Selecting Insecticidal Seed Treatments in Rice Production

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Insecticidal seed treatments (ISTs)
Control multiple pests
Multiple products available
Minimal risk of non-target impacts
Cost effective (economically beneficial in 80% of fields)

Prevent millions in annual losses to insect pests!
Insecticidal seed treatments (ISTS)

**Dermacor X-100** *(chlorantraniliprole)*  
Controls: RWW, armyworm, borers

**Cruiser Maxx** *(thiamethoxam)*  
**NipsIt Inside** *(clothianidin)*  
Control: RWW, colaspis, aphids, chinch bugs, thrips
Insecticidal seed treatments (ISTs)

**Dermacor X-100 (chlorantraniliprole)**
Can be water-seeded
Rate per acre

**Cruiser Maxx (thiamethoxam)**
**NipsIt Inside (clothianidin)**
Cannot be water-seeded
Rate per 100 lbs seed
Available with fungicides
Insecticidal seed treatment efficacy

Means from 11 independent field trials (LA, MS, AR, TX)

Selecting Seed Treatments

- All are equally effective under low weevil pressure
  - Early planted rice
- Price?
  - NipsIt and Cruiser cheaper at low seeding rates
  - >$10 cheaper at 30 lbs/acre
- Fungicides?
  - Most benefit is from insecticides
Selecting Seed Treatments

• **Stem borers**
  – Increasing problem
  – High populations at rice research station in 2017

• **Armyworms**
  – Can be severe in some cases
  – Late planted rice most vulnerable

• **Colaspis**
  – Greatest threat in soybean rotation
  – Not a problem in crawfish rotation
Treatment List
Study 1 and 2

- NipsIt Inside
- Dermacor X100
- A2335A (CMR+SDX)
- CruiserMaxx
- CruiserMaxx + A17960B (CYNT)
- A17960B (CYNT) + A2335A (CMR+SDX)
- Untreated Check (Fungicide Only)

CL151 seeded at 60 lbs/acre
Trial 1: Crowley, LA

Harvested 22 August 2017
No statistical differences between treatments
Trial 2: Stuttgart, AR

64 days after planting
Planted May 10

Figure provided by K. McPherson, G. Lorenz, et al.
Insecticide Seed Treatment Combinations for Control of Rice Water Weevil - CL151

9/28/2017
Planted May 10

Yield bu/acre

- **Cruiser Maxx + Vibrance + A17960B CYNT**
- **NipsIt Inside**
- **A17960B (CYNT) + A2335A (CMR+SDX)**
- **A2335A (CMR+SDX)**
- **Cruiser Maxx + Vibrance**
- **Dermacor**
- **Fungicide Pkg Only**

Legend:
- a
- b
- b
- b
- b
- c
Treatment List: Study 3
Crowley, LA

- Dermacor X100
- VTN54 (CYNT), 3 rates
- Dermacor X100 + NipsIt, 2 rates
- VTN54 (CYNT) + Dermacor X100, 3 rates
- Untreated Check (Fungicide Only)

Hybrid rice seeded at 20 lbs/acre
Trial 1: Crowley, LA
Stem borer control

Whiteheads/plot

Treatment (Rate in fl oz/cwt)

Dermacor X100 (5)
VTN54(3)
VTN54(4)
VTN54(5)
Dermacor(4) + Nipsit(1.9)
Dermacor(5) + Nipsit(1.9)
Dermacor(4) + VTN54(2)
Dermacor(4) + VTN54(3)
Dermacor(4) + VTN54(4)
Fungicides only
## Trial 1: Crowley, LA

### Yields

<table>
<thead>
<tr>
<th>Treatment (Rate in fl oz/cwt)</th>
<th>Yield (lbs/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermacor X100 (5)</td>
<td>a</td>
</tr>
<tr>
<td>VTN54 (3)</td>
<td>a</td>
</tr>
<tr>
<td>VTN54 (4)</td>
<td>a</td>
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<tr>
<td>VTN54 (5)</td>
<td>a</td>
</tr>
<tr>
<td>Dermacor (4) + Nipst (1.9)</td>
<td>a</td>
</tr>
<tr>
<td>Dermacor (5) + Nipst (1.9)</td>
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</tr>
<tr>
<td>Dermacor (4) + VTN54 (2)</td>
<td>a</td>
</tr>
<tr>
<td>Dermacor (4) + VTN54 (3)</td>
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</tr>
<tr>
<td>Dermacor (4) + VTN54 (4)</td>
<td>a</td>
</tr>
<tr>
<td>Fungicides only</td>
<td>b</td>
</tr>
</tbody>
</table>

The 'a' and 'b' annotations indicate significant differences in yield among treatments, with 'a' indicating no significant difference and 'b' indicating a significant difference.
Treatment List: Study 4
Stuttgart, AR

- Cruiser Maxx
- NipsIt Inside
- Dermacor X100
- Cyantraniliprole 5 oz
- Cruiser Maxx + Dermacor
- Cruiser Maxx + Cyantraniliprole 4 oz
- NipsIt Inside + Dermacor
- NipsIt Inside + Cyantraniliprole 4 oz
- NipsIt Inside + Cyantraniliprole 3 oz
- NipsIt Inside + Cyantraniliprole 2 oz
- Dermacor + Cyantraniliprole 4 oz
- Untreated Check (Fungicide only)

Hybrid rice seeded at 20 lbs/acre
Trial conducted by McPherson, Lorenz, et al.
Study 4: Stuttgart, AR, 2017

65 days after planting
Planted May 10

RWW avg/3 cores

- CruiserMaxx
- Untreated check
- NipsIt Inside
- NipsIt Inside + Dermacor
- NipsIt Inside + Cyantraniliprole 4oz
- NipsIt Inside + Cyantraniliprole 2oz
- Dermacor
- CruiserMaxx + Dermacor
- NipsIt Inside + Cyantraniliprole 3oz
- CruiserMaxx + Cyantraniliprole 4 oz
- Cyantraniliprole 5 oz
- Dermacor + Cyantraniliprole 4 oz
Study 4: Stuttgart, AR, 2017

9/28/2017
Planted May 10

Trial conducted by McPherson, Lorenz, et al.
Seed Treatment Combinations

• *Does not* increase weevil control
• *Does* increase spectrum of pests controlled

• Price?
  – Economic returns are minimal unless *Colaspis* and weevils are present

• Rates?
  – Dermacor is effective at 1 oz/acre

• Ongoing work and new products being evaluated
Questions?

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Call me or your extension agent with any questions.

Appreciation is expressed to the rice research board and grower cooperators for support.