

Cruiser vs. Dermacor: Advantages and Disadvantages

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Status for 2010

- Cruiser: Section 3 label for 2010
- Dermacor: status for 2010 still unresolved

Cruiser vs. Dermacor

- Efficacy against rice water weevil
- Spectrum of activity: what other pests do they control?
- Compatible agronomic practices
- Pricing
- Mechanism of action

Spectrum of activity

Cruiser



Dermacor X-100



Spectrum of activity: what pests do they control?

| Dermacor X-100 | Cruiser Maxx |
|------------------------------------|------------------------------------|
| Rice water weevil | Rice water weevil |
| Colaspis | Colaspis |
| Stem borers | Stem borers |
| Sucking pests –chinch bugs, aphids | Sucking pests –chinch bugs, aphids |
| Other Lep – fall armwyorm | Other Lep – fall armwyorm |
| South American Rice Miner | South American Rice Miner |

2009 – direct comparison of
Cruiser and Dermacor against rice
water weevil (2 tests)

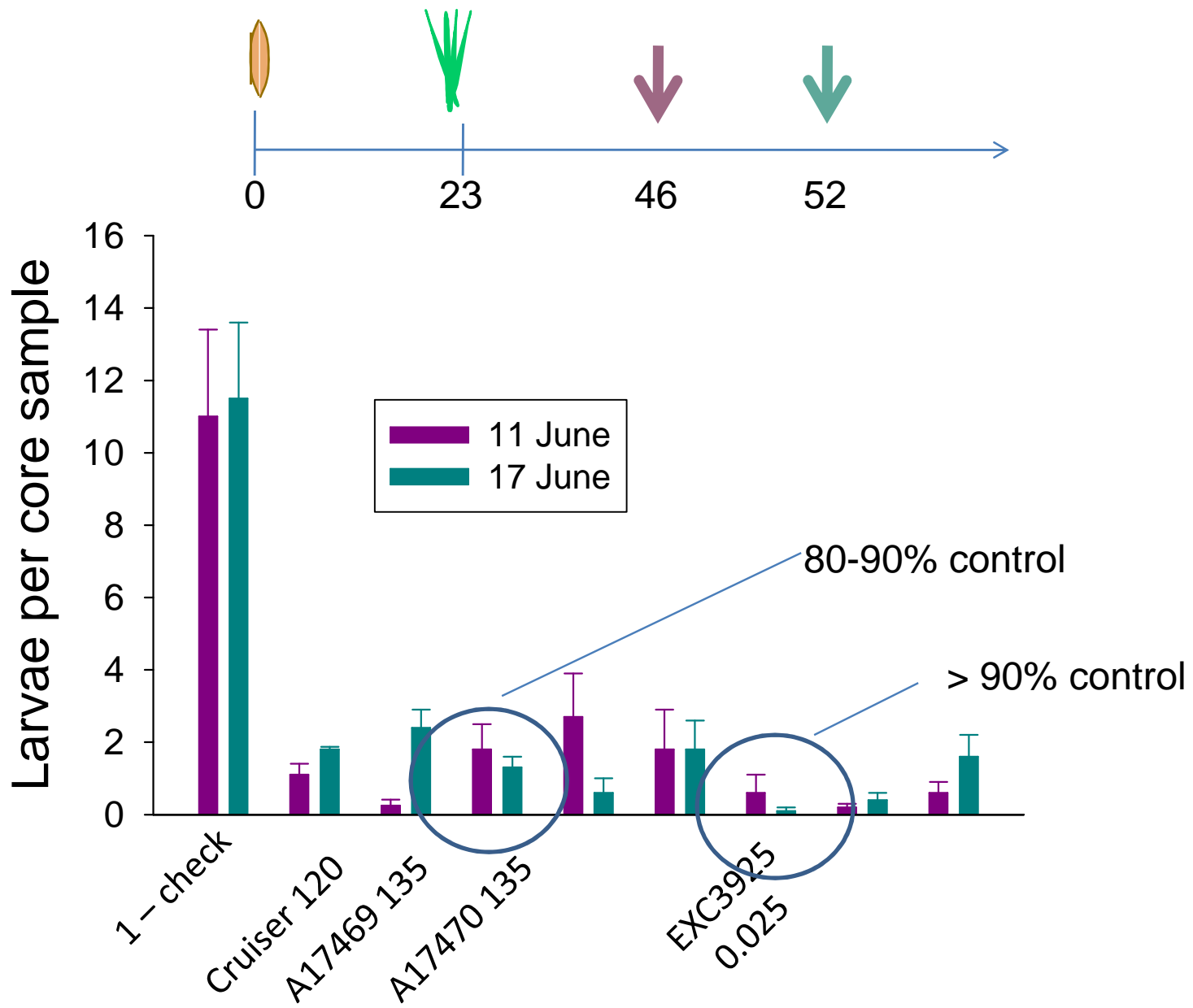
2009 weevil efficacy test (Syngenta)

