Nematodes

Northern Root Knot [*Meloidogyne hapla*]

Peanut Root Knot [*M. arenaria*]

Lesion [*Pratelenchus brachyurus*]

Ring [*Criconemella ornata*]

Sting [*Belonolaimus longicaudatus*]

Nematodes cause stunting, wilting, and yellowing of above-ground portions of the plant. Damage is often seen in clusters within a field. Depending on the nematode species, root systems may be stunted, and pods and roots may have small lesions. Nematode damage can increase susceptibility to black root rot (CBR).

Root-knot nematodes cause galling on roots, pegs, and pods. The Northern root knot nematode (see photo above) is the species most commonly found on peanut in North Carolina. The galls caused by this nematode are similar in size to root nodules. These galls appear as irregular thickenings in the root and can be distinguished from nodules, which are round and found attached to the sides of the root. The root system may have a bushy appearance, and pods may have round lesions about the size of a pinhead. The peanut root knot nematode is much less common and causes large swellings or galls on roots, pegs, and pods.

Planting crops that do not support the reproduction of nematodes reduces their numbers. Long rotations are the most effective method of controlling nematodes and can be used instead of nematicides. The best rotation crop varies with the nematode species found. Corn, cotton, sorghum, and small grains are good rotation crops for prevention of northern root-knot problems. Soybeans are a poor rotation crop in general and will make nematode problems worse. Conservation tillage appears to reduce nematode numbers slightly.

Checking pods and roots for galls immediately after digging, particularly in areas where plants were yellow or stunted, may indicate where root knot problems are present. Fields to be planted to peanuts should be sampled for nematode populations in the previous fall (September through November). Twenty probes (1 inch in diameter to an
8-inch depth in the row) should be taken for each sample, with one sample to each 4 or 5 acres. Samples will be more representative of the field if the soil is mixed by disking before samples are collected.

Take samples in a zigzag pattern across the field. Divide fields requiring more than one sample according to the row direction so that you can target infested areas for nematicide treatment if necessary. To prevent decomposition, keep nematode samples cool (50 to 60 degrees) and give them to your county agent or send to the North Carolina Department of Agriculture and Consumer Services Nematode Advisory Service as soon as possible. See the NCDA & CS Web site for further information at http://www.ncagr.com/agronomi/nemhome.htm

Fields that are below threshold levels (A category) need no control procedures. Fields that are B category are borderline cases; treatment may give a return on control investment, but probably will not. C-category fields are above threshold levels and should be treated.

**Peanut roots infected with the peanut root knot nematode**

Nematodes are often found in spots or small areas of fields. Treat individual fields or parts of fields instead of the entire crop. Fumigating with metam sodium for CBR control or applying aldicarb (Temik) in the furrow at planting for foliar insect control may help reduce nematode populations, but higher rates may be needed to control nematodes in C-category fields. Never leave granular nematicides or insecticides on the soil surface. Always incorporate, particularly at the row ends, to avoid bird kills.

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