

NOTE BREVI - SHORT COMMUNICATIONS

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SCREENING OF SOME RICE CULTIVARS AGAINST THE ROOT
LESION NEMATODE, *PRATYLENCHUS INDICUS*

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The rice root lesion nematode, *Pratylenchus indicus*, has been reported as a pest of upland rice causing about 15 to 16 per cent losses of grain yield (Prasad and Rao 1978 b) and is widely distributed in India (Rao and Prasad 1977). In continuous rice culture, populations of *P. indicus* multiplied. Crops were stunted and seedlings died (Prasad and Rao, 1978 a). As no information is available on the screening for resistance to this nematode, a range of cultivars was tested to assess the relative susceptibility and to identify rice cultivars resistant to this nematode.

Cultivars suitable for uplands were sown in lines 5 cm apart and with 3 cm spacing between seeds at the rate of 25 seeds of cultivar in four replications. There was a population of 100 *P. indicus*/100 g soil in the microplots. The plants were removed 30 days after germination, washed and their fresh weights were recorded. The roots were stained in lactophenol cotton blue, cleared in lactophenol and examined for the presence of *P. indicus*. Cultivars were classified into four groups depending on their potential as hosts, based on the increase of the nematode populations (Table I).

The fresh weight of roots per plant (mean of 25 plants) ranged from 57 mg in cv. TNAU-6464 to 430 mg in cv. CR 141-3138-234. The number of nematodes in the roots ranged from 41 in CRHP-1 (CR/RP) to 471 in OR. 92. The cultivars viz. CRM. 13-3241 (= *sattari*), CR. 155-5029-216, TNAU-6464 and CRHP-1, that had nematodes below 100 per plant root system were considered as least susceptible with a resistance rating of 4 (Table I).

Though *Cauvery* (382) and *Bala* (466) were highly susceptible,

cultivars like TNAU-6464, CR. 115-5029-216 derived from these parents were least susceptible. Similarly, out of the several cultivars derived from CRM. 13 (CR. 113 = NSJ. 200 × *Padma*), the induced mutant viz. CRM. 13-3241 was least susceptible while the other selections were susceptible in varying degrees. Some released rice cultivars like *Jayanti*, *Pankaj*, *Indira*, *Vani*, *IR. 8*, *Bala*, *Cauvery* were all susceptible (Table I).

Table I - *Reaction of rice varieties to Pratylenchus indicus.*

Resistance rating 4 (Below 100 nematodes/plant)

CRM 13-3241, CR. 115-5029, TNAU-6464 and CRHP-1 (CR/RP)

Resistance rating 3 (Below 200 nematodes/plant)

RP. 79-5, RP. 79-9, RP. 1158-47-1, RP. 1158-85-1, RP. 1158-126-1, RP. 1158-128-1, CR. 7711, CR. 142-3-8, CR. 126-42-5, CR. 155-5029-217, CR. 141-3138-234, CR. 141-5080-223, CR. 147-5225-3-213, C. 13206, TNAU. 8870, TNAU. 8872, TNAU. 14562, *Jayanti* and *Pankaj*.

Resistance rating 2 (Below 300 nematodes/plant)

RP. 1158-47-1, RP. 1158-91-1, CR. 148-4056-200, CR. 113-84-2, CR. 141-6058-1-235, C. 3810, UPR. 190D-17-1, UPR. 82-1-7-1-2-1-7, *Indira*, *Vani*, *IR-8*, *MR. 1550* and *Sakti*.

Resistance rating 1 (301 nematodes and above/plant)

RP. 1158-35-1, RP. 1158-105-1, CR. 142-3-2, CR. 115-102, OR. 34-21, OR. 34-7, OR. 34-16, OR. 92, *MR. 1523*, *Cauvery* and *Bala*.

L I T E R A T U R E C I T E D

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