

January 21, 2010



T-Y IPM News

Terry - Yoakum Pest Management Association

Volume 11, Issue 1



Pesticide Applicator License Renewal Time

Persons licensed under the Texas Department Of Agriculture's pesticide license program, private applicator's license, commercial and non-commercial, applicators should have received a renewal notice from Texas Department of Agriculture by the time you read this newsletter. That means it is time for you to review your Continuing Education Units received. Private Pesticide Applicators are required to earn 15 C.E.U.s. During the five year licensing period. Of these 15, 2 C.E.U.s must be in the category of Laws and Regulations and another 2 C.E.U.s in Integrated Pest Management. It is the responsibility of the license holder to keep track of these C.E.U.s. and then certify in the renewal application that they have attained the total required.

Texas AgriLife Extension offers several opportunities for license holders to acquire these C.E.U.s. Below is a listing of educational meetings in our area where producers can learn and in most cases earn some of the needed C.E.U.s. Please contact the Texas AgriLife Extension office listed as the sponsor to confirm the C.E.U.s. available and event times.

Llano Estacado Cotton Conference, Jan. 21, Muleshoe. Contact the AgriLife Extension office in Bailey County, 806-272-4584.

Alternative Crops Workshop, Jan. 26, Seminole. Contact the AgriLife Extension office in Gaines County, 432-758-4006.

Crop Risk Management Workshop, Jan. 27, Olton. Contact the AgriLife Extension office in Lamb County, 806-385-4222.

Profitability Workshop, Jan. 28, Morton Activity Building. Contact the AgriLife Extension office in Cochran County at 806-266-5215.

Risk Management Workshop, Jan. 29, Muleshoe. Contact the AgriLife Extension office in Bailey County, 806-272-4584.

Sandyland Ag Conference, Feb. 2, Seminole. Contact the AgriLife Extension office in Gaines County, 432-758-4006. (more on page 2)

Make plans to attend the South Plains Ag Conference
February 10, 8:00 AM
Brownfield, Tx
American Legion Hall
800 Seagraves road
6 T.D.A. C.E.U.s plus
CCA Credit for Certified Crop Advisors

Educational programs of Texas AgriLife Extension are open to all citizens without regard to race, color, sex, disability, religion, age or national origin. The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by Texas Cooperative Extension is implied.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating



Educational meetings continued

Commercial Turf & Ornamental Workshop, Feb. 3, Lubbock. Contact the AgriLife Extension office in Lubbock County, 806-775-1680.

SW Farm & Ranch Classic Farm Show, Feb. 9, Lubbock Civic Center. Contact the AgriLife Extension office in Lubbock County, 806-775-1680.

South Plains Ag Conference, Feb. 10, Brownfield. Contact the AgriLife Extension office in Terry County, 806-637-4060.

Cotton Production Meeting, Feb. 11, Lamesa. Contact the AgriLife Extension office in Dawson County, 806-872-3444.

Cotton Production Meeting, Feb. 22, Tahoka. Contact the AgriLife Extension office in Lynn County, 806-561-4562.

Cotton Variety Selection, Cotton Outlook and Fertilizer Management, Feb. 23, Brownfield. Contact the AgriLife Extension office in Terry County, 806-637-4060.

Terry - Yoakum Pest Management *T-Y IPM News* is a publication of Texas AgriLife Extension IPM Program in Terry and Yoakum Counties.
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- ipm.tamu.edu
- peanut.tamu.edu
- insects.tamu.edu
- plantpathology.tamu.edu/
- southplain-sprofit.tamu.edu

2009 Evaluation of Variety Tolerance and Chemical Management for Southern Root Knot Nematode

Manda Cattaneo, Dr. Terry Wheeler, Dr. David Kerns, Dr. Jason Woodward, Dr. Mark Kelley, and Dr. Randy Boman
Cooperator: Raymond McPherson

Introduction

The southern root-knot nematode, *Meloidogyne incognita*, is an economically important parasite of cotton in Gaines County, Texas. Higher populations of this pest tend to occur in sandier fields that have had consecutive cotton crops and very little rotation to a non-host, such as peanuts (Kirkpatrick, 2001). Management decisions are dependent on the level of nematode infestation and the estimated nematode-induced yield loss (Kirkpatrick, 2001). Planting partially resistant varieties is one of the most effective tools in managing this pest (Zhou et al., 2003). Temik 15G applied in-furrow at planting followed by a foliar application of Vydate C-LV has increased cotton lint yields (Siders, 2008). Seed treatments are another option for the management of nematodes. Therefore, cotton production may be optimized by planting partially resistant cotton varieties in conjunction with the use of seed treatments or Temik 15G. The objectives of this study were to evaluate the impact of two cotton varieties planted in conjunction with chemical treatments on southern root-knot nematode populations and the resulting effect on plant development, and to compare net returns between varieties, chemicals, and the interaction between varieties and chemicals.

