

Varietal Resistance in Rice to the White Leafhopper (*Cicadella Spectra* Distant)

The leafhoppers *Cicadella spectra* and *Nephotettix irrescens* are important insect pests of rice which cause damage by sucking the sap in the nursery as well as in the transplanted crop. Preliminary studies on natural resistance of rice varieties to the green leaf hopper *Nephotettix* sp., have been made by Ananthanarayanan and Abraham (1956), Pathak et al. (1969) and Bae and Pathak (1970). Varieties like ASD 5, Co 25 and Co 29 were reported to be resistant to the white leafhopper by Venkatanarayanan (1971). No detailed information is available on the resistance of rice varieties to the white leaf hopper. The present note gives an account of the comparative susceptibility or otherwise of rice varieties to this species of leafhopper.

Two field trials were conducted at the Agricultural College, Coimbatore during *kharif* 72 and *rabi* 73 with 36 short duration varieties in a randomised block design, replicated twice. Twenty

five days old seedlings were transplanted with a spacing of 20 cm × 10 cm and single seedling per hill. The plot size adopted was 5 × 0.60 m. The population of leaf hopper was assessed by making five net sweeping in each plot early in the morning. The observations were made 21 days after planting followed by subsequent observations at weekly intervals.

The population of leafhoppers assessed during different periods of crop growth in the first and second season is presented in Table 1. The results showed significant difference between varieties. The lowest mean population of 3.70 was recorded in the variety ASD 8 in *Kharif* 72 and 3.90 in *Rabi* 73. ASD 9 recorded the highest mean population of 17.90 and 19.20 in the first and second seasons respectively. In both the seasons the peak population was recorded during the fourth period (42 days after planting).

TABLE 1. Population of *Cicadella spectra* (Distant) on rice varieties

Variety	Kharif 72		Rabi 73	
	Mean		Mean	
Susceptible				
Co. 10	12.90	(21.56)	14.70	(22.27)
Co. 13	16.60	(23.73)	17.50	(24.41)
ADT 18	12.10	(19.67)	12.70	(20.56)
ASD 9	17.90	(24.74)	19.20	(25.70)
TKM 3	12.10	(19.99)	12.60	(20.55)
TKM 6	17.90	(24.67)	19.10	(25.64)

TABLE 1 (Contd.)

Variety	Kharif 72		Rabi 73	
Moderately Susceptible				
ADT 4	10.50	(18.63)	11.50	(19.61)
ADT 9	11.60	(20.98)	11.50	(19.90)
ADT 12	11.10	(19.19)	11.80	(19.84)
ADT 15	11.70	(17.37)	12.00	(19.87)
ADT 16	10.10	(17.94)	11.20	(19.18)
ADT 26	11.30	(19.42)	12.00	(20.08)
PLR 2	10.50	(18.38)	11.30	(19.18)
PTB 10	10.10	(18.15)	10.90	(18.94)
SLO 16	10.30	(18.40)	10.90	(18.99)
Moderately Resistant				
ADT 3	7.20	(15.42)	8.20	(16.34)
ADT 19	6.50	(14.34)	7.40	(15.37)
ADT 20	8.50	(16.52)	8.90	(17.04)
ADT 23	8.00	(16.19)	8.50	(16.64)
ADT 27	6.30	(14.02)	6.80	(14.72)
ADT 28	8.70	(16.85)	9.10	(17.22)
ASD 1	8.70	(16.63)	9.00	(17.04)
ASD 2	8.60	(16.69)	8.90	(17.04)
ASD 7	8.30	(16.48)	8.90	(17.05)
Co. 18	9.20	(17.32)	8.90	(17.23)
Co. 20	9.40	(17.50)	9.40	(17.41)
Co. 21	8.60	(16.60)	9.00	(17.08)
Co. 22	8.20	(16.37)	8.20	(16.35)
TKM 4	9.20	(17.31)	9.10	(17.16)
TKM 5	9.20	(17.20)	9.00	(17.02)
Tolerant				
ADT 14	5.40	(13.06)	5.20	(12.87)
ASD 3	5.90	(13.68)	5.90	(13.68)
ASD 8	3.70	(10.55)	3.90	(11.10)
Co. 2	5.80	(13.62)	5.50	(13.08)
Co. 29	5.70	(13.26)	5.30	(12.73)
CH. 2	4.90	(12.39)	5.90	(12.37)
C. D. (P=0.05)		2.37		

Difference between varieties significant at 1% level
(Figures in parenthesis are transformed values).

The rice varieties were classified as tolerant, moderately resistant, moderately susceptible and susceptible to the white leafhopper based on the mean population counts per five sweeps in each variety in two seasons.

Group	Mean Population	Varieties
Tolerant	Below 6.00	ASD 3, ASD 8, ADT 14, Co. 9, Co. 29, CH 2.
Moderately resistant	6.00 to 10.00	ADT 3, ADT 19, ADT 20, ADT 23, ADT 27, ADT 28, ASD 1, ASD 2, ASD 7, Co. 18, Co. 20, Co. 21, Co. 22, TKM 4, TKM 5.
Moderately susceptible	10.00 to 12.00	ADT 4, ADT 9, ADT 12, ADT 15, ADT 16, ADT 26, PTB 10, PLR 2, SLO 16.
Susceptible	More than 12.00	ADT 18, ASD 9, TKM 3, TKM 6, Co. 10, Co. 13.

The authors express their deep sense of gratitude to Prof. A. Subramaniam, Head of the Department of Agricultural Botany, for his constant encouragement during the course of this investigation.

R. VELUSAMY

I. P. JANAKI

R. SWAMINATHAN

T. R. SUBRAMANIAN

Department of Entomology

T. N. A. U., Coimbatore - 641003.

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