

**ASSESSMENT OF FIELD TOLERANCE TO ROOT-KNOT  
NEMATODES IN EIGHT COTTON CULTIVARS**

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**Abstract Only**

The root-knot nematode, *Meloidogyne incognita*, is the most widespread economic nematode of cotton in the U.S. This nematode is found throughout the Cotton Belt and is responsible for more yield suppression beltwide than the other economic species combined. Currently there are no commercially available cotton cultivars with genetic resistance to root-knot that are adapted to the mid-South or the southeastern portion of the Cotton Belt. In the absence of true resistance to the nematode, cultivar tolerance levels to the nematode may be important. Tolerance as used here is defined as the ability of a cultivar to grow and maintain acceptable yield while supporting a population of *M. incognita* that would cause growth retardation and yield suppression in a susceptible cultivar. A field trial was conducted in Ashley Co., AR in 2005 to assess the tolerance levels of eight commercial cotton cultivars. The experiment was conducted in a field with a history of cotton monoculture and a severe root-knot problem. Experimental design was a paired plot with main plots either receiving soil fumigation with 1,3 dichloropropene (Telone II) at 3 gallons per acre preplant or not receiving the fumigant. Subplots were the eight cultivars. Plant growth and development as well as yield were evaluated. Nematode population densities associated with each cultivar with and without Telone II and root galling severity were also measured. Results as well as the potential role of tolerance to nematodes in cotton cultivars will be discussed.