

Combined field resistance of some 1975 IRON entries to green leafhopper and stem borer at Cuttack, India

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Three hundred and thirty-six entries in the 1975 International Rice Observational Nursery (IRON) and cultures developed at the Central Rice Research Institute were subjected to severe field infestation

Of the green leafhopper *Nephotettix virescens* and *N. nigropictus* and the stem borer (predominantly *Tryporyza incertulas*) by planting late in September 1975, and by installing electric lights.

Most entries developed either severe hopperburn due to *Nephotettix* spp. or severe stem borer damage, or both. Only seven IRON entries and four CRRI cultures (see table) withstood both pressures well. ❧

Entries in the 1975 International Rice Observational Nursery (IRON) and from the Central Rice Research Institute (CRRI) that had high levels of field resistance to both the green leafhopper and the stem borer.

Designation	Origin	Cross
BR 2-29-2-8-1	Bangladesh	IR8/Patnai 23
BR 20-28-2	Bangladesh	Pukhi//IR127
TG 37	Indonesia	—
Mahsuri	Malaysia	—
IR2451-20-3-2	IRRI	IR841-85/IR1529-680-3
IR1917-3-10-3	IRRI	IR20 ³ / <i>O. nivara</i>
IR1917-3-19-2	IRRI	IR20 ³ / <i>O. nivara</i>
CR 94-MR 1550 white ^a	CRRI	PTB 18/PTB 21//IR8
CR 93-MR 1624-1073-1 ^a	CRRI	PTB 21/PTB 18//IR8
CR 157-41-112 ^a	CRRI	Vijaya/PTB 10
CR 139-1 047 ^b	CRRI	TKM 6/IR8//TKM 6

^aAlso resistant to gall midge. ^bAlso resistant to bacterial blight.

The cultural, morphological, and physiological characteristics of the bacterial pathogen isolated in America were identical with those recorded for *X. oryzae*.

When the artificial-inoculation procedures developed for testing the pathogenicity of, virulence of, and resistance to *X. oryzae* were used, symptoms developed in periods equal to those recorded for *X. oryzae* inoculated by the same procedures.

The inoculated varieties gave the same reactions as those they gave when inoculated with different Asiatic strains of *X. oryzae*. ❧

Parasitic activity of *Trichoderma viride* on *Corticium sasakii*

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Trichoderma viride, a common soil-inhabiting fungus, completely suppressed the growth of sheath blight fungus (*Corticium sasakii*) in maize-meal sand medium. Germination of sclerotia of *C. sasakii* was completely inhibited when passed through a culture of *T. viride* with luxuriant sporulation. However, the efficacy of *T. viride* was reduced when the spores were diluted in water suspension; reduction was greatest in the higher dilution (17×10^4 conidia/ml). The efficacy of *T. viride* in suppressing *C. sasakii* was attributable to direct competition, although occasionally *T. viride* also parasitized the hyphae of *C. sasakii*. Production of an antibiotic substance by *T. viride* was not observed.

When the culture of *T. viride* was incorporated into sterilized soil along with *C. sasakii* (both cultures grown in 4% maize-meal sand medium), sheath blight infection on Pusa 2-21 was reduced to a certain extent (73% of the plants were infected vs. 100% in the inoculated control). But when the aerial parts of the plants were sprayed with *T. viride* spores either twice or four times and then inoculated with *C. sasakii*, the disease could not be checked. ❧

Pest management and control

DISEASES

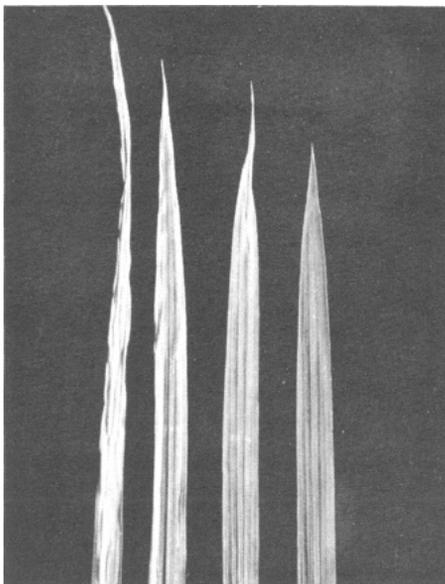
Identification of bacterial leaf blight in rice, caused by *Xanthomonas oryzae*, in America

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Symptoms similar to bacterial leaf blight were observed on rice in several countries of the Caribbean zone of Latin America. Morphological and physiological characteristics of the bacterial pathogen were studied and a number of rice cultivars known to be susceptible to the disease in Asia were inoculated with the isolates.

The results clearly show that the bacterial pathogen that was isolated belongs to the species *X. oryzae*.

The symptoms observed in the field and obtained by artificial inoculation were identical with those induced by *X. oryzae*.



Reaction of the rice Bluebonnet 50 to a Panama isolate (X.O. No. 5) of *X. oryzae*, inoculated by the puncture technique at 4, 8, 12, and 15 days (left to right) after inoculation.