2004 BELTWIDE COTTON CONFERENCES, SAN ANTONIO, TX – JANUARY 5-9

TELONE AGAINST ROOT-KNOT NEMATODE IN LOUISIANA DURING 2003

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Abstract

Telone was evaluated at six locations in Lousiana during 2003 in fields infested with the root-knot nematode. Fields were treated with and without Telone. Populations were fairly low at all locations at the time of planting with the exception of the Holley-Shop Cut site (4700 per 500 cm^3 of soil for the untreated and 360 for the Telone). Populations were much higher at the mid-season sampling but tended to be much lower in the Telone plots. Yields were exceptionally good at all locations but averaged 1115 for the untreated and 1240 for the Telone (P= 0.04). Telone could serve as another management tool in fields which have severe problems with the root-knot nematode.

Introduction

Nematodes such as root-knot (*Meloidogyne incognita*) and reniform (*Rotylenchulus reniformis*) are recognized as being the most important nematode pests in Louisiana. Management strategies that are utilized against these pests include nematicides, crop rotations, resistance or tolerance, and cultural practices such as fertilization, irrigation, and cover crops. Nematicides continue to be one of the most widely used management options against both types. Reniform nematode has been the most dominant nematode during the past 15-20 years and has received the most attention. The application of a preplant fumigant such as Telone has been shown to be fairly effective against reniform nematode. However, very little work has been conducted in Louisiana with Telone against the root-knot nematode. The objective of this study was to determine if the application of Telone would be effective against the root-knot nematode.

Materials and Methods

A total of six sites were selected for this study. Each location had a history of having root-knot nematode present. Three sites were located in Red River Parish on Ed Lester's farm. Two sites were located in Morehouse Parish on Boyd Holley's farm. One site was at the Northeast Research Station in Tensas Parish on some recently acquired land that was known to be heavily infested with root-knot nematode. Telone was applied 10-14 days prior to planting at each location by injection 12-16 inches beneath the row. Cotton was planted at each site and all plots were treated with Temik except at the two sites in Morehouse Parish which were treated with an insecticide only (Cypermethrin). Nematode samples were collected after planting at each site and again during mid-season. Cotton yields were obtained at harvest from all the locations.

Table 1 shows the population development of the root-knot nematode after the treatment with or without Telone. Populations were fairly low at all locations except the Holley-Shop Cut where populations were especially high in the untreated plots. Populations rebounded quickly and were much higher in all the plots at mid-season. Telone did suppress population development at most of the sites during the mid-season sampling.

Yields were exceptional during this growing season because of very favorable weather during the growing season. Table 2 shows the yield of the two treatments. Yields ranged from a slight negative affect by Telone at the Lester gin site to a 229 pound lint increase at the Holley-Big Home site. The average of all the sites was 1115 for the untreated and 1240 for the Telone (P= 0.04). This average difference of 125 pounds of lint is similar to what has been reported with Telone in fields that are infested with the reniform nematode. Telone could be a valuable chemical in fields which have severe root-knot nematode and have limited opportunities for crop rotation or other methods of management.

References

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Table 1. The impact of Telone against root-knot nematode at six locations in Louisiana during 2003.

	Root-knot nematode levels per 500 cm^3			
	After planting		Mid-season	
Location	Untreated	Telone	Untreated	Telone
Holley- Big Home	360	0	1,030	0
Holley- Shop Cut	4,700	210	13,228	2,032
Lester- E. Sandbar	80	60	3,947	640
Lester- W. Sandbar	160	120	4,720	640
Lester- Gin	160	60	360	650
Northeast Research	220	137	308	21

Average of 3 replications at the Lester sites, 4 replications at the Holley sites, and 6 replications at the Northeast Research station.

Table 2. Cotton yield in the six locations infested with root-knot nematode during 2003.

Location	Untreated	Telone
Holley- Big Home	1,046	1,275
Holley- Shop Cut	939	1,154
Lester- E. Sandbar	1,044	1,254
Lester- W. Sandbar	1,369	1,398
Lester- Gin	1,036	1,008
Northeast Research	1,261	1,353
Average	1,115	1,240