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EFFECT OF *MELOIDOGYNE JAVANICA* ON SEEDLING GROWTH
OF SU-BABOOL (*LEUCAENA LEUCOCEPHALA*)

by
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Su-babool, *Leucaena leucocephala* (Lam.) De Wit., a native Mexican plant, is commonly grown as tree component of agro-forestry systems in India. Azmi and Ahmad (1980) reported that soils supporting these systems harbour large populations of plant parasitic nematodes. Both field plantations and nurseries of su-babool are infested with root-lesion (Azmi, 1984) and root-knot (Azmi, 1985, 1986) nematodes. This paper reports the effect of *Meloidogyne javanica* (Treub) Chitw on the growth of su-babool seedlings and development of galls and egg masses on the roots in greenhouse conditions.

Plastic containers filled with 500 ml of steam sterilized sieved field soil (75% clay, 25% sand, at 20% moisture) were each sown with five su-babool seeds surface sterilized with 1% mercuric chloride solution. After germination the seedlings were thinned to one plant per container. Three weeks later the containers were inoculated with nematodes, surface sterilized with 0.1% streptomycin sulphate, that had been cultured on su-babool. Five containers each were inoculated with 0, 10, 100, 1,000 or 10,000 second stage juveniles. Length and dry weights of shoots and roots were recorded. Galls and egg masses were counted on each plant root system.

The experiment was laid out in a randomized block with five replications of each treatment and maintained for 100 days from the date of inoculation.

The length and dry weight of shoot and root of su-babool decreased as the inoculum density of *M. javanica* increased (Table I). Reduction in growth was apparent with 1,000 nematodes per 500 ml of soil; plants were

Table I - Effect of different inoculum levels of *Meloidogyne javanica* on su-babool seedling growth and development of galls and egg masses on roots.

Nematode inoculum level	Shoot		Root		Per root system	
	Length cm	Dry wt. g	Length cm	Dry wt. g	No. galls	No. egg masses
0 (check)	53.4	5.2	25.3	2.8	0	0
10	54.1	4.9	25.2	3.1	1.4	0.8
100	53.1	4.9	24.8	3.0	30.4	14.0
1,000	37.2	3.5	19.1	2.1	72.8	29.8
10,000	25.2	3.6	15.3	1.6	40.4	28.6
L.S.D. 5%	15.3	1.4	5.7	0.7	9.2	2.6

stunted and defoliated and on each root system there was a mean of 73 galls and 30 egg masses. In containers inoculated with 10,000 nematodes per 500 ml there were only 40 galls and 29 egg masses per root system.

The results demonstrated that *M. javanica* is pathogenic to su-babool and causes stunting and defoliation of the shoot and galling of the roots.

The author is grateful to Dr. P. Singh, Director and Dr. S.T. Ahmad, Head Division of Plant Protection, Indian Grassland and Fodder Research Institute, Jhansi, India, for providing necessary facilities.

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Accepted for publication on 31 March 1987.