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EFFICACY OF GRANULAR NEMATICIDES AGAINST  
*MELOIDOGYNE INCOGNITA* IN MOTHBEAN  
(*VIGNA ACONITIFOLIA*)

by

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Mothbean (*Vigna aconitifolia* Marech.) is an important pulse crop of the arid and semi-arid regions of Rajasthan, occupying about 1.8m ha and yielding 0.4 million metric tonnes (Anon, 1977). In the 1976-77 Kharif season severe damage to the crop was observed due to infestation by root-knot nematode, *Meloidogyne incognita* (Kofoid *et* White) Chitw. (Varma *et al.*, 1977). Granular systemic nematicides were subsequently tested as a means of control.

An experiment was conducted in sandy soil naturally infested with *M. incognita*, with a population density of 160 larvae per 100 ml soil. Four nematicide treatments (Table I) and an untreated control were replicated four times in a randomized block design. The nematicides were broadcast to plots 3 x 2 m and mixed into the soil to a depth of 15 cm. Moothbean cv. Jadia was sown in five rows, 40 cm apart, in each plot. After 90 days, 10 plants were dug from each plot and assessed for the degree of galling (Taylor, 1967). Five soil samples to a depth of 15 cm were taken in each plot and larvae extracted and counted. Plots were harvested 90 days after sowing and grain yields calculated.

Aldicarb and carbofuran decreased the root-knot index and larval population in the soil and significantly increased grain yield compared with the untreated control (Table I). Disulfoton and phorate significantly decreased larval populations but were not effective in reducing the root-knot index and yields were not increased significantly compared with the control.

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Table I - *Effect of systemic granular nematicides on Meloidogyne incognita and grain yield of Mothbean (V. aconitifolia).*

Nematicides	Dose (Kg a.i./ha)	Mean yield (Q/ha)	Root-knot Index/plant	Larval population 100ml Soil. a)
Aldicarb	1	11	0.8	5.0
Carbofuran	2	6.2	1.3	9.5
Disulfoton	1.25	3.8	2.6	10.1
Phorate	2.50	3	2.6	14.4
Control	—	4	2.8	17.2
C.D. at 5%	—	0.02	1	1.8

a) Square root transformed value.

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

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