Nine treatments; selected treatments discussed:

1. Untreated control
2. Cruiser **120** g ai per 100 kg seed
3. A17469 (= Cruiser) **135** g ai per 100 kg seed
4. A17470 (= Cruiser) **135** g ai per 100 kg seed
7. EXC3925 (= Dermacor) 0.025 mg ai per seed

2009 efficacy test

- Seeding rate: ~ 90 lbs seed per Acre
- Variety: Cocodrie
- Date of planting: 27 April
- Date of flooding: 19 May 2009
- Sampling dates: 11 June, 17 June (23 & 29 d after flooding)



2009 seeding rate test

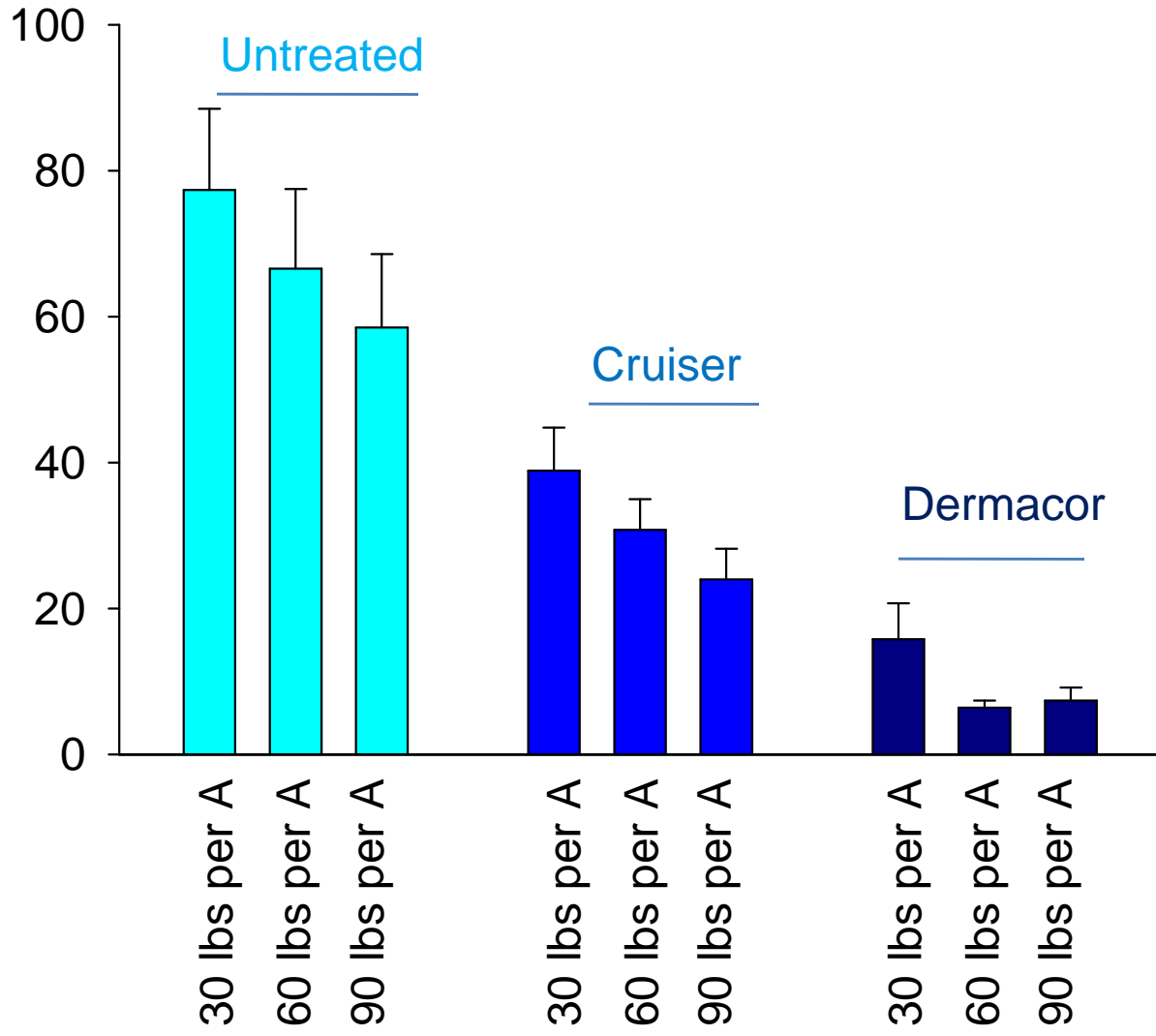
- Constant per seed rate; different seeding rates
- Seeding rate: 30, 60 or 90 lbs seed per A
- Variety: CL171 (from Syngenta)
- Date of planting: 11 May
- Date of flooding: 1 June
- Sampling dates: 19 June, 29 June, 7 July

