

Burrowing nematodes in banana

Radopholus similis banana burrowing nematodes



Microscopic banana nematode with a stylet that penetrates and damages the banana roots (John Bridge/CABI BioScience)



Fallen bananas due to root damage by nematodes (Helen Tsatsia & Grahame Jackson)



Sliced-open nematode infected banana roots showing necrosis at the edges (CABI)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> • Fallow the land prior to planting for a period of at least 6-12 months to reduce potential nematode populations, or at least plough deeply in summer to expose nematodes to heat and desiccation • Cover the soil with a clear polyethylene sheet for a month during hot weather to kill some nematodes • Use nematode-free tissue-cultured planting materials from a guaranteed source like DARS or from certified nematode free nursery blocks • Clean and pare conventional planting materials before planting • Apply plenty of well – decomposed compost from non–banana plants into the soil of banana plantation, as nematodes do not like this • Avoid movement of planting materials and soil as well as run off of irrigation water to prevent spread of nematodes. They can only move few metres in the soil per year • Rotate for 2-3 years with non-banana crops such as rape and marigold flowers. Note that citrus may also host nematodes on their roots 	<ul style="list-style-type: none"> • Nematodes are invisible tiny worms living in the soil and roots that spread with soil and planting materials • Arrange for a soil and root analysis prior to a new plantation to identify nematodes. At a threshold of 1-5,000 nematodes per 100g soil-root mix, decide on action or do not plant banana in the considered plot • Look out for single stunted plants on smallholder farms, or groups of stunted plants in larger plantations • Observe banana plants that are growing slowly and reach fruiting stage late due to limited root capacity to absorb water for the for plant growth • Remove some soil and look for cankers on the roots. Cut some roots and observe necrosis on the inner edges of the cut root to confirm nematodes. Consider green direct control • Then check for fallen bananas, especially the older ones, and take action when 2-3 plants start to fall or have fallen. Don't confuse with the banana weevil where the plant starts to lean as the stem becomes weaker 	<ul style="list-style-type: none"> • Support infected plants with wire or hooked post to prevent falling over and assure at least some harvest • Spray chilli fruit solution around the base of the remaining standing plants at a rate of 50mg/ 10 litres of water per plant • Leave pulled out rhizomes of fallen plant in the sun for 14 days to reduce the nematodes 	<ul style="list-style-type: none"> • There are no recommended chemicals to control burrowing nematodes in bananas 	



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