NEMATODES

Nematodes are minute, worm-like animals, often less than two millimeters long. Because of their size, and their parasitic nature on plants, they are often grouped with plant diseases. Most nematodes are harmless, even beneficial organisms in the soil water, but two types commonly parasitize ornamental crops: root-feeding and foliar nematodes.

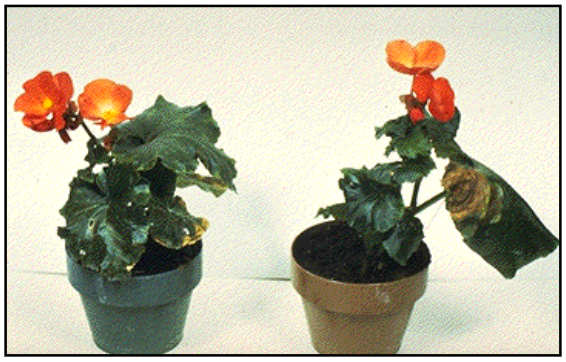
There are several species of root-feeding nematodes that cause stunting, lack of plant vigour, knots, galls, and lesions on roots. Sometimes when roots are damaged by nematodes, other pathogens are able to enter the host more easily. This often occurs with *Fusarium* and *Verticillium* wilts, *Pythium, Rhizoctonia*, and *Phytophthora* root rots.

Foliar nematodes (*Aphelenchoides* spp.) feed on the outside of young foliage, stems, and buds, causing curling, twisting, and stunting damage to new growth. They can also crawl into the leaf where they cause yellow areas that turn brown. Veins limit affected areas. Leaves later dry up, turn brown, and hang down.

Nematodes have also been known to transmit plant viruses. When they feed on an infected plant, they pick up the virus and can carry it for up to three months. If they feed on another plant the virus is transmitted.

Life Cycle

Nematodes are soft-bodied, tubular, less than 2 mm long, and most abundant within the first 15 cm below the soil surface. The female lays eggs where she is feeding, and the larvae feed, going through four moults and completing their life cycle within 3 to 4 weeks. They may go into a



J.W. Potter

Foliar Nematode Damage on *Begonia*

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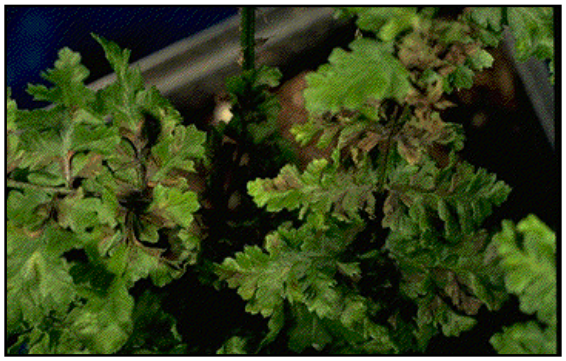
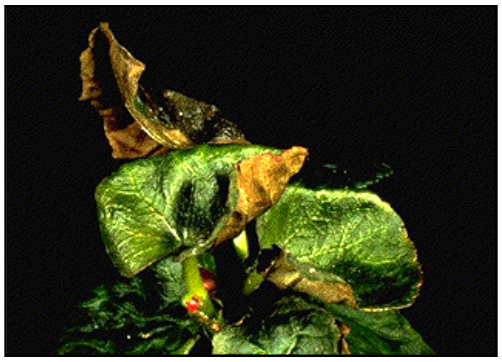
Foliar Nematode Damage on *Begonia*



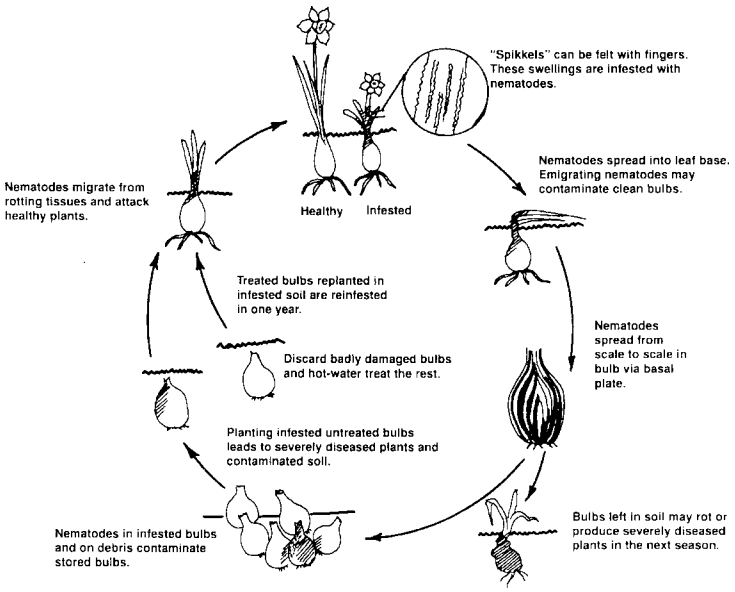
R. Byther

Foliar Nematode on Fern



Foliar Nematode Damage on *Begonia*

Bulb Nematode Life Cycle



dormant stage if conditions are unfavourable, remaining in the soil for many years. Transmission is through soil and plant roots, as well as through films of water on leaves. In unfavourable conditions, they can remain dormant for long periods of time. Nematodes are not present in soilless media unless it has been contaminated.

Control methods include crop rotation, resistant varieties, soilless rooting media, and heat or chemical treatment.

Look for knots or galls on roots, brown lesions on roots or dark watery rotted areas on leaves.

Hosts

Foliar

Ageratum

Anemone

Anthurium

Begonia

Coleus

Cyclamen

Heuchera

Hibiscus

Hosta

Impatiens

Iris

Ligustrum

Lilium

Narcissus

Orchids

Pelargonium (geranium)

Phlox

Rhododendron

Saintpaulia

Salvia

Sinningia (gloxinia)

and others