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Learn about Nematodes to Identify Potential Turf Problems

According to University of Florida research, nematodes can be either endoparasitic or ectoparasitic. Endoparasitic nematodes typically live inside the root tissue of a plant. To feed they insert a needle-like mouthpart called a stylet into the root tip to inject plant digestive fluids. These digestive enzymes form specialized feeding sites that cause the affected root tissue to swell, allowing the nematode to feed on the root tissue. As the nematode feeds and matures, they lose their worm-like shape and turn more round or pear shaped as they swell with eggs. . The root knot nematode is endoparasitic and is most commonly found on vegetable roots, causing them to knot, which blocks water and nutrient translocation in the plant. This "knotting" of the roots is actually caused by either the swelling nematode and/or the specialized feeding site.

The ectoparasitic nematode is different in that it can insert its body into the root and injest the nutrients it needs to survive. The major ectoparasitic nematode that causes damage to turf is the sting nematode. To determine if nematodes exist, Nematode Assay Kits for testing are available through the UF/IFAS Extension service.

Ectoparasitic nematode injecting stylet into root tip

Nematodes prefer sandy soils, and since most soils have a certain amount of nematodes, determining the kind of nematode and the population levels is very important when identifying possible causes for turf and/or ornamental damage. Visual symptoms of nematodes damage on sports turf first appears as drought stressed/yellowing appearance. Nematodes typically cause more noticeable damage to turf that is cut low (as a golf green, tee, or fairway) due to the lesser amount of root zone on highly managed, low cut turf, as compared to higher cut home lawns. If these symptoms are noticed, first check the irrigation system for any heads that may not be reaching to eliminate drought as a cause. Fortunately, not all nematodes are bad. In fact, most nematodes are beneficial, feeding on microorganisms in the soil. For more information on nematodes contact your local Extension office or click on the link below.

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