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ON THE CHEMICAL CONTROL OF 'UDBATTA' DISEASE OF RICE INCITED BY *EPHELIS ORYZAE* SYDOW

The 'Udbatta' disease of rice caused by *Ephelis oryzae* Sydow. (*Balansia oryzae sativae* Hashioka) has recently assumed major importance in the high ranges of Kerala. Prevalence of this disease in hilly tracts had been reported earlier (Mohanty, 1964; 1971; Shivanadappa, 1974). Mohanty (1976) reported certain favourable meteorological factors for the development of the disease. At the Horticultural Research Station, Ambalavayal, this disease has been found to be prevalent during the last few years in a severe form. During 1978, the relative efficiency of fungicides against the disease was studied at the Reseaich Station.

The trial was laidout using rhe varieties Annapoorna, Kalinga I and IET–1444. The standing bulk crop of these varieties were divided into plots of 2x2.20m size in Randomised block design with four replicatious. The crop was fertilized with NPK 90:45;45 kg/ha. Bavistin (0.1%), Kitazln (0.2%), Aureofungin Sol (50 ppm) Benlate *(0.1%)* and Dithane M–45 (0.3%) were applied as high volume sprays and the control was run with water spray.

The first application of the chemicals was made at the flower emergence stage and the second was given three weeks later. The pre–experimental data on total number of hills/plot, average number of tillers/treatent, number of infectes panicles were taken to work out the percent earhead infection. The results revealed (Table 2) the efficacy of fungicides in controlling the disease. There was significant reduction of disease intensity in the case of variety IE–1444. Bavistin has significantly reduced the disease intensity in this variety followed by Aurofungin. Sol, Kitazin and Dithane M-45. Benlate was the least effective in this variety with *6.44%* reduction of disease intensity. Udbatta disease is reported to be internally seed borne in nature and seedling infection is the common mode of infection (Mohanty, 1976). That the systemic fungicides like Bavistin, Aureofungin Sol and Benlate could suppress symptom expression of the disease is explicable on the basis of the systemic infection of the pathogen. But in Annapoorna, the chemicals tried had no effect on the disease intensity. The grain yields under difrerent treatments (Table 3) were not significantly different, but in the case of Kalinga-I, there was increase of yield due to Aureofungin Sol and Benlate, Benlate followed by Bavistin and Aureofungin Sol increased the yield In variety IET-1444. In Annapoorna, Bavistin followed by Benlate and Kitazin increased the yield, though not significantly.

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Table 1

Effect of fungicides, on the severity of 'Udbattv' disease

Treatment	Dose%	Mean earhead infection		Percentage disease control			
		Kalinga	IET 1444	Annasoorna	Kalinga	IET 144	Annapoorna
Bavistin*	0.1	2.02[8.19]*	4.22[11.16]	0.67[4.69]	6.93	35.91	-.-
Kitazin 41 EC	0.2	2.22[8,57]	5.58[13.66]	0.22[2.67]	...	16.61	...
Aureofungin Sol	50ppm	2.35[8.82]	4.76[12.60]	0.33[3.29]	...	21.84	...
Benlate	0.1	1.91[7·94]	6.26[14:44]	0.32[2.24]	11.01	6,44	...
Dithan5 M–45	0.3	2.23[8.59]	5.94[14.09]	0.26[2.91]	...	11.20	...
WateJ Spray (Control)	...	2.17[8.47]	6.69[14.08]	0.20[2.56]	...	...	...
CD. (0.05)		MS	1.16	NS	...	...	
CD (001)		NS	1.74	NS	...	...	...

NS:Not significant.

Transformed values given in parenthesis.

Bavistin :2 (methoxy carbamoyl) Benzimidazole)

Kitazin 47 EC **:(1.0 disoproyl** —5—benzyl thioposphate)

Aureofungin Sol :(N—methyl-p-amino acetophenone mybosamine haptane)

Benlate :(Methyl l-(buty] carbamoyl) -2-benzimidazole carbamate)

Dithane M-3g :(Zinc iron and an manganese ethylene bisdithio carbamate)

Table 2

Effect of fungidides the grain yield of paddy

Treatment	Dose%	Yield kg/ha			Percetage increase over control		
		Kalinga I	IET 1444	Anna-poorna	Kalinga I	IET 1444	Anna-poorna
Daistin	0.1	4251	4205	3862	...	15,43	13.55
Kitazin 48 EC	0.2	4067	3636	3523	...	...	3.93
Aureofungin Sol	50 ppm	5045	3698	3295	17.40	1.85	...
Benlate	0.8	4340	4932	3636	1.08	33.90	6.77
Dithane M-45	0.3	3908	3341	3295	..,	...	...
Water spray	...	3295	3682	3409	...	...	...
CD (0.05)		NS	NS	NS	...	...	...

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