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CHEMICAL CONTROL OF *MELOIDOGYNE INCOGNITA* ON SELECTED CROPS

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Considerable loss of yield in okra, tomato and brinjal due to root-knot nematodes (*Meloidogyne incognita*) have been reported in India (Bhatti and Jain, 1977). Trials were undertaken at the Indian Institute of Horticultural Research, Hessaraghatta, Bangalore, to estimate the economic value of protection against *M. incognita* (Kofoid et White) Chitw. given by aldicarb with okra (*Abelmoschus esculentus* Moench.), brinjal (*Solanum melongena* L.), french bean (*Phaseolus vulgaris* L.) and cowpea [*Vigna unguiculata* (L.) Walp.] grown under field conditions.

The trial was laid out in a randomised block consisting of six replicates of aldicarb-treated (at rate of 1 kg a.i./ha) or untreated plots (3.0-4.5 m × 3.0 depending on the crop type). Soil samples were taken before treatment to estimate the numbers of *M. incognita* larvae. Plots were sprayed with carbaryl or endosulfan as required to control various insect pests. Plots were harvested and yield of crops recorded.

Aldicarb gave protection against the effects of *M. incognita* in each of the crops (Table I), this being mainly due to the direct damage caused by the nematode, although in french bean interference with nitrogen fixation by *Rhizobium* also contributed to the loss of yield. The difference in yield between treated and untreated plots for each of the crops clearly indicates the economic value of the aldicarb application.

Table I - Effect of aldicarb on yields and root-knot index.

Crop	<i>M. incognita</i> / 100 ml soil, pre-treatment	Mean yield/plot (kg)		Mean root-knot index (2)	
		Aldicarb(1)	Untreated	Aldicarb(1)	Untreated
Okra	138	14.0	10.1	3.7	4.7
Brinjal	125	22.5	14.9	3.8	5.0
French bean	121	7.5	4.3	2.5	3.5
Cowpea	115	5.8	4.2	3.2	4.7

(1) All aldicarb values differ significantly from untreated ($P = 0.01$) in paired comparisons.

(2) Root galling was estimated according to 1-5 index: 1 - No infection, 2 - 1 to 25 per cent of roots infested, 3 - 26 to 50 per cent of roots infested, 4 - 51 to 75 per cent of roots infested, 5 - 76 to 100 per cent roots infested.

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

BHATTI D. S. and JAIN R. K., 1977 - Estimation of loss in okra, tomato and brinjal due to *Meloidogyne incognita*. *Indian J. Nematol.*, 7: 37-41.

Accepted for publication on 4 April 1983.