

Plant Disease Notes

Reniform Nematode In Cotton



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cleaned thoroughly before entering "clean" fields. Farm workers, cotton scouts, and other farm personnel should also make certain that all soil has been removed from their shoes upon leaving a reniform infested field.

- Nematicides are the best and most efficient means for controlling reniform nematodes in fields infested with reniform nematodes. Aldicarb at the higher recommended rates and

1,3-dichloropropene both provide economical return in infested fields.

- Crop rotation is also effective in reducing reniform nematode populations. One year in grain sorghum was as effective as a nematicide in controlling reniform nematode. Reniform populations rebounded after 1 year back in cotton, so either a rotation with a non-host crop or a nematicide is required the following year.



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

Use pesticides **only** according to the direction on the label. Follow all directions precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label.

The pesticide rates in this publication are recommended **only** if they are registered with the Environmental Protection Agency and the Alabama Department of Agriculture and Industries. If a registration is changed or canceled, the rate listed here is no longer recommended. Before you apply any pesticide, check with your county Extension agent for the latest information.

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Reniform (*Rotylenchulus reniformis*) is the most damaging nematode pest on cotton in Alabama. In 1985, this nematode was restricted to a few cotton fields in south Alabama. By 1995, over 25,000 acres were infested. The reniform nematode is found in all cotton growing areas of the state except for southeast Alabama. Yield losses vary from as low as 15 percent to as high as 75 percent, depending upon infestation levels and prevailing weather conditions. Losses are greatest on cotton exposed to drought-like conditions from mid-summer to early fall.

Symptoms. The presence of reniform can not be determined by field symptoms alone. A nematode soil analysis must be made to confirm their presence. Symptoms of reniform damage are similar to nutritional deficiencies, hardpans in the field, and other plant parasitic nematodes. Stunting, foliage discoloration resembling potassium deficiency, and reduced fruiting are common symptoms caused by reniform nematodes. The degree and intensity of symptoms vary with growing conditions, reniform population density, and their distribution within the field.

Symptoms also differ according to the length of time a cotton field has been infested with reniform nematodes. Newly infested fields exhibit a symptom

pattern similar to root-knot infested fields. Initially, stunted cotton will appear in oval patterns following the direction of cultivation. Once reniform is spread throughout the field in 2 to 3 years, these "localized" areas will coalesce leaving the entire field stunted and off-color.

Persistence And Transmission.

Reniform nematodes can feed and reproduce on a wide range of plants. Many vegetable crops, vetch, clover, and certain varieties of soybean are excellent hosts. Nonhost crops include corn, sorghum, peanut, and winter grain crops such as wheat, rye, oats, and barley.

Many weeds are also good hosts for reniform nematode. Some of the better weed hosts are cocklebur, cowpea, sow thistle, jimson weed, Florida beggarweed, and Florida pusley.

Control. Reniform nematode is best controlled by using the following strategies:

- The most effective means for controlling reniform nematodes is by preventing their spread to "reniform free" fields. Reniform nematodes are especially adapted for spread from field to field in contaminated soil clinging to farm equipment, tires, or the soles of shoes. Farm equipment that has been in reniform infested fields should be