



Oxalic acid and total organic acid contents in rice varieties carrying different BPH resistance genes. ● = values for individual varieties; ○ = means and S.E. for each group of varieties; * = significantly higher means than the mean of susceptible varieties.

CG-4G. The quantitative measurement of oxalic acid was facilitated by gas-liquid chromatography after organic acids were methylated with diazomethane reagent. Although the varieties had almost identical total contents of organic acids (4.1-4.7 mg/g fresh leaf sheaths), the susceptible and resistant groups had significantly different oxalic acid concentrations (see figure). In susceptible varieties the average concentration of oxalic acid was 0.18 mg/g fresh tissue. In the 5 groups of resistant varieties, it was 0.34 to 0.45 mg/g fresh tissue. Similarly, the total organic acids in susceptible varieties contained

significantly less oxalic acid (4.4%) than those in resistant varieties (7.6-11.0%), suggesting that oxalic acid is a chemical Factor governing varietal BPH resistance in rice. But this possibility must be

ascertained through experiments that examine the differential oxalic acid concentrations in the phloem sap—the dietary source of the BPH — between susceptible and resistant varieties. ■

Whitebacked planthopper attacks before introduction of new rice varieties in Pakistan

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Reports say that the whitebacked planthopper (WBPH) became a serious rice pest in some areas of Pakistan only

after the new varieties were introduced. But in 1953 — before the introduction of new rices — this writer was personally involved in the large-scale survey and control of a severe WBPH attack in the Sind. Dr. T. Ahmad reported the survey during the Sixth Commonwealth Entomological Conference in London in 1954. He noted a 60% loss to the WBPH in Sind in 1952 — a fact that corrects the impression that the new rice varieties are solely to blame for pest attack. ■

Screening for resistance to *Rupela albinella* in Guyana, South America

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Two species of stem borers attack rice in Guyana: *Rupela albinella* Cr. and *Diatrea sacharalis* F. *R. albinella*, or the white stem borer, is the more important. It occurs year-round throughout Guyana because of continuous cropping.

Twenty-seven cultivars were assessed for resistance to *R. albinella* at the Rice Research Station, Burma, Guyana, in the 1978 spring crop. A random sample of 40 tillers/cultivar was studied to ascertain infestation. Host plant resistance was determined by the percentage of tillers infested, and the number of egg masses, larvae, adults, deadhearts, and whiteheads per cultivar.

No rice tested showed total resistance, but three rices had high resistance (0-15% infestation) (see table). Moths showed distinct differences in ovipositional preferences for some cultivars. But the number of egg masses per cultivar was not correlated with the number of deadhearts or whiteheads. Plants with larvae or even holes through which adult stem borers emerged showed no whiteheads. Contrary to other reports, multiple infestation by 2 live larvae/ internode was observed. ■

Reaction of cultivars to *Rupela albinella* Cr. in the field. Burma, Guyana, 1978.

Cultivar	Infestation (%)
Bluebelle	95
Champion	88
916-58	72
Starbonnet	70
406-20	68
Cica 9	62
GR 271	60
Rustic	55
GR277	50
IR22	42
GR281	42
Ciwini	42
704-36	42
4444	42
BG79	42
Ceysvoni	40
"S"	38
4440	38
GR280	35
"T"	30
78708	30
Cica 7	22
698-72	21
704-80	20
"N"	15
Camponi	10
698-71	8

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