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## HOSTS OF THE BANANA ROOT-LESION NEMATODE, *PRATYLENCHUS GOODEYI* IN EAST AFRICA

by

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**Summary.** Four crop plants, one agroforestry plant and nine weeds are reported as hosts of *Pratylenchus goodeyi* in a banana plantation in Kenya.

*Pratylenchus goodeyi* Sher et Allen is an important nematode pest of banana in east Africa (Gichure and Ondieki, 1977; Walker *et al.*, 1983; Bridge, 1987). Of the 77 species of plants screened, this nematode multiplied on the weeds *Commelina benghalensis* L. and *Hyperrhenia rufa* Stap., a medicinal plant, *Plectranthus barbatus* Ben., and a fodder crop, *Tripsacum laxum* Scribn. et Merrill, besides *Musa* spp. (Mbwana, 1992). In the present study an attempt was made to determine the host status for *P. goodeyi* of common weeds present in banana plantations, as well as in rotation, inter, break and cover crops common to banana-based cropping systems in western Kenya.

A large banana field situated at Oyugis, western Kenya, infested with 20,000 *P. goodeyi*/100 g banana root, was selected for this study. The roots of 50 plants of each of the weed and crop species were collected, washed free of soil and cut into 2-5 mm sections. The root segments were mixed and nematodes extracted from three 10g subsamples of each plant species using a modified Baermann dish.

Four crop plants, one shrub and nine weeds supported populations of *P. goodeyi* (Table I)

TABLE I - *Pratylenchus goodeyi* recovered from weed and crop plants in a heavily infested field of bananas in Kenya.

Plant species	No. of <i>P. goodeyi</i> / 100 g root
<b>CROP PLANTS</b>	
<i>Sorghum bicolor</i> (L.) Moench (cv. Hybrid 6)	1080
<i>Zea mays</i> L. (cv. Hybrid 512)	1577
<i>Solanum tuberosum</i> L. (cv. Annette)	1467
<i>Lycopersicon esculentum</i> Mill (cv. Money maker)	583
<b>AGROFORESTRY PLANT</b>	
<i>Leucaena leucocephala</i> (Lam.) De Wit	1883
<b>WEEDS</b>	
<i>Bidens pilosa</i> L.	880
<i>Digitaria scalarum</i> (Schweinf.) Chiov.	1187
<i>Commelina benghalensis</i> L.	2157
<i>Leonotis mollisina</i> Gürke	640
<i>Solanum incanum</i> L.	933
<i>S. nigrum</i> L.	1270
<i>Cynodon</i> sp.	3380
<i>Tridax</i> sp.	446
<i>Cyperus esculentus</i> L.	537
LSD	1269

confirming the reports of Mbwana (1992) that besides *Musa* spp., *C. benghalensis* L. is a good host of *P. goodeyi*. Our results suggest that *P. goodeyi* has a wider host range than previously reported. Inter or rotation crops as well as some common weeds, acting as hosts of *P. goodeyi* in banana fields affect some of the rotations recommended for the control of the nematode before planting with bananas (Mbwana, 1992). Although the number of *P. goodeyi* recorded in the weeds was relatively low in comparison to banana, these plants are alternate hosts of the lesion nematode and should be examined before planting new fields with nematode free bana-

na planting material (e. g. derived from tissue culture).

### Literature cited

- BRIDGE J., 1987. Plant nematode pests of banana in East Africa with particular reference to Tanzania. Proc. Worksh. in Bujumbura, Burundi, 7-11 December, 1987, 35-37 p.
- GICHURE E. and ONDIEKI J. J., 1977. A survey of banana nematodes in Kenya. *J. Plant Diseases Protec.*, 84: 724-728.
- MBWANA A. S. S., 1992. Host-range and survival of the lesion nematode, *Pratylenchus goodeyi* Sher and Allen, and its control in bananas. Ph. D. Thesis. Kenyatta University, Kenya, p. 138.
- WALKER P. T., BRIDGE J. and HABBLETHWAITE M. J., 1983. Project for banana pest control and improvement in Tanzania. EEC Report for Government of Tanzania, 141 p.