Agri. Res. J. Kerala. 1980, 18 (1) 113—115

EFFICIENCY OF CERTAIN FUNGICIDES IN THE CONTROL OF SHEATH BLIGHT DISEASE OF RICE

With the introduction of high yielding varieties of rice, sheath blight caused by *Thanatephoruscucumeris* (Frank) Donk, has become a major disease in Kerala. Bhaktavalsalam *et al*. (1977) has reviewed the work done on the chemical control of sheath blight. Very little work has been done on the control of this disease by the combined use of soil and foliar fungicides. The efficiency of certain soil as well as systemic fungicides in controlling the disease under field conditions was evaluated in the present studies at the Rice Research Station, Pattambi, during the *virippu* and *mundakan* seasons of 1977-78. The highly susceptible variety *Jyothy* was transplanted in plots of size 5.1 x 2.85 m in a Randomised block design with four replications. The crop was fertilised with N,P,K at 100, 50, 50 kg/ha respectively.

Soil application of the chemicals was done just before transplanting while the foliar sprayings were given at intervals of 15 days commencing from the initial expression of disease symptoms. The disease incidence was recorded at heading stage as percentage of infected tillers in twenty randomly selected hills/plot.

The fungicidal treatments were significantly effective in reducing the disease incidence as compared to control during both the seasons (Table 1). The treatment thiram + hinosan recorded 41.1 per cent decrease in tiller infection over control followed by brassicol + hinosan (26.9%) during the *virippu* season. These two treatments were consistently superior during the *mundakan* season also, the decrease in tiller infestation being 37.7 and 36.0 per cent respectively. These two treatments recorded significantly higher yield than in control during the two seasons.

Among the foliar treatments, bavistin was the best in reducing the disease incidence but increase in yield was not registered. The decrease in tiller infection under this treatment during the *virippu* and *mundakan* seasons were 20.7 and 29,1% rsepectively. The efficiency of bavistin in reducing tiller infection of sheath blight has been reported by Bhaktavalsalam *et al*. (1977).

The authors are grateful to Dr. M. R. Menon, Professor of Plant Pathology, College of Agriculture, Vellayani, Trivandrum for his critical suggestions and valuable help.

Table 1

Effect of systemic fungicides on the control of sheath blight of paddy

Treatments	*Virippu 77-78*			*Mudakan 77-78*		
	Disease incidence (%)	Decrease over control (%)	Mean yield (kg/ha)	Disease incidence (%)	Decrease over control (%)	Mean yield (kg/ha)
	1	2	3	4	5	6
Thiram + Hinosan*	43.5(41.25)**	41.1	3948	35 3(36 46)	37.7	2588
Brassicol + Hinosan	54,0(41.27)	26 9	3810	36.3(37.04)	36.0	2502
Kitazin 17 G	64,6(53.48)	12.6	3655	51,3(45.76)	9.5	2485
Benlate	61.5(51.64)	16.8	3414	47.1(43.36)	16.9	1935
Vitavax	70.2(56.89)	5.0	3449	51.5(45.84)	9,2	2313
Bavistin 50 WP	58.6(49.94}	20.7	3629	40.2(39 36)	29 1	2064
Kitazin 48 EC	71.5(57.70)	3,2	3491	44.9(42.05)	20,8	2202
Control	73.9(59.31)	—	3294	56 7(48.85)	—	1900
C D (0.05)	(8.245)	—	406	(6.55)	—	379

** Refined values given in parenthesis

*Thiram {tetramethyl thiuram disulphide) 20 kg/ha–soil application
+
Hinosan (O–ethyl, S S–diphenyl–phosphate) 500 ml/ha–foliar

Brassicol (pentachloronitrobenzene) 20 kg/ha–soil–application.
+
Hinosan (O-ethyl, S–S–diphenyl–phosphate) 500 ml/ha–foliar
Kitazin 17G (0, 0 disopropyl-5–benzyl–thiophosphate) 35 kg/ha-soil–application.

Benlate (methyl 1– butyl carbamoy!)-2–benzimidazole carbamate) 0.5 kg/ha–foliar

Vitavax (5, 6–dihydro–2–methyl–1, 4-Oxathin–3–carboxanilide) 0.5 kg/ha-foliar

Bavistin 50 WP (2–methoxy carbamoyl)– benzimidazole) 0,5 kg/ha-foliar

Kitazin 48 EC (0, 0 disopropyl–5–benzyl thiophosphate) 1 litre/ha–foliar

സംഗ്രഹം

നെല്ലിനെ ബാധിയ്ക്കുന്ന പോളരോഗത്തെ നിയന്ത്രിക്കാനുള്ള വിവിധ കുമിൾനാശിനി കളുടെ കഴിവ് പരീക്ഷണ വിധേയമാക്കിയപ്പോഴും തൈറാം, ബ്രാസിക്കോൾ എന്നിവയിലൊന്ന് മണ്ണിൽ ചേർത്തതിനുശേഷം ഹിനോസാൻ ചെടികളിൽ തളിയ്ക്കുന്നത് വളരെ ഫലപ്രദമാണെന്നുകണ്ടു.

Reference

Bhaktavalsalam, G., Reddy, A. P. K. and John, V. T., 1977. Chemical control of Sheath blight of rice. *Pesticides,* **11**, 13-16.

Rice Research Station,
Pattambi, 679306, Kerala.

V. P. SUKUMARA DEV
P. K. SATYARAJAN

((*MSReceived : 26-9-1979)*