Seed treatments for nematode management

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Nematicides currently available in cotton

**Fumigants**

Telone, K-Pam, Vapam
Nematicicides currently available in cotton

Non-fumigants

Temik, Vydate
Nematicides currently available in cotton

Seed Treatments
Avicta Complete Cotton
Aeris Seed Applied-System
Seed treatments

Avicta Complete Pak (Cotton)

- Insecticide (Cruiser)
- Nematicide (Avicta)
- Fungicide (Dynasty CST for control of Pythium, Rhizoctonia, and Fusarium)
Seed treatments

AERIS Seed-Applied System

- Insecticide (imidacloprid or Gaucho Grande)
- Nematicide (thiodicarb)
- Optional fungicide (Trilex Advanced for control of Pythium, Rhizoctonia, Fusarium, or Thielaviopsis)
Seed Treatment Nematicides

Why would you use them to protect cotton?

How effective are they?

When should they be used?
Why would you use them to protect cotton?

- Ease of application
- Timeliness
- Can provide multiple types of protection (insects, diseases, and nematodes)
How effective are they?

- Untreated
- Temik Seed treatments
- Fumigants

Effectiveness
Yield response of Avicta and Temik 2006
AL, AR, FL, LA, MS, TN, TX, VA

Avicta = 7.6 %
Temik = 6.9 %
Yield response of Aeris and Temik 2006
AL, GA, LA, MS, TN, VA

Aeris = 5.9 %
Temik = 8.1 %

K.S. Lawrence and G.W. Lawrence. 2007 Beltwide Cotton Proceedings
When should they be used?

- Only for low- maybe moderate levels of nematodes

- Success will depend on type and levels of nematode and damage potential of soil types within a field
Severe nematode damage
Light nematode damage
### When to use seed treatment nematicides

#### After crop rotation

<table>
<thead>
<tr>
<th>Crop</th>
<th>Reniform</th>
<th>Root-knot</th>
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<tbody>
<tr>
<td>Cotton</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Corn</td>
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<td>Milo</td>
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<td>Sweet potato</td>
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<tr>
<td>Sugarcane</td>
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<td>S-R</td>
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<td>Rice</td>
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<tr>
<td>Vegetables</td>
<td>S</td>
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</tr>
</tbody>
</table>
When to use seed treatment nematicides

- In fields which have been sampled for nematodes (known levels and types)

- Zone sampling

- Grid sampling 4.5 acres
When to use seed treatment nematicides

- In fields where nematode problems have not been observed and yields are high
- If you plan on supplementing with some other type of nematicide
Options to use with a seed treatment nematicide

- Preplant fumigant - Treat really bad areas in a field ahead of time
Management zones by $EC_a$
Management zones by $EC_a$ and response areas

Telone treatment

- Treat 33.6 Acres
- Do Not Treat 48.4 Acres
EC$_a$  
NDVI  
Root-knot + Reniform  
Yield  
Zones
Options to use with a seed treatment nematicide

- Telone applied 7 days ahead of time but needs to be injected 12-14 inches beneath the row.
- K-pam or Vapam need to be injected 21 days ahead of planting.
Options to use with a seed treatment nematicide

- Combination with another nematicide
  - Sidedress Temik
  - Vydate at pinhead square