 100 entries from five variety trials during 1991 sornavari: 12th International Irrigated Rice Yield Nursery (IIRYN) (17), Multilocation Trial I (MLTI) (7), Preliminary Variety Trial (PVT) (24), Hybrid Rice Trial (HRT) (2), and 16th International Rice Stem Borer Nursery (IRSBN) (50). The entries were evaluated for GM resistance in replicated field trials at RRS, Chengalpattu-MGR district. Popular varieties ADT36, ADT37, and IR50 were

Varietal screening for GM resistance. RRS, Tirur, India, 1991-92.

| Entries | Source | Total entries (no.) | Silver shoots (%) | Score |
|--------------------------|---------|---------------------|-------------------|-------|
| BG1165-2 | IIRYN | | 2.3 | 3 |
| ASD17 | PVT | | 3.0 | 3 |
| SR26 B | IRSBN | | 3.3 | 3 |
| BG850-2 | IIRYN | | 3.7 | 3 |
| BG367-4 | IRSBN | | 4.3 | 3 |
| W 1263 | IRSBN | | 4.5 | 3 |
| CO 29 | PVT | | 5.0 | 3 |
| SPR7477-7-2-1 | IRSBN | | 5.0 | 3 |
| 3 cultures | PVT) | 14 | 6.3 to | 5 |
| 11 cultures | IRSBN) | | 10.0 | |
| 2 hybrid rices | HRT) | 78 | 11.1 to | 7-9 |
| 7 cultures | MLT I) | | 50.0 | |
| 19 cultures | PVT) | | | |
| 15 cultures | IIRYN) | | | |
| 35 cultures | IRSBN) | | | |
| ADT36 (standard) | | | 14.3 | 7 |
| ADT37 (standard) | | | 9.1 | 5 |
| IR50 (standard) | | | 16.7 | 7 |
| MDU3 (resistant check) | | | 4.5 | 3 |
| TKM9 (susceptible check) | | | 32.3 | 9 |

standards; MDU3 was the resistant check and TKM9 the susceptible check.

Environmental conditions favored GM infestation; 30-50% silver shoots were observed on TKM9 (see table). Entries were scored for silver shoot at maximum tillering using the *Standard evaluation system for rice* (1988) 0-9 scale.

Virulence of brown planthopper (BPH) in Vietnam

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We evaluated the 1990 International Rice Brown Planthopper Nursery in Hanoi (northern Vietnam) and Tien Giang (southern Vietnam) for BPH resistance.

Test insects were field-collected BPH reared in the greenhouse. We sowed seeds of entries in seedboxes and then infested 7-d-old seedlings with second- to third-instar nymphs. All

BG1165-2, ASD17, SR26B, BG850-2, BG367-4, W1263, CO 29, and SPR7477-7-2-1 were moderately resistant, with 2.3-5.0% silver shoot incidence. Fourteen cultures were moderately susceptible, and the remaining 78 entries were susceptible with 11.1-50.0% silver shoots. □

entries were rated for damage using the *Standard evaluation system for rice* when susceptible check plants had died.

Of 110 entries, 36% exhibited resistance in Hanoi and 4% in Tien Giang. The BPH population in Hanoi was considered biotype 2 because it damaged Mudgo and IR26 (both with *Bph 1* resistance gene) but did not damage ASD7, IR36, or CR94-13 (all with *bph 2* gene) (see table). Varieties in Tien Giang possessing *Bph 1* and *bph 2* and Babawee (*bph 4*) were susceptible.

Neither population damaged Rathu Heenati (*Bph 3*) or Ptb 33. This indicates that the BPH population in Tien Giang was more virulent than the Hanoi population and would endanger the popular cultivars being planted in Mekong Delta. □

Reactions of selected varieties to BPH populations in Hanoi and Tien Giang, Vietnam.

| Variety | Resistance gene or origin | Damage rating ^a by BPH populations in | |
|--------------------------|---------------------------|--|------------|
| | | Hanoi | Tien Giang |
| Mudgo | <i>Bph 1</i> | MS | S |
| IR26 | <i>Bph 1</i> | S | S |
| ASD7 | <i>bph 2</i> | R | S |
| IR36 | <i>bph 2</i> | R | S |
| CR94-13 | <i>bph 2</i> | R | S |
| Rathu Heenati | <i>Bph 3</i> | R | R |
| Babawee | <i>bph 4</i> | R | MS |
| RP1579-28-54 | India | R | S |
| Chianung Shen yu 26 | Taiwan | MR | S |
| Milyang 54 | Korea | MR | S |
| IR25587-133-3-2-2-2 | IRRI | R | S |
| IR28222-9-22-2-2 | IRRI | R | S |
| IR31802-48-2-2-2 | IRRI | R | S |
| TN1 (susceptible check) | - | S | S |
| Ptb 33 (resistant check) | - | R | R |

^a Scored using *Standard evaluation system for rice*. R = resistant, MR = moderately resistant, S = susceptible, MS = moderately susceptible.