Pacific Pests, Pathogens, Weeds & Pesticides - Online edition

Root knot nematodes (127)

Summary

- Worldwide distribution. In tropics and sub-tropics. Several types. On many vegetables (beans **(see Fact Sheet no. 127**), capsicum, carrot, celery (**see Fact Sheet no. 254),** cucumber, eggplant, ginger, lettuce, potato, tomato and yam), fruit crops (melon, papaya, pineapple), ornamentals, and weeds. Important pests.
- Plants become yellow, stunted, and wilt. Characteristic galls on the roots ('knots').
- Eggs laid in soil, worm-like young females enter the roots to feed and lay eggs, causing cells to swell.
- Spread occurs in soil water, on tools, footwear and machinery, and over long distances in plant roots, especially in the trade in vegetable seedlings and ornamentals.
- Cultural control: resistant varieties; pasteurised soil or use soilless mixes; crop rotation; fallow periods (4-6 months); soil solarisation (4-6 weeks); manures and composts; marigold fallows.
- Chemical control: none recommended.

Common Name

Root-knot nematodes

Scientific Name

Meloidogyne incognita and other species.

Photo 1. Galls on the roots of *Phaseolus* bean caused by *Meloidogyne* species.

Photo 2. As in Photo 1, galls of *Meloidogyne* sp. on *Phaseolus* bean. Note the galls on the roots of the two plants on the left with smaller root mass compared to the healthy plant on the right.

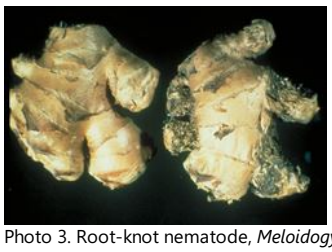

Photo 3. Root-knot nematode, *Meloidogyne* sp., on ginger. Note that the damage is on the young buds, and that the decay has probably occurred in storage. A healthy rhizome is on the left.

Photo 4. Root knot nematode, *Meloidogyne* species) galls on parsley.

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Information from CABI (2014) Meloidogyne incognita (root-knot nematode). *Invasive Species Comperndium.* (https://www.cabi.org/isc/datasheet/33245/); and information (and Photo 4) from *Diseases of vegetable crops in Australia* (2010). Editors, Denis Persley, *et al.* CSIRO Publishing. and information (and Photos 1&2) Gerlach WWP (1988) *Plant diseases of Western Samoa.* Samoan German Crop Protection Project, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) Gmbh, Germany.

Photo 2 John Bridge, Tropical Plant Nematology Advisor, CABI Bioscience, Egham, UK. Produced with support from the Australian Centre for International Agricultural Research under project PC/2010/090: *Strengthening integrated crop management research in the Pacific Islands in support of sustainable intensification of high-value crop production*, implemented by the University of Queensland and the Secretariat of the Pacific Community.

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