Going, Going, Gone: Impact of the Loss of Temik®: Insects

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Roger Leonard – Louisiana State University
Kelly Tindall – University of Missouri
Ryan Jackson, Clint Allen – USDA-ARS Stoneville
Early Season Pests of Concern

<table>
<thead>
<tr>
<th>Cutworms</th>
<th>Slugs</th>
<th>False Chinch Bugs</th>
<th>Thrips</th>
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</thead>
<tbody>
<tr>
<td>Aphids</td>
<td>Spider Mites</td>
<td>Plant Bugs</td>
<td></td>
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</tbody>
</table>
Thrips Management
Temik vs Seed Treatments

• Preventative in-furrow insecticides or seed treatments are recommended
  – Temik 15G (3.5 - 5 lb/acre)
  – Gaucho Grande (imidaclorpid, 0.375 mg ai/seed)
    • Aeris (0.375 mg imidacloprid + 0.375 mg thiodicarb)
  – Cruiser (thiamethoxam, 0.34 mg ai/seed)
    • Avicta Complete Pack (0.34 mg thiamethoxam + 0.15 mg abamectin)
  – In-furrow Orthene or acephate (0.90-0.97 lb ai/acre)
    • Seed treatment of 8-25 oz/cwt

• Supplemental foliar applications as needed
  – Orthene (0.20-0.25 lb ai/acre), Bidrin 8E (1.6-3.0 oz/acre) and Dimethoate 4E (4-6 oz/acre)
Stewart (UT) & Lorenz (UA)

Percent Thrips Control
Temik and Seed Treatments, 14 Trials (2003-2007)
(3.5-5 lbs) (Gaucho Grande/Aeris/Cruiser/Avicta CP)
Thrips Trials - Yield (Lb Lint/Acre)

Stewart (UT) and Lorenz (UA)
14 Trials from 2003-2007, WTES and Arkansas

N = 8 in TN, 6 in AR

P < 0.05
Spider Mites
Early-Season Damage
Spider Mite Risk Factors
(Particularly Early Season)

• Geography
• Shift from Temik to Seed Treatments
• In-field vegetation present at emergence
• Flaring with insecticides
• Weather (hot and dry) ???

None of these factors is totally predictive of spider mite infestations
## NC - Acres Treated for Spider Mites
(2004-2005 Consultants’ Survey, ≈ 150 Producers)

<table>
<thead>
<tr>
<th>Usage Pattern</th>
<th>% Acres Treated</th>
<th>Odds of Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly Used Temik (25%)</td>
<td>0.58</td>
<td>1/170</td>
</tr>
<tr>
<td>Mostly Used Seed Trt. (75%)</td>
<td>5.3</td>
<td>1/19</td>
</tr>
</tbody>
</table>

Difference = 9 fold

Bacheler, NCSU
Effect of Seed Treatments, Temik and Foliar Insecticides on Mites

Starkville, MS - June 2008.
Number of Immature Mites/Leaf.

7 DAT - P=0.0473
14 DAT - P=0.0103

Catchot and Smitty
Effect of Seed Treatments, Temik and Foliar Insecticides on Mites

Starkville, MS - June 2008
Visual Rating of Mite Injury (1-10, 10=best)
Aeris Seed Treatment – Aphids

- Gaucho Grande
- Thiodicarb
- Aeris
- Temik (5 lbs)
- UTC

Aphids per 10 Leaves

1st Planting Date

34 DAP1

14 DAP2

26 DAP2

2nd Planting Date

Jeff Gore
Impact of At-Planting Insecticides on Aphid Populations

Data generated from large blocks of cotton >5 acres

Jeff Gore
Summary

• Seed treatments do not have residual of Temik for thrips control
• However, adequate protection in most cases
• Seed treatments have obvious advantages over IF: ease, better tox, no app. issues
• Concern is over: 1) impact to occasional and 2° pests: spider mites, aphids, and 2) overuse of neonicitinoids/ Rs issues
"It's time we face reality, my friends. ... We're not exactly rocket scientists."