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## CONTROL OF ROOT-KNOT NEMATODE ON TOBACCO WITH NON-VOLATILE NEMATICIDES

by  
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Root-knot nematode *Meloidogyne incognita* (Kofoid et White) Chitw. was found to infest tobacco in Tamil Nadu. The seedlings infested in the nurseries grew poorly and failed to become established when transplanted. Field trials were undertaken to assess the efficacy of carbofuran and aldicarb at two doses in controlling the root-knot nematode.

The investigation was made at Tamil Nadu Agricultural University during October-November 1982 and 1983. The experimental plots were in a randomized block comprising five replicated treatments. A local tobacco cultivar Vazhaikappal, was transplanted in 5×4 m plots at 75×75 cm spacing. The nematicides aldicarb 10G and carbofuran 3G were applied at the rate of 1 kg and 2 kg/ha each 15 days after planting. The nematicides were applied around the plants at a depth of 15 cm and in a radius at 5 cm from the plants. Untreated plots were maintained as controls.

Initial soil populations of *M. incognita* were estimated before planting. Root samples 5 g were collected from 5 randomly selected plants in each plot 30, 45 and 60 days after the nematicide treatments. Samples were pooled for each plot and the number of galls with females/g root was assessed for each plot. The crop was harvested at maturity and the fresh tobacco leaf weight was recorded. Final root populations were recorded and data were statistically analysed.

The experimental plots were uniformly infested with root-knot nematode. Nematicidal treatments significantly decreased nematode

root populations up to 45 days after treatment. There was significant increase in tobacco fresh leaf yield in nematicide treated plots with more than 80% at the 2 kg/ha dose (Table I).

Table I - *Control of Meloidogyne incognita on tobacco with non-volatile nematicides*

Treatments	Root populations (females/g root)						Yield kg fresh leaves / plot	
	Days after treatment							
	30		45		60			
Year:	1982	1983	1982	1983	1982	1983	1982	1983
1. Aldicarb 1 kg/ha	101a	31a	93a	47a	163a	103a	7.6a	10.2a
2. Aldicarb 2 kg/ha	79a	36a	100a	54a	152a	97a	6.8a	10.7a
3. Carborufan 1 kg/ha	104a	34a	123ab	47a	156a	126a	7.7a	10.3a
4. Carbofuran 2 kg/ha	92a	25a	110a	39a	163a	122a	7.4a	14.5ab
5. Control	149b	86b	160b	108b	166a	115a	4.8b	7.2b

Column figures followed by different letters are significantly different from each other (Duncan's multiple range test  $P=0.05$ ).

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