Materials and Methods

The on-farm trial was conducted in Gaines County, TX in 2009 in a field with a 5 year crop history of cotton, peanuts, cotton, cotton, cotton. The field's soil was 93% sand, 3% silt, and 4% clay (sand soil type). The trial was planted on 7 May. Plots had 40-inch row spacing and were center-pivot irrigated. Plots were 8-rows wide and 400 ft in length. Experimental design was a randomized complete block design with 3 replications. Production practices were uniform for all treatments. The number of adult and immature thrips was counted by visually inspecting 10 whole plants per plot on 20 May, 27 May, 3 June, and 10 June. The number of galls caused by *M. incognita* was counted by visually inspecting 10 plant roots per plot on 10 June. Soil samples were taken on 16 July to count *M. incognita* second-stage juveniles (J2) and eggs per 500cm³ soil. Plant height, number of nodes, and Nodes Above White Flower (NAWF) were counted on ten plants per plot on 14 August. The trial was harvested on 19 October. All plots were weighed separately using a Lee weigh wagon. Burr cotton grab samples were taken from each plot. All grab samples were weighed and then ginned using a sample gin with a lint cleaner, burr extractor and stick machine. Ginned lint was weighed and lint and seed turnouts were calculated. Lint and seed yields were determined by multiplying the respective turn out by field plot weights. Lint samples were collected for fiber quality analysis. Fiber analysis was conducted by the Texas Tech University Fiber & Biopolymer Research Institute and CCC lint loan values were determined for each plot. Lint value was calculated by multiplying lint loan value by lint yield. Total value was determined by adding lint and seed values. Net value was determined subtracting ginning cost, seed and technology cost, and treatment cost from total value. Statistical analysis of data was conducted using the GLM procedure in SAS 9.1 for Windows.

Discussion:

ST 5458B2RF had significantly higher lint yield per acre and lint turnout than FM 9063B2F which resulted in a significantly higher net value per acre. However, FM 9063B2F had a significantly higher seed turnout per acre (*Table 1, pg. 4*).

Net value of 5 lbs of Temik 15G was not significantly different from 3.5 lbs of Temik 15G, 3.5 lbs of Temik 15G with 17 oz of Vydate, and Aeris (*Table 2, pg. 4*). However, 3.5 lbs of Temik with 17 oz of Vydate and Aeris did not significantly differ from the untreated and Avicta (*Table 2, pg. 4*).

Summary

Meloidogyne incognita, is one factor that can significantly impact variety performance. FM 9063B2F had significantly more galls early-season and second-stage juveniles & eggs mid-season. This likely decreased crop potential and contributed to a lower yield at the end of the season. Therefore, based on this trial, planting tolerant varieties is the most economical and effective method in the management of nematodes. Chemical management also resulted in some increased control of nematodes. However, differences in chemical control were not as clearly defined as the variety effect. Temik 15G residual activity may have started to decrease around 10 June (approximately 34 days after planting) which would have been the optimal time for a Vydate C-LV application. Therefore, an earlier application of Vydate C-LV to the 3.5 lbs of Temik may have resulted in an increased yield over the 3.5lb of Temik alone. Previous studies have shown that accurate timing of Vydate C-LV application is vital for continued suppression of nematode populations. More research is needed in order to determine optimal variety and chemical management for nematodes across years.

Continued on page 4.

Results:

Table 1. Harvest results by variety					
Variety	Lint turnout %	Seed turnout %	Lint yield Lb/acre	Gin cost	Net value
				-----\$/acre-----	
ST 5458B2F	36.2 a	48.0 a	1152 a	95.50 a	707.70 a
FM 9063B2F	33.3 b	50.8 b	778 b	70.20 b	489.89 b
	<i>P</i> < 0.0001	<i>P</i> < 0.0001	<i>P</i> < 0.0001	<i>P</i> < 0.0001	<i>P</i> < 0.0001

Table 2. Harvest results by chemical					
Chemical	Lint yield Lb/acre	Lint value	Seed value	Gin Cost	Net Value
		-----\$/acre-----			
5 lbs of Temik 15G	1062 a	602.97 a	149.03 a	90.70 a	661.30 a
3.5 lbs of Temik 15G	1034 ab	583.48 ab	145.65 a	87.88 ab	641.25 a
3.5 lbs of Temik 15G² & 17 oz of Vydate C-LV	957 bc	545.79 abc	134.47 abc	81.60 bc	598.66 ab
Aeris	979 ab	544.21 bc	138.40 ab	84.66 abc	597.95 ab
Untreated	880 c	502.05 c	124.80 cb	76.53 c	550.32 b
Avicta	878 c	499.83	119.28 c	75.8 c	543.31 b
	<i>P</i> = 0.002	<i>P</i> = 0.006	<i>P</i> = 0.004	<i>P</i> = 0.01	<i>P</i> = 0.005

The above report has been edited for space; I can provide the complete report upon request.

South Plains Ag Conference and Trade Show

February 10, 2010

**American Legion Hall
800 Seagraves Road
Brownfield, Texas**

Conference & Tradeshow—8:00-4:10

Lunch Catered by Roger and Sheryl Posey

Sponsors:

**Plains Cotton Growers
Birdsong Peanuts**

Senninger Irrigation

**Texas Peanut Producers Board
Clint Williams Company- Western Division**