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NOTE BREVI - SHORT COMMUNICATIONS

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COMPARISON OF NEMATICIDES APPLIED AS ROOT-DIPS OR SOIL DRENCHES FOR THE CONTROL OF *MELOIDOGYNE INCOGNITA* ON TOMATO

by

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Several different nematicides were assessed for the control of *Meloidogyne incognita* (Kofoid *et* White) Chitw. in a field crop of tomato (*Lycopersicon esculentum* Müll). The roots of 4 week tomato seedlings (Var. S 12) were dipped for 60 min. in aqueous emulsions or suspensions of the nematicides and then planted in the field in 50 plant plots, with five replications of each treatment (Table I). The same nematicides were also applied as soil drenches, 100 ml aqueous solution, at each planting station in another series of replicated treatments (Table I). The density of the nematode population before treatment was 255 larvae per 250 ml soil. Fortyfive days after transplanting 25 plants in each plot were uprooted carefully and the severity of galling assessed on the basis of a root-knot index, 1 = no galling, 2 < 25%; 3 = 25-50%; 4 = 50-75%; 5 = 75-100%; 6 = confluent galling. The remaining plants were uplifted 120 days after transplanting and again assessed for root galling. Fruit was picked on five occasions as it ripened and yields were recorded.

At 45 days after transplanting, oxamyl and aldicarb treatments showed improved root growth compared with all other treatments. At 120 days after transplanting the oxamyl treatments decreased root galling and improved plant growth and yield in comparison with all other treatments; the soil drench application was better than the transplant dips (Table I). Many of the nematicide treatments were phytotoxic.

Table I - *Effect of nematicidal root dips (R) and soil drenches (S) on yield, root-galling and growth of tomato plants in soil infested by* Meloidogyne incognita.

Chemical	Concentration a.i. (ppm)	Mean root length (cm.)	Mean shoot length (cm.)	Root-knot index		Yield ratio
				45 days after transplanting	120 days after transplanting	
Oxamyl	5000 R	36	40	1.0	4.2	1.7
	10000 R	42	48	1.0	3.9	4.7
	5000 S	47	59	1.0	3.7	5.5
Aldicarb	10000 R	33	39	1.0	6.0	1.7
	5000 S	33	41	2.7	6.0	1.8
Dazomet	5000 R	23	28	1.6	5.0	0.9
	2500 S	23	26	3.1	5.0	0.6
Dimethoate	7500 R	30	38	1.7	6.0	0.8
	5000 S	27	30	3.7	6.0	0.7
Oxydemeton-methyl	7500 R	29	36	1.6	6.0	0.5
	5000 S	27	29	3.7	6.0	0.5
Phorate	10000 R	32	37	1.6	6.0	1.3
	5000 S	30	41	2.7	6.0	1.5
Leptophos	10000 R	30	35	2.7	6.0	0.8
	5000 S	31	35	2.6	6.0	0.9
Monocrotophos	10000 R	29	32	1.7	6.0	0.8
	5000 S	30	38	2.6	6.0	1.1
Chlorpyrifos	10000 R	31	31	2.6	6.0	1.2
	5000 S	29	35	3.3	6.0	1.0
Methamidophos	10000 R	24	30	3.6	6.0	0.4
	5000 S	22	25	3.7	6.0	0.8
Untreated	—	28	38	4.3	6.0	1.0

* Ratio of yield to untreated control.

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