



ANR-1012

Plant Disease Notes Root-Knot Nematode In Cotton

knot nematodes. But few if any commercial varieties are completely immune to cotton root-knot nematodes. Plant tolerant cotton varieties in fields where cotton root-knot nematodes are found.

- Crop rotation is effective in managing cotton root-knot nematodes. Certain grass crops or pastures, grain sorghum, and peanut can effectively reduce cotton root-knot after a 2 to 3 year period. Corn is a questionable non-host crop since many corn hybrids are susceptible to root-knot nematodes and

may actually increase their populations. If corn is used in a rotation plan, make sure the hybrid has some resistance to root-knot nematodes.

- Use nematicides in fields where root-knot nematodes cannot be managed by tolerant cotton varieties or rotation. Certain nematicides are cost effective in heavily root-knot infested fields.

- Land fallow is also effective in reducing root-knot populations, but weeds must be controlled.

Root-knot nematodes rank second to reniform nematodes in damage to cotton in Alabama. Only the cotton root-knot nematode (*Meloidogyne incognita*, races 3 and 4) attacks cotton. Other root-knot species such as the peanut root-knot, northern root-knot, and javanese root-knot do not attack or reproduce on cotton.

Although cotton root-knot nematodes may be found occasionally in north Alabama, they are most common in central and south Alabama. Root-knot nematodes are restricted primarily to sandy soils. Yield losses to cotton root-knot nematodes can range from as little as 10% to over 75%, depending on soil type and prevailing weather conditions. In sandy, droughty soils, losses can approach 80%.

Symptoms. Root-knot nematode damaged cotton appears as localized areas of stunted plants due to the uneven distribution of root-knot nematodes in the field. Fusarium wilt often occurs in association with root-knot infestations. Localized infested areas are generally oval in the direction of the rows and may range in size from a few feet to over a hundred feet in diameter.

If affected cotton plants are dug up and the soil carefully removed so the secondary roots are left intact, small swellings can be seen on the primary and secondary roots.

Since the Plant Diagnostic Laboratory here at Auburn does not identify root-knot nematode to species, **it is important to include information regarding the field's cropping history.** Whenever possible it is also very important to **check cotton roots in the suspect field for gall or root swellings.** Their absence or presence is the best indication whether or not cotton root-knot nematodes are present.

Persistence And Transmission. Vetch, corn, soybean, tobacco, and many vegetables (especially legumes) are good host crops for root-knot nematodes and will maintain or even increase populations.

Susceptible weed hosts include Johnsongrass, pigweed, yellow and purple nutsedge, goosegrass, bermuda-grass, sicklepod, cocklebur, cowpea, ground cherry, lambsquarter, teaweed, and smartweed. Winter grass crops such as wheat, oats, barley, and rye are also hosts but root-knot does not reproduce well on them since they are grown during the winter months. Peanut is a non-host to cotton root-knot nematode.

Control. Root-knot nematode is best controlled by using the following strategies:

- Use resistant or tolerant varieties. Most commercial cotton varieties have some tolerance to cotton root-



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Use chemicals only according to the directions on the label. Follow all directions, precautions, and restrictions that are listed.

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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