REPORT OF THE NEMATODE MANAGEMENT COMMITTEE - 2000 J. D. Mueller Clemson University Clemson, SC

Percent Yield Losses Due to Nematodes in 1999

Yield losses due to root-knot, reniform, Columbia lance and other nematodes as reported by the following individuals for their state:

Alabama (W. Gazaway): root-knot - 1.5%; reniform - 7.0%; total loss 8.5%.

Arizona (M. McClure): root-knot - 5.0%; total loss 5.0%.

Arkansas (T. Kirkpatrick): root-knot - 3.0%; reniform - 2.0%; total loss 5.0%.

California (P. Goodell): root-knot - 1.2%; total loss 1.2%.

Florida: total loss 7.3%.

Georgia (R. Davis): root-knot - 4.2%; reniform -0.6%; Columbia lance - 1.2%; total loss 6.0%.

Louisiana (C. Overstreet): root-knot - 2.0%; reniform - 6.0%; total loss 8.0%.

Mississippi: total loss 6.0%.

Missouri: total loss 0.75%.

New Mexico (S. Thomas): Root-knot - 5.0%; total loss 5.0%.

North Carolina (S. Koenning): root-knot - 0.05%; reniform - 0.005%; Columbia lance - 0.015%; sting - 0.001%; stubby root - 0.004%; total loss 0.75%.

Oklahoma (J. Banks): root-knot -0.50%; total loss 0.50%.

South Carolina (J. Mueller): Columbia lance - 2.5%; root-knot - 1.5%; reniform - 1.0%; total loss 5.0%.

Tennessee: total loss 0.80%.

Texas (H. Kaufman): total loss 2.5%.

Reprinted from the Proceedings of the Beltwide Cotton Conference Volume 1:131-132 (2000) National Cotton Council, Memphis TN **Virginia** (P. Phipps): Stubby root - 1.5%; Lance (*H. galeatus* 0.5%; Sting 0.5%; Lesion 0.2%; Root-knot - 0.2%; Ring - 0.1%; total loss 3.0%.

Additional Comments By State

Arkansas: Although the root-knot nematode continues to be the species that is most widespread throughout the cotton producing region of Arkansas, the reniform nematode continues to increase rapidly in incidence. For the past few years, reniform incidence has increased mainly in our southern counties, but in 1999 reniform was found in numerous fields in northeastern Arkansas near the Missouri boo theel. Because of the hot, dry summer nematode problems were more visible than usual by about mid-season. This in combination with various industry programs promoting nematode sampling has significantly increased the awareness of nematodes among growers.

California: Management guidelines include: 1) Use host plant resistance (NemX cotton) to protect yield while reducing root-knot nematode densities; 2) Evaluate this year's cotton root damage at the final irrigation to help determine next year's management options; 3) Select management strategy based on root-knot nematode populations: susceptible cotton out-yields resistant cotton in the presence of low to no root-knot nematode populations; 4) The use of host plant resistance for a single year will drive root-knot nematode populations down and allow susceptible cotton to be produced in the subsequent year but continuous NemX is not suggested; 5) Crop rotation is valuable to reduce population density levels of southern root-knot nematode. Compatible rotations include CA Black-eye beans (CB5 and CB47), alfalfa hay or processing tomato with Meloidogyne incognita resistance.

Louisiana: Reniform nematode continues to spread in Louisiana and has steadily been increasing in incidence and frequency across a number of cotton parishes including Calwell, Franklin, Morehouse, Richland, Tensas, and West Carroll. Most producers have been getting a good response against reniform nematode when rotating with corn. Population resurgence of reniform nematode after corn has been extremely high, limiting effectiveness to one season. Preplant nematicides such as Temik 15%G at 3.5 - 7.0 lbs. per acre is still our best control. Telone as a preplant application may be useful in giving an additional response over Temik alone. Other nematode treatments such as sidedress applications of Temik or Vydate at pinhead square have given slight benefits when compared with the standard application of Temik at planting.

New Mexico: The reasons for increases in losses due to rootknot nematode this year in New Mexico are two-fold. 1) Our cotton was planted later than usual and early season development was abnormally slow. Most fields I looked at were nearly a month behind on July 1. That means root systems were much smaller when the first generation eggs began to hatch, and the effect of early season infection on yield was more pronounced. 2) We have seen a big increase in the amount of transgenic cotton grown in NM, and these varieties appear to be more susceptible to root-knot than the Acala 1517 varieties that predominated in the past.

North Carolina: Many farmers are asking about rotation, but the poor prices on corn and soybean are a deterrent combined with the fact that we cannot show a significant impact of rotation, at least enough to justify rotation considering prices. Most cotton has no resistance to root-knot nematode. Stoneville's La 887 looks pretty good but we get as much of a yield increase with a nematicide on this variety as any other. The main use for this variety is that it may hold the population below damaging levels in subsequent years. We desperately need information on tolerance to Columbia lance nematode. Approximately 82% of the growers use Temik, although generally at insecticidal rates. The use of fumigants and Nemacur is minimal.

South Carolina: Overall losses due to nematodes were lower in 1999 than previous years due primarily to the overall drop in yields due to the severe drought. A higher incidence of root-knot nematode and fusarium wilt were observed in June, but severe drought stress later in the season masked the effects of nematodes. Growers rely primarily on a 5.0 to 6.0 lb/acre rate of Temik 15G in-furrow for nematode control.