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## 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). 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  $20\,\mathrm{cm} \times 10\,\mathrm{cm}$  and single seedling per hill. The plot size adopted was  $5\times0.60\,\mathrm{m}$ . 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.

population of leafhoppers The 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 planting).

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

| (12.37)   | 6,80   | Variety              | Kha   | rif 72  | Rab   | i 73    |
|-----------|--------|----------------------|-------|---------|-------|---------|
| Susceptib | le     |                      | Me    | ean     | Me    | ean     |
| Co.       | 10     | leval of t           | 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 1900 | to the white leafhor | 17.90 | (24.74) | 19.20 | (25.70) |
| TKM       | 3      |                      | 12,10 | (19.99) | 12.60 | (20.55) |
| TKM       |        | mean population coun | 17.90 | (24.67) | 19.10 | (25.64) |

TABLE 1 (Contd.)

| ADT 12 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) ADT 28 8.70 (16.63) 9.00 (17.04) ASD 2 8.60 (16.69) 8.90 (17.04) 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 (17.04) ASD 7 8.30 (16.48) 8.90 (17.04) Co. 18 9.20 (17.32) 8.90 (17.05) Co. 20 9.40 (17.50) 9.40 (17.23) Co. 20 9.40 (17.50) 9.40 (17.41) Co. 21 8.60 (16.60) 9.00 (17.08) Tolerant   |                                       |          |                     |           | N A CE LINGS  | e vi oznadne i | (10) X0 T                  | -31139, 3610b  |
|--|---------------------------------------|----------|---------------------|-----------|---|----------------|----------------------------|--|
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| ADT 26   |                                       |          |                     |           |   |                |                            | (19.87)  |
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| PTB 10   | a a a a a a a a a a a a a a a a a a a |          |                     |           |   |                |                            | (20.08)  |
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| ADT 19 ADT 20 B.50 ADT 23 B.00 ADT 23 B.00 ADT 27 ADT 27 ADT 28 B.70 ADT 28 B.70 ADT 28 ASD 1 B.70 ASD 2 B.60 ASD 7 ASD 7 B.60 ASD 7 ASD 7 B.60 ASD 7  |                                       |          |                     | 7.20      | (15.42)   |                | 198 20                     | (16.34)  |
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| 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   |                                       | 20       | ariety ASD 8 in     | 9.40      |   |                |                            |  |
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| TKM 5 9.20 (17.20) 9.00 (17.02)  Tolerant  |                                       | 4        |                     | 9.20      |   | been proper    |                            | And the second section of the second   |
| ing kharif 72 and rabi 73 with 36 peak population was recordinarelocing  | nt another                            | a 5      |                     | 9.20      |   | Swere cond     | 9.00                       | I AZZEKE   |
| ADT 14   | Tolerant                              |          |                     |           | with 36   |                |                            |  |
|  | ADT                                   | 14       |                     | 5.40      | (13.06)   |                |                            |  |
| ASD 3  | ASD                                   | 3        |                     | 11 mm m = |   |                | 5.20                       |  |
| ACD 0  | ASD                                   | 8        |                     |           |   |                |                            |  |
| Co 2   | Co.                                   | 2        |                     |           | (13 62)   |                |                            |  |
| Co 20  | Co.                                   | 29       |                     |           | WILLIAM STATE OF THE TREE   | 1. Populano    |                            |  |
| CH 2   | CH.                                   | 2        |                     |           |   |                |                            |  |
| Variety Variety Kharif 72 Kanety   |                                       |          | harif 72            | K         |   |                | 5.90                       | (12.37)  |
| C. D. (P=0.05) 2.37  |                                       |          | 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 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 quick a 6.00 to 10.00 to 10 | 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<br>ADT 26, PTB 10, PLR 2, SLO 16.  |
| Susceptible More than 12.00  | ADT 18, ASD 9, TKM 3, TKM 6, Co. 10,<br>Co. 13.   |

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R. VELUSAMY
I. P. JANAKI
R. SWAMINATHAN
T. R. SUBRAMANIAN

Department of Entomology
T. N. A. U., Coimbatore - 641003.

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