

Efficient management: Nematodes in vegetable crops

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Vegetable gardening is a prevalent activity for many people in urban and rural area. In addition to being enjoyable, the vegetables just look to taste best when they are home grown. Inappropriately, human being is not the only individuals who eat vegetables. Most gardeners have had the knowledge of putting hours of hard work into a garden expecting a bountiful harvest only to have it lost due to some problem. They may be things we can see, such as birds, rabbits or insects along with they may be imperceptible, too small to be seen. Due to warm temperatures, sandy soil, and humidity, India has more than its fair share of microscopic pests and pathogens. Plant-parasitic nematodes can be among the most damaging and hard-to-control of these organisms.



Fig. Root knot nematode of tomato crop

Methods to control nematode problems on vegetable crops comprise avoidance, disease resistance, sanitation, and cultural and chemical measures. Preliminary management efforts should be focused on avoiding the introduction and dispersion of nematode pests to new fields. Important nematode species vary by crop, geographic area, and soil type. Plant parasitic nematodes are non-segmented roundworms and obligate parasites, need living plant tissue to raise

and reproduce. Plant parasitic nematodes often endure as eggs in the soil or plant tissues. Most are soil borne, feeding on or in plant roots, but some take over and feed on above-ground plant system, including stems and leaves. The nematodes that generally cause problems on vegetable crops such as root-knot, dagger, spiral, lesion, stunt, lance, stubby-root, cyst, stem, pin and needle nematodes. These nematodes differ in their geographic distributions and host varieties and differ in their preferences for certain conditions such as soil types and optimum temperatures.

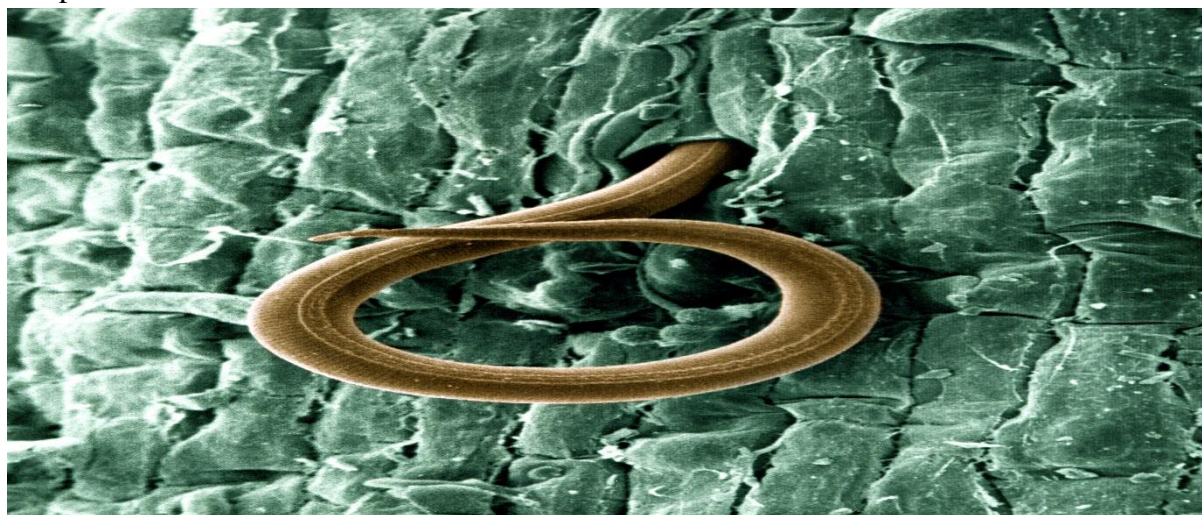


Fig. Root knot nematode

Root-knot nematodes are widely-spread, normally occurring, and often the most harmful nematodes on vegetable crops. There are more than 100 species of root-knot nematodes exist, and their host variety includes agronomic, fruit, vegetable, grass, and weed variety. Once plant parasitic nematodes are existing in a field, they are difficult to eradicate. Hence, the first management technique is to avoid fields with a history of nematode complications and undertake energies to prevent dispersion of nematodes from infested to non-infested field areas.

Plant pathogenic nematodes commonly do not transfer far on their own, often, less than six inches per year. Though, they can be transported over longer distance in anything that makes contaminated soil or infested plant tissue, such as transplants, nursery stock, machinery, animals and water flowing through a field. Cleanliness of field equipment and planting non-infected seedlings will limit the dispersal of the nematodes.