2009 seeding rate test

| | 30 lbs per A | 60 lbs per A | 90 lbs per A |
|----------------------------------|--------------|--------------|--------------|
| Untreated | Trtmt 1 | Trtmt 2 | Trtmt 3 |
| Cruiser 120 g ai per 100 kg seed | Trtmt 4 | Trtmt 5 | Trtmt 6 |
| Dermacor 0.025 mg ai per seed | Trtmt 7 | Trtmt 8 | Trtmt 9 |

- CL171 used for all plots
- Thiamethoxam applied by Syngenta
- Dermacor applied by MJS using untreated seed from Syngenta

Average total larvae per three core samples



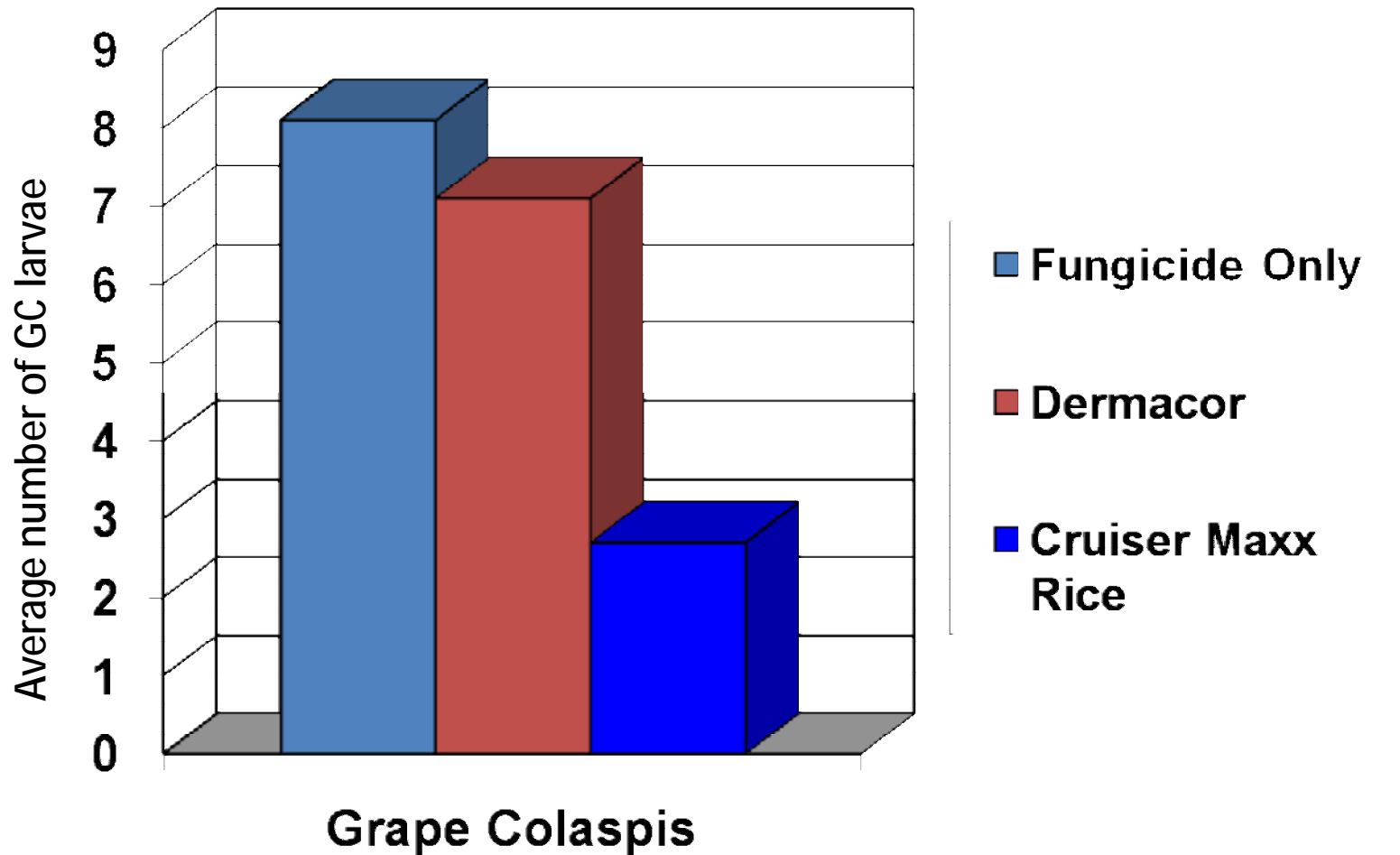
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Grape Colaspis Injury, Lonoke Co. 2008



