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CONTROL OF *MELOIDOGYNE INCOGNITA* ON POINTED GOURD

by
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Summary. Oil cakes incorporated into the soil at the rate of 250 kg/ha significantly suppressed the incidence of the root-knot nematode, *Meloidogyne incognita*, in pointed gourd (*Trichosanthes dioica*). Neem cake was more effective than mahuva or mustard cake in reducing root galling and in protecting fruit yield and compared favourably with carbofuran applied two kg ai/ha.

Pointed gourd, known locally as parwal (*Trichosanthes dioica* Roxb.), is a cucurbit vegetable crop of economic importance in eastern Uttar Pradesh, Bihar, West Bengal. It is susceptible to root-knot nematode (Verma and Anwar, 1993, 1995) and therefore, a study was undertaken to determine the efficacy of oil-cakes compared with carbofuran for the control of *Meloidogyne incognita* (Kofoid *et* White) Chitw.

Material and methods

The trial was undertaken during 1993-1994 in a farmer's field at Bharatkund, Faizabad, India that was infested with *M. incognita*. The field was divided into twentyfive plots (2 x 3m) with 1 m spacing between the plots. Oil cakes of neem (*Azadirachta indica* A. Juss), mahuva (*Madhuca indica* Gmel) and rapeseed (*Brassica campestris* L.) were finely ground and incorporated into the soil at the rate of 250 kg/ha; granular carbofuran was incorporated at the rate of 2 kg ai/ha at planting (beginning of March 1993). There were five replicates of each treatments, including the untreated control. The plots were irrigated daily to enhance decomposition of the oil cakes for two weeks prior to planting, each plot with six healthy vines of pointed gourd. Conventional agronomic practices were undertaken throughout the trial. The trial was terminated after one year with the fruit harvest from March to September 1994. Soil population densities of *M. incognita* were determined before the application of treatments and at the end of trial; five soil samples were taken in each plot to make a composit sample for each plot and nematodes were extracted from a 250 g sub-sample by Cobb's sieving and decanting method with the final separation in a Baermann funnel. The number of plants with galled root system, the number of egg masses per root system and the degree of galling on a 0-5 scale (Taylor and Sasser, 1978) were determined at the end of experiment.

Results and discussion

Neem cake was as effective as carbofuran in controlling *M. incognita* and more effective than mahuva and mustard cakes (Table I). However, mahuva and mustard cake treatments completely suppressed the formation of egg masses. All of the treatments significantly in-

TABLE I - *Control of* Meloidogyne incognita *on pointed gourd.*

Treatment	Final population density of *M. incognita* in 200 cc soil per plot (J2)	% of galled root systems per plot	Galls per root system	Egg masses per root system	Root-knot index	Fruit yield (q/ha)
Control	287	100	214	428	5	22
Neem cake	183	35	34	34	3	26
Mahuva cake	200	64	40	00	4	25
Mustard cake	215	67	40	40	4	24
Carbofuran	167	32	30	00	3	27
C.D. P = 0.05	6.32	4.54	2.12	1.35		0.92

creased the yield of fruits compared with the untreated control, with the highest yields with the carbofuran treatment.

Literature cited

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