soil types. Aldicarb also significantly reduced the number of galls except in fine sandy loam whereas carbofuran was effective in all soil types. The efficacy of aldicarb and carbofuran has also been demonstrated by Reddy and Seshadri, 1972; Minton *et al.*, 1976; and Sivakumar *et al.*, 1976 against root knot nematode.

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PATHOGENICITY OF *MELOIDOGYNE INCOGNITA* TO PASSION FRUIT*

BY

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Studies on the pathogenic effect of the root-knot nematode on passion fruit, under glasshouse conditions, is presented in this paper.

Seedlings were raised from surface sterilized seeds ('Purple' and 'Yellow' varieties) in 15 cm earthen pots containing sterilized soil. Forty five-day-old plants were inoculated with 100, 1,000 and 10,000 freshly hatched second-stage larvae of *M. incognita* per plant and replicated 5 times. Appropriate controls were also maintained. The inoculated plants were carefully uprooted, six months after nematode inoculation and data were recorded.

Significant reductions in plant height and shoot weight of 'purple' variety were observed at 1000 larvae level (Table I). There was no significant difference between treatments in respect of root length and root weight. Irrespective of the weight of the root system, as compared to healthy plants, the absorption by galled roots is appreciably reduced (Bergeson, 1968) thereby resulting in reduced top growth, as observed in the present investigation. Thus top weight appears a better parameter for studying the pathogenic effects of root-knot nematodes rather than root weight. The plants inoculated with 1,000 and 10,000 larvae showed varying degrees

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TABLE I

Effect of different inoculum levels of M. incognita *on plant growth and root-knot index in 'Purple' and 'Yellow' varieties of passion fruit. (Mean of five replications)*

Inoculum level	Plant height in cm.		Fresh shoot weight in g		Root length in cm.		Fresh root weight in g		Root-knot index	
	Purple	Yellow	Purple	Yellow	Purple	Yellow	Purple	Yellow	Purple	Yellow
0 (control)	277	289	119	105	34	26	26	22	1.0	1.0
100	253	297	116	106	31	30	20	20	2.0	1.2
1000	196	283	86	108	36	32	25	21	3.4	1.8
10000	119	284	56	103	36	27	24	19	4.6	2.2
C.D. at 5%	53.46	N.S	24.25	N.S	N.S	N.S	N.S	N.S	0.47	0.43

of leaf yellowing and stunting symptoms. The maximum root-knot index (4.6) was observed in treatments receiving an inoculum of 10,000 larvae. These results clearly indicate the destructive potential of root-knot nematodes on 'Purple' variety of Passion fruit.

In the case of 'Yellow' variety, (*P. edulis* var. *flavicarpa*), there was no significant effect of different inoculum levels on plant growth characters (Table I). The root-knot index was only 2.2 at the maximum inoculum level of 10,000 larvae, suggesting a tolerant reaction of the variety. This variety can be used as a rootstock with 'Purple' variety bud grafted for minimizing damage by root-knot nematodes.

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REACTION OF SOME VARIETIES AND SELECTIONS OF FRENCH BEAN TO *MELOIDOGYNE INCOGNITA**

BY

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The root-knot nematode (*Meloidogyne incognita*) has been observed to cause considerable damage to french bean (*Phaseolus vulgaris*).

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