



**Figure 1.** Adult female *Pratylenchus goodeyi* (a) various tail ends (b, c, d), female tail with posterior vulva (e), male tail with spicule (f), roots sliced lengthwise with reddish brown lesions in coital tissue (g), toppling of mature banana plants (h) Photo credits: W. O'Neill (a - f) T. Pattison (g, h)

**Common names:** Lesion nematode

**Classification:** K: Animalia, P: Nematoda, C: Secernentea, O: Tylenchida, F: Hoplolaimidae

*Pratylenchus goodeyi* is an important pathogen of bananas and is widely distributed on bananas in every growing area of East Africa suggesting it is indigenous to this area. In Africa, it has been limited to the cooler, higher elevation zones of Central, Eastern and West Africa. However, it has lately been found in hot costal areas of Africa and may become a key nematode pest on bananas in these areas. It has also been found on bananas in Canary Islands, Maderia, Crete, Egypt and has been identified from many banana plantations in northern NSW, Australia.

**Lifecycle:** *P. goodeyi* is a migratory endoparasite that invades the cortical tissue of roots causing reddish-brown lesions to form as they feed from cells as they migrate. The stele of the roots is not attacked by the nematodes. Nematodes of both sexes and all juvenile stages are invasive. The life cycle is completed within 24-30 days within the root, however, nematodes can be found in the soil from around infected roots where they can survive for some time.

**Host range:** *P. goodeyi* is an important pathogen of bananas, and in fact this nematode species may be restricted to bananas.

**Symptoms and Impact:** This nematode causes the same damage to bananas as is caused by *Radopholus similis* – the major plant-parasitic nematode pathogen of bananas worldwide. The feeding of these nematodes in the cortical tissue destroys the root and the root function is severely impaired. Symptoms include cortical necrosis identified by reddish-brown lesions seen when the root is cut lengthwise. The damage to the root system leads to poor plant growth, reduction in bunch weight, lengthening of the vegetative cycle, and often toppling or uprooting of the plant.

**Identification:** Typical of the genus, *P. goodeyi* is a slender nematode with an annulated lip region, a strong spear with large basal knobs and an oesophagus that overlaps the intestine ventrally. Females of this species have a posterior vulva at 73-75% and males are common with paired, slender spicules and with the bursa enveloping the tail. The tail is conoid with a small irregular peg which is a very good distinguishing feature of this species.

**Management and control:** The control measures for *P. goodeyi* are the same as those adopted for controlling burrowing nematode in bananas. Clean planting material should be used when establishing a planting of bananas as infective planting material is the main means of dissemination of the nematode. Infected banana stools, rhizomes, corms and roots should be removed and destroyed before a fallow as a lengthy fallow will only be effective in the absence of host roots or pieces of live corms. Chemical nematicides may be used, but these are toxic to the environment and often too expensive for the small landholder to consider.

**Further Reading:**

- Machon, J. E. and Hunt, D. J. (1985) *Pratylenchus goodeyi*. CIH Descriptions of Plant-parasitic Nematodes Set 8, No. 120.
- Coyne, D. & L. Waeyenberge (2008) Plant-parasitic Nematodes Affecting Banana and Plantain in Africa: A Shifting Focus? Proceedings of the 5th International Congress of Nematology, Brisbane, Australia. pp 64
- Bridge, J., M Fogain, R., & Speijer, P. (1997) The Root Lesion Nematodes of Banana. Musa Fact Sheet No.2

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