Grape Colaspis data – Dr. Gus Lorenz (4 trials – Pine Tree) - 2009



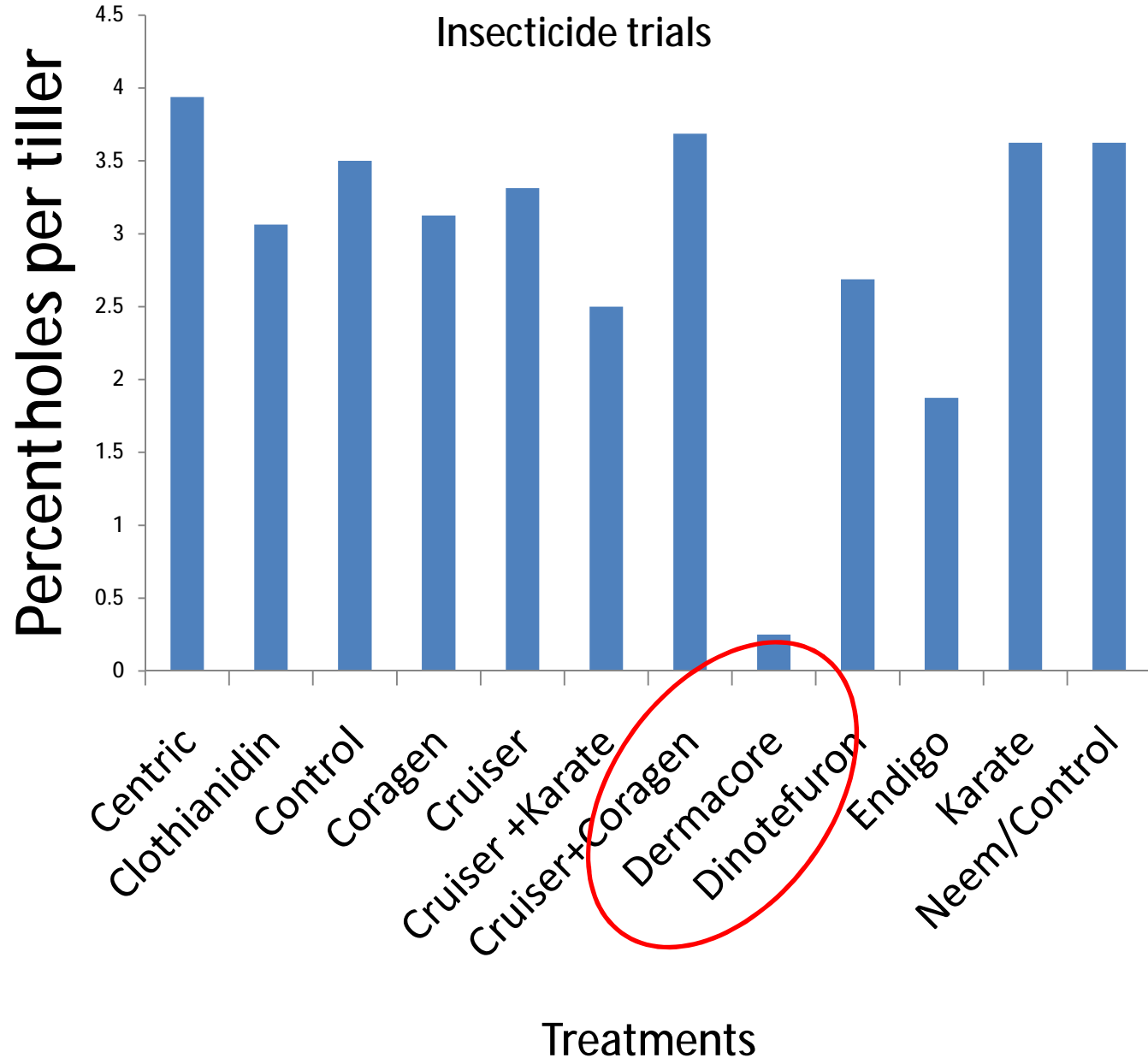
Average number of GC larvae from 4 soil cores

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2009 stem borer insecticide test

- Winnsboro (Dr. Leonard)
- Planted June 24 2009; Cocodrie
- Insecticide applications – 3 September 2009



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Syngenta Seed Treatments for Chinch Bug Control

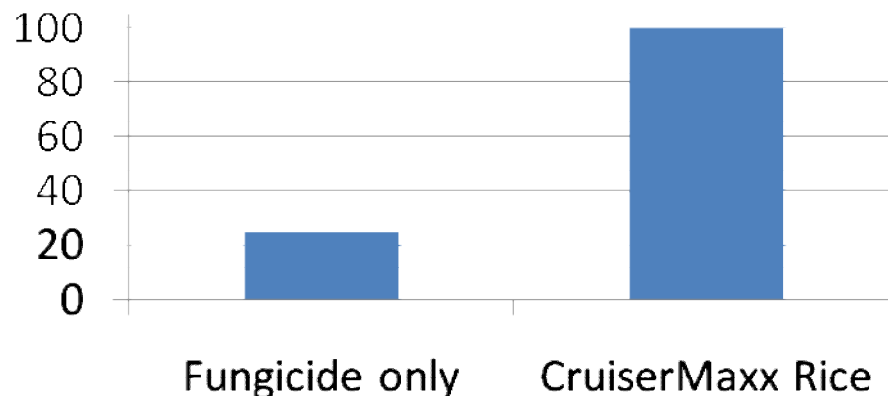
Beaumont, TX

2008

M.O. Way, C. Menegaz (Lamar University Student Intern), M. Nunez and R. Pearson

http://beaumont.tamu.edu/eLibrary/Reports/2008AnnualReport_Way.htm

% Mortality



- Caged Chinchbug studies
- 15 days after emergence
- 4 replications (5 insects per rep)

Chinch bug (*Blissus leucopterus leucopterus*) is problematic on seedling rice (Figs. 1 and 2). Since the withdrawal of Icon 6.2 FS (fipronil active ingredient), Texas rice farmers have complained about losing rice stands to chinch bugs. Recently, seeding rates have declined due to an increase in drill planting, high cost of seed rice and more planting of hybrid rice. Thus, information on rice seed treatment effects on seedling pests is assuming greater importance.

Although 25% mortality was observed in the untreated 4 days after infestation, the Cruiser FS treatments gave 100% control of chinch bugs (Table 1). Results are promising; the authors encourage Syngenta to pursue a rice seed treatment for southern rice producers.



Figure 1. Adult chinch bugs on seedling rice



Figure 2. Levee rice destroyed by chinch bugs

