

Pest Control and Management

DISEASES

Effect of synthetic pyrethroids on tungro (RTV) incidence and vector control

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Two formulations of synthetic pyrethroid cypermethrin (Ripcord and Cymbush), two other synthetic pyrethroids, decamethrin and FMC

54800, and carboiuran were evaluated against RTV and its vector.

Cypermethrin, decamethrin, and FMC 54800 were sprayed every 10 d beginning 15 d after transplanting (DT) to 45 DT. Carbofuran was broadcast at 15-d intervals. Test cultivars were TN I (susceptible) and Ratna (tolerant). Plot size was 3 × 3 m in a randomized block design with 3 replications for each cultivar. RTV epidemic conditions were created by

planting three infected tillers of Jaya in the middle of each plot. Disease incidence, grain yield, and leafhopper population were measured.

Cypermethrin and decamethrin were equally effective in reducing RTV incidence and leafhopper population in both varieties (see table). Carbofuran and fenvalerate were also effective in Ratna. FMC 54800 was not as effective as the other synthetic pyrethroids. □

Effect of synthetic pyrethroids on RTV and its vector on TN1 and Ratna cultivars. Cuttack, India.^a

Insecticide	Concentration (%)	Disease incidence (%)		Grain yield (t/ha)		Leafhoppers/20 hills at 33 DT			
						TN1		Ratna	
		TN1	Ratna	TN1	Ratna	Adult	Nymph	Adult	Nymph
Cypermethrin (Cymbush)	0.01	7 c	1 a	3.9 ab	4.5 ab	0 a	0 a	0 a	0 a
	0.05	5 b	1 a	4.1 a	4.5 ab	0 a	0 a	0 a	0 a
Cypermethrin (Ripcord)	0.01	6 bc	1 a	3.9 ab	4.4 ab	0 a	0 a	0 a	0 a
	0.05	3 a	1 a	4.0 a	4.5 a	0 a	0 a	0 a	0 a
Decamethrin	0.005	11 d	1 a	3.6 bc	4.3 abc	0 a	1 a	0 a	0 a
	0.01	5 b	1 a	4.0 a	4.6 ab	0 a	0 a	0 a	0 a
FMC 54800	0.01	100 h	39 e	1.0 f	2.9 d	6 c	27 d	4 b	10 c
	0.05	79 g	18 d	1.6 e	3.1 abcd	3 b	3b	1 bc	1 a
Fenvalerate	0.01	17 e	14 c	3.0 d	3.3 bcd	0 a	0 a	1 bc	0 a
	0.05	10 d	5 b	3.5 c	3.8 abcd	0 a	0 a	0 a	0 a
Carbofuran	2 kg	26 f	4 b	2.9 d	4.3 abc	3b	11 c	2 c	3 b
Control	—	100 h	51 f	0.3 g	2.5 d	13 d	40 e	7 e	37 d

^a In a column, values followed by the same letter do not differ significantly by DMRT (P = 0.05).

Association of *Humicola* sp. with stem rot (SR) complex in Haryana

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Plants infected with a disease similar to SR have been observed at Kaul since 1980. Patches of wilted rice plants (Jaya variety) were observed at postflowering during Oct 1984. Culms were water-soaked with reddish brown lesions without distinct margins. Cavities of the lower 3-4 internodes

revealed off-white to dirty black hyphal masses concentrated near the nodes. At maturity, the sheaths of affected plants blackened up to 15-20 cm above soil level. Plants broke off at the crown and could be easily pulled, leaving most of the roots in the soil. Grains were partially filled and discolored.

Microscopic examination of mycelial mats revealed septate hyphae hyaline when young and brown when older. The fungus was easily isolated on PDA. Colonies were white at first, turning grey to black with production

of numerous black conidia. The causal agent, identified as *Humicola* sp., proved pathogenic only when inserted inside the culm.

In a survey during 1984 kharif, wet crown rot was noticed at other sites. The pathogen occurred alone and in association with three sclerotial fungi: *Sclerotium oryzae*, *S. oryzae* var. *irregulare*, and *S. hydrophilum*. Affected hills could be classed into three categories (see table). *Humicola* sp. was associated more with category 1, but only where the stool was pulled out after breaking at the crown.