



Fig. 1. (a) *Pratylenchus brachyurus* eggs, J2 and adult females in sterile water; (b) Close-up of an adult female showing the stylet (S) at the anterior end and the vulva (V) and the tail (T) at the posterior end; (c) Adult female within a coffee plant root cortex (black arrow).

Common Name: Root lesion nematode (RLN)

Disease: Ill-thrift (peanuts); Root lesion

Classification: K: Animalia P: Nematoda C: Secernentea O: Tylenchida F: Pratylenchidae

Pratylenchus brachyurus infects peanut roots and causes yield and quality losses to the Australian Peanut industry. It also infects *Ananas comosus* var. *comosus* (pineapple) which is a problem for all pineapple growing districts in Queensland. It is parasitic on coffee and impacts coffee production in Vietnam.

Biology and Ecology:

P. brachyurus females lay eggs within the plant root host.. All stages from J2s to adults are vermiform and motile. Males are very rare to be seen. Soil populations decrease at low temperatures (5-8°C) while at soil pH values 5.0 -7.3, their populations are unaffected. In peanuts, small lesions appear on the roots, pegs and shells. Symptoms are stunting and the discolouration of the pods leading to the crop not achieving nut-in-shell quality for the market. In pineapple, it decreases plant growth, delays leaf emergence and causes yellowing of the leaves. Similar symptoms to *Pratylenchus coffeae* infected coffee plants are observed in *P. brachyurus* infected coffee plants. In addition, *P. brachyurus* with soil borne organisms manifest as disease complexes in plants such as *Phytophthora parasitica* in tobacco and *Fusarium solani* in coffee.

Impact:

Australia produces about 0.2 per cent of the world's peanuts and it is a source of high oleic. Growers use peanuts as a nitrogen (N)-fixer in rotation with sugarcane, cotton and cereals. Queensland's pineapple production represents 99.9% of the national total of 71,782 tonnes. In Vietnam, *P. brachyurus* was reported on coffee in 2001, but its damage is much less important than *P. coffeae*.

Host Range:

In addition to peanut, pineapple and coffee, it also infects the roots of peach, cotton, soybean, tobacco, rubber, potato, maize, cowpea, several citrus species and various weeds such as *Amaranthus blitoides* S. Wats..

Distribution:

It is found primarily in the tropics and subtropics worldwide. It is widespread in Australasia. Though less commonly reported than *Pratylenchus neglectus* and *Pratylenchus thornei*, *P. brachyurus* has been found in wheat cropping regions of southern Australia and in coffee area of Tropical North Queensland.

Management options:

Soil/root sampling is important for monitoring and for the management of *P. brachyurus* population in soil. In Australia, commercial pre-season testing of soil by Predicta-B™ for *P. neglectus* and *P. thornei* can be done but none is available for *P. brachyurus*. In peanut and pineapple crops, there are no commercial varieties with useful levels of resistance to *P. brachyurus*. Since peanuts are used as a nitrogen (N)-fixer in rotations with other crops, growers should be careful when selecting rotational crops. In Vietnam, growers should be careful of plant species used for intercropping with coffee.

Further Reading: Bell et al. (218) *Phytopathol.* 108 (5): 641-650; Goods et al. (1958) *Phytopathol.* 48:530-5; Hodda and Nobbs (2008) *Australasian Plant Pathology* 37 (3):308-317; Riley and Kelly (2002) *Australian Journal of Experimental Agriculture* 42: 49-56; Riley and Wouts (2001) *Transactions of the Royal Society of SA* 125: 147-153; Whitehead AG, (1969) *Nematodes of tropical crops*, 40:238-250.;

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