

Pratylenchus penetrans

Synonyms

None

Plant hosts

Studies show that over 500 hosts worldwide are affected by this migratory endoparasite. *Pratylenchus penetrans* is known to infect flowers, fruits, grains, legumes, grasses, pomes, stone fruits, nuts, vegetables, weeds, and more. *P. penetrans* is the third most important agriculturally damaging nematode.

Symptoms

The principal symptom of *P. penetrans* activity is the presence of distinctive elliptical, necrotic lesions on host plant feeder roots, with a suppression of root and shoot growth with high levels of infection. Other species of the genus may also cause lesions but the discoloration may be less intense. The lesions, sometimes described as resembling 'cat scratches', usually appear as discolored yellowish to brownish elongate marks parallel to the long axis of the root. They are formed as the nematode tunnels along a series of cortical cells, moving through the end-walls from cell to cell and feeding on the contents.

Roots damaged from severe feeding are generally discolored, frequently yellow-brown or 'rusty'. Root systems affected by the nematode may show either 'witches-broom' (clusters of proliferated feeder roots) or feeder roots may be sparse in comparison with normal root systems as a result of killing the root-terminal meristem.

Aboveground, plant organs do not show symptoms specific to this nematode. Commonly, leaves will appear chlorotic (pale-green to yellowish), plants will be stunted and weak with a tendency to wilt in drought situations, and fruit may be undersized. Field and vegetable crops may exhibit patches of plants with poor growth and reduced yields. Symptoms such as twig dieback can be caused by *P. penetrans*, but may also be caused by other pathogens. Likewise, secondary root rots may result from the invasion of bacteria or fungi into entry wounds left by the nematode. Premature senescence of plants can also result from *P. penetrans* attack, but is not specific.



Image provided by Dave Powell USDA Forest Service

Transmission

Root lesion nematodes can be transmitted by movement of infected soil, water, and plant material. Dirty farm machinery can disperse nematodes from infested fields to noninfested fields. Propagation materials such as infested seeds, bulbs, tubers, cuttings, and transplants can also transmit this root lesion nematode.

Geographic distribution

Pratylenchus penetrans is distributed worldwide especially in coarsley textured, sandy soils. *P. penetrans* is most commonly found in temperate climates.

Applicable regulations

Root lesion nematodes are a pest of concern to Oregon's interstate and international customers. Nematode testing is available through the Commodity Inspection Division.