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SHORT COMMUNICATIONS

SUSCEPTIBILITY OF COCONUT CULTIVARS AND HYBRIDS TO RADOPHOLUS SIMILIS IN FIELD*

BY

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The burrowing nematode, *Radopholus similis* has been reported to cause severe root rotting of coconut and arecanut in Kerala. Also the coconut cultivars, West Coast Tall, Dwarf Orange, Dwarf Green, Gangabondam, Tall X Dwarf, Dwarf X Tall and Tall X Gangabondam have been reported to be susceptible to this nematode (Koshy *et al.*, 1975).

Root samples drawn from coconut cultivars/hybrids planted in infested soil during 1972-73 on CPCRI farm in Block II, III and IX were examined for nematode infestation. In addition, four one-year old seedlings each of 10 cultivars were planted in field at a distance of 1×1 m in July, 1977. Three months later, the seedlings were inoculated with 1000 nematodes each, extracted from infested coconut roots. One year after inoculation, a dozen each of young semi-hard white to orange coloured main roots were collected from each plant. The lesioned roots were graded visually in five categories *viz.* O-no lesions; 1-very thin elongate faint orange coloured lesions separate from one another; 2-reddish to dark brown lesions separate from one another; 3-reddish to dark brown lesions in the initial stage of coalecing with one another; 4-coalecing lesions with initial stages of rotting; and 5-severe rotting, discolouration and cracking of epidermis. An aliquot of fifty gram of 2 cm root bits was taken for extraction of nematode population.

All the 27 coconut cultivars/hybrids sampled recorded lesions and *R. similis* population in varying intensities (Table I). The cultivar Java recorded the least root lesion index and root population, whereas Jamaica Tall recorded the maximum root population

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TABLE I

Coconut cultivars and hybrids susceptible to R. similis

Name of cultivar/hybrid	*R. similis* population per gram of root (av. of 3 palms)
1. British Solomon Islands	19
2. Direct Malayan Dwarf Green	292
3. Direct Malayan Dwarf Yellow	94
4. Dwarf Green	136
5. Dwarf Orange	39
6. Kulasekharam Dwarf Green (KDG) (MDG)	74
7. Laccadive Ordinary	280
8. Laccadive Micro	33
9. Malayan Dwarf Green (MDG)	160
10. Malayan Dwarf Orange (MDO)	42
11. Spicata	210
12. West Coast Tall	272
13. Dwarf X Tall	112
14. Java X Gangabondam	78
15. Java X MDG	20
16. Java X MDO	82
17. Java X MDY (Malayan Dwarf Yellow)	2
18. Java Giant (JG) X KDG (MDG)	136
19. JG X KDO (Kulasekharam Dwarf Orange) (MDO)	12
20. JG X KDY (Kulasekharam Dwarf Yellow)	13
21. KDG X JG	11
22. KDO X JG	276
23. KDY X JG	3
24. Laccadive X san Ramon	37
25. San Ramon X Gangabondam	3
26. Tall X Dwarf	224
27. Tall X Gangabondam	20

and higher root lesion index. The variety Fiji Tall recorded the maximum root lesion index and higher root population. The other cultivars had varying degrees of root lesion indices and root population (Table II).

TABLE II

Reactions of coconut cultivars to R. similis *population (av. of 4 replications)*

Name of cultivar	Root lesion index	Population per gram of root
1. Borneo	4.5	60
2. Fiji Rotuma	4	171
3. Fiji Tall	5	137
4. Guam	4	68
5. Jamaica Sanbla	4.5	101
6. Jamaica Tall	4	259
7. Java	3.5	7
8. Kenya	3.5	82
9. Rangon Kobri	4.5	101
10. St. Vincent	3.5	111

REFERENCE

KOSHY, P.K., SOSAMMA, V.K., & NAIR, C.P.R. (1975). Preliminary studies on *Radopholus similis* (Cobb, 1893) Thorne, 1949 infesting coconut and arecanut palms in South India. *Indian J. Nematol* 5 : 26-35.