

► Impact Of Minimum Tillage On Root-Knot Nematode Management In Cotton

Presented by Dr. Scott Monfort

Asst. Professor, University of Arkansas

Presented by T.L. Kirkpatrick

University of Arkansas

Presented by Jason Fortner

University of Arkansas

Presented by Amy Carroll

University of Arkansas

Presented by Michael Emerson

University of Arkansas

Studies were conducted in 2008 and 2009 to evaluate and quantify the effect of tillage on the management of root-knot nematode in cotton in Leachville, Arkansas. The field was divided into eight - 48 row blocks. Alternating blocks were deep tilled using a Paratill with a disk bedder. Specific control treatments for Nematodes were tested within the tilled and no-till soil environments. Nematode treatments consisted of: 1.) Untreated Check and 2.) Telone II applied at 3 gal/A with a yetter coulter applicator two weeks prior to planting. Efficacy of the nematicide treatments were assessed based on plant height (cm), above-ground dry plant weight (g), rootlength (cm), root dry weight (g), root gall rating (0-5), and yield (lbs lint/acre).

Results showed an increased level of early plant height, plant and root dry weight, and yield in the conventional tilled treatments. Less nematode were observed in plots treated with a nematicide, especially in the conventional tilled plots. Similar results were also observed in cotton lint yields.

► Looking At Better Ways To Managing Nematodes In Cotton

Presented by Dr. Charles Overstreet

Extension Nematologist, LSU AgCenter

Plant-parasitic nematodes have had a long history of causing serious problems to cotton farmers in the United States. Several nematodes including reniform, Southern root-knot, Columbia lance, and sting nematodes appear to be the most damaging types across the mid-South and Southeast. The losses from reniform alone are well over 100 million dollars each year. Subtle damage from nematodes may be difficult to observe but can still cost producers plenty each year. Serious damage cannot be overlooked but may be blamed on any number of causes besides nematodes.

Identification is one of the most important elements in beginning a management plan against nematodes. If you don't even know which type or types are present in your fields, then some management strategies may only make the situation worse. Generally, in the mid-South either the reniform or Southern root-knot nematodes are the major nematode types that are likely to cause serious damage. Crop rotation is currently widely used and has a great place against nematodes. Corn, grain sorghum, peanuts, or a resistant soybean variety work well against the reniform nematode and dramatically reduce soil populations. When the Southern root-knot nematode is involved, corn will not help out very much but the other three crops will. However, it is very important to know which nematodes types are present in your fields in order to make good recommendations.