

2006 Alabama On-Farm Cotton/Nematode Tests

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Introduction:

Regional Extension agents placed field trials in several regions of the state to determine the effect of selected nematicides on cotton production in nematode infested fields. The tests were placed on farms that had suffered substantial yield losses from either reniform nematodes or from root-knot nematodes. The agents worked with the farmers to put in the nematicide tests and assisted the farmers in taking and recording cotton yield data at the end of the season. Agents also collected soil samples from these fields and had them analyzed for nematodes to determine nematode species and degree of infestation. In fields where root-knot nematodes were a problem, cotton roots were examined and rated for nematode damage.

The six tests were located in Cherokee, Elmore, Macon and Tuscaloosa counties. Three fields were infested with high populations of reniform nematodes and three fields had high populations of root-knot nematodes.

Results and Discussion:

This past season (2006) was not a good year for testing nematicides' efficacy on cotton production in nematode infested fields. In fact, there was little or no difference among nematicide treatments in any of the tests conducted in 2006. Growing conditions were either very good for some fields (Tests 3-6) or very poor for other fields (Tests 1 & 2). Reniform nematode and root-knot nematode (to a lesser degree) are known as "stress pathogens". That is, they cause the most damage to cotton when growing conditions are unfavorable for cotton development and production—especially from mid-season until harvest. That was the case in test fields 3-6 which received timely rains from mid-season through harvest. Likewise, fields (tests 1 and 2) where cotton conditions were unfavorable for cotton production also showed little difference among treatments. In this situation, it is quite possible that Temik was not activated due to dry conditions at planting. It is not known why Avicta did not increase cotton yields in these two aforementioned tests.

Test 1: planted on 4 May 2006

Trial Location: Tuscaloosa County Clyde Lavelle field
 Nematodes: Root-knot very high infestation (766/100CC soil)
 Tillage: no-till
 Variety: DP555BR

Treatment	Rate	Application	Lint* (LB/A)
Avicta**	----	Seed treatment	408
Temik 15G	5 LB/A	In the Seed Furrow at planting	411

*Average of five replications.

**Avicta= Dynasty + Cruiser + Abamectin

Test 2: planted on 2 May 2006

Trial Location: Elmore County Richard Edgar field
 Nematodes: Reniform very high infestation (1665/100CC soil)
 Tillage: Bed, Para till, no till after planting
 Variety: DP491

Treatment	Rate	Application	Lint* (LB/A)
Cruiser (check)	---	Seed treatment	431
Avicta	---	Nematicide seed treatment	409
Avicta +Vydate*	17 fl oz	Sd trt + Vydate@8 leaf & square	398
Avicta + Temik	5 lb/a	Sd trt + Temik SD@8 leaf & square	421
Temik	5 lb/a	In-furrow at plant	428
Temik + Vydate	5 lb/a + 17 oz	INF + Vydate@8 leaf & square	419
Temik + Temik	5 lb/a + 5 lb/a	INF + Temik@8 leaf & square	499
Telone II	3 gal/a	Pre-plant	395

Test 3: planted on 25 Apr 2006

Trial Location: Elmore County Dale and Mark Taylor field
 Nematodes: Reniform- high infestation (>1000/100CC soil)
 Tillage: ?
 Variety: DP555BR seed not from same lot

Treatment	Rate/A	Application	Lint* (LB/A)
Check	----	Fungicide seed treatment	803
Avicta	---	Nematicide seed treatment	778
Temik	5 lb	In-furrow at plant	816
Temik + Temik SD		INF + SD @ cotton square	825

Test 4: planted on 4 Apr 2006

Trial Location: Macon County Segrest Brothers' field

Nematodes: Root-knot – very high infestation (249/100CC soil)

Tillage: Bed, Para till, no till after planting

Variety: DP555BR

Treatment	Rate/A	Application	Lint* (LB/A)
Cruiser (check)	---	Fungicide seed treatment	939
Avicta	---	Nematicide seed treatment	939
Temik	5 lb/a	In-furrow at plant	987

Test 5: planted on

Trial Location: Macon County John T. Ingram and Sons' field

Nematodes: Root-knot – very high infestation (>250/100CC soil)

Tillage: No till

Variety: DP555BR all from same seed lot except AERIS

Treatment	Rate/A	Application	Lint* (LB/A)
Cruiser (check)	---	Fungicide seed treatment	926
Avicta	---	Nematicide seed treatment	885
Aeris	---	Nematicide seed treatment	842
Temik	5 lb/a	In-furrow at plant	927
Avicta + Vydate	17 fl oz	Vydate @ 6 to 8 leaf stage	941
Temik + Vydate	17 fl oz	Vydate @ 6 to 8 leaf stage	854
Avicta + Temik SD	5 lb	Temik side dress @ 6- 8 leaf stage	967
Temik + Temik SD	5 lb + 5 lb	INF + Temik SD @ 6- 8 leaf stage	974

Test 6: planted on 17 May 2006

Trial Location: Cherokee County Gifford Jennings field

Nematodes: Reniform – high infestation (1325/100CC soil)

Tillage: No till

Variety: DP444BG/RR

Treatment	Rate/A	Application	Lint* (LB/A)
Cruiser	---	Seed treatment	1086
Avicta	---	Nematicide seed treatment	1091
Temik	5 lb	In-furrow at plant	961