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EFFECT OF OILCAKES ON THE INCIDENCE OF ROOTGALLS AND THE YIELD OF BHINDI IN NEMATODE-INFESTED SOIL

Control of the rootgall nematodes, *Meloidogyne* spp. infesting crops especially vegetables is a serious problem throughout the country. High cost of the chemicals as well as their deleterious effect on the soil microflora and fauna prevent the adoption of chemical control as a popular method. Use of soil amendments like oilcakes, sawdust, greenmanures and crop residues for suppressing rootgall nematodes was reported effective by several workers (Mankau and Minter, 1962; Mankau, 1963; Singh, 1965; Singh and Sitaramaiah, 1966, and 1971). The present paper reports the results of the field trials conducted to determine the efficacy of locally available oilcakes in reducing losses from rootgall nematodes of bhindi in Kerala. The experiment was conducted in a field severely infested with *Meloidogyne javanica* in which bhindi had been grown during the past two years, using a randomized block design with three replications for each treatment. Oilcakes of coconut (*Cocos nucifera*), groundnut (*Arachis hypogea*), maratti (*Hydnocarpus wightiana*), neem (*Azadirachta indica*), sesamum (*Sesamum orientale*), castor (*Recinus communis*), calophyllum (*Calophyllum inophyllum*) and mahua (*Bassia latifolia*) were used as organic amendments at the rate of 25 q/hectare. The oilcakes were powdered and mixed with the soil three weeks before planting the crops. Results were assessed in terms of the weight of fruits, height of plants and the weight of rootgalls. Root glass were collected after the final picking of fruits.

Results are given in Table 1. There was significant reduction in the intensity of rootgalls due to the application of different oilcakes, although their comparative efficacy varied. The incidence of the rootgalls was minimum in plots amended with mahua cake, which was followed by groundnut cake. Highest yield was obtained from plots amended with groundnut cake.

Eventhough there was significant reduction in the number of rootgalls in plots received mahua cake, the yield and the height of plants were comparatively low than the other cakes. This may be due to the low manurial value of mahua cake especially in the nitrogen and phosphorus content and the nutrients are also not easily available to the crop due to its slow decomposition in the soil since it has got high C:N ratio. Sharma *et. al.* (1970) reported that because of the high C:N ratio, mahua cake does not favour the crop taken immediately after its application.

Table 1

Treatments	Height of plants cm	Weight of fruits grn	Weight of rootgalls grn
Coconut	103.28	548.33	3.23
Groundnut	115.66	834.50	1.53
Marotti	108.66	650.83	2.07
Mahua	86.16	413.00	1.00
Calophyllum	114.16	586.66	2.42
Sesamum	313.50	813.75	2.82
Castor	102.66	437.66	2.44
Neem	101.33	759.92	2.52
Control	78.08	315.92	3.54
	Not sign.	sign*	sign*

*Significant at 1 per cent level.

Since many of the oil cakes are animal feeds and not available as manures, it may be seen from the present studies that soil application of mahua cake which is the cheapest among all the oil cakes tried, if supplemented with necessary fertilizers to meet the nitrogen and phosphorous requirement of the crop may be effective in getting a good crop of bhindi with minimum damage to the root system. Moreover, the organic amendment leaves enough residual effect to keep the nematode infestation under check in the succeeding crop as well.

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