

effectively suppress the nematode population.

- Crop rotation with paddy, sugarcane, green gram, sunhemp or cotton helps in reducing the nematode population.
- Growing antagonistic plants namely *Tagetes erecta*, *T. patula* and *Crotolaria juncea* as an intercrop in banana field drastically reduces the nematode population (Fig. 5).



Fig. 5
Intercrop with tagetes

- Application of neem cake @ 250g/ plant at planting and second after four months helps in suppressing the nematode population.
- Paring corm surface by trimming away necrotic lesions and immersing it in hot water at 50-55° C for 30 minutes are effective to render the nematode free planting materials.

Using the biological agents such as *Trichoderma*, VA mycorrhiza, *Glomus fasciculatum* and bacterium, *Pasteuria penetrans* are recommended to control nematodes on banana

Application of Carbofuran @ 20g/plant at planting and two applications @ 20g/plant at three monthly intervals is

recommended for the effective control of nematodes (Fig. 6).



Fig. 6

- When tissue culture plants are planted apply 10g of Carbofuran @ planting and 20g / plant @ third and fifth months of planting

Host reactions

- Cavendish cultivars like Robusta, Grandnaine, Poovan, Rasthali, Ney poovan, Red banana, Virupakshi and Nendran are susceptible. Varieties like Karpooravalli, Monthan Nattupoovan, Kunnan, Pey kunnan, and Pidi Monthan exhibit field tolerance.

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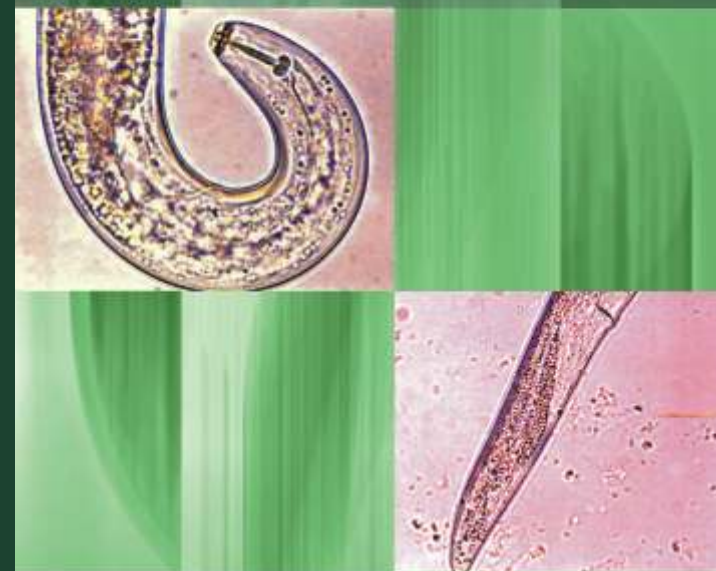
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Root-lesion nematode of Banana

Extension Folder # 5



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Root-lesion nematode

Pratylenchus coffeae (Zimmerman, 1898),
T. Goodey, 1951

The root-lesion nematode, *Pratylenchus coffeae* is one of the important nematode pests on banana (Fig. 1). In India, crop losses caused due to *P. coffeae* in banana cv. Nendran was reported to be 45 per cent.



Head

Tail

Fig. 1

Distribution

The root-lesion nematode, *Pratylenchus coffeae* is reported from banana growing regions throughout the world almost equal to that of *Radopholus similis*. In India, the nematode is known to occur on banana and plantain in South India, Gujarat, Orissa, Bihar and Assam. *P. thornei*, the other important species was found to infest banana from Assam only. *P. goodeyi* the other species occasionally found associated with banana in Africa, had very limited distribution.

Survival and Spread

The lesion nematode can survive in moist soil for eight months in the absence of host

plants. The nematode also spreads like burrowing nematode from one locality to another through planting material as well as through water that drains from infested areas.

Biology

The root-lesion nematode is a migratory endoparasite, which complete its life cycle in about 27-32 days at 25-30°C. All larval stages and adult stages are infective.

Symptoms

The symptom which produced by root-lesion nematode is very similar to *Radopholus similis* causing extensive black/purple necrosis of epidermal and cortical root

tissues resulting in lesions and snapping of roots. Nematode infested and healthy suckers are seen in Fig.2



Healthy Root System

Infected Root System

Fig. 2

Necrotic nematode lesions also found on the corm (Fig 3). Damage on the corm and reduction of the root numbers lead to stunting of plants decreased bunch weight,

lengthening of the production cycle, and toppling of plants easily.



Sunken lesions on corn

Lesions on the root epidermis

Fig. 3

Interaction with other pathogens

The damage top roots caused by the nematode, predisposes banana plants to fungal and bacterial wilt diseases (Fig. 4).



Fig. 4

Integrated nematode management

- Following the land for three months after banana harvest and summer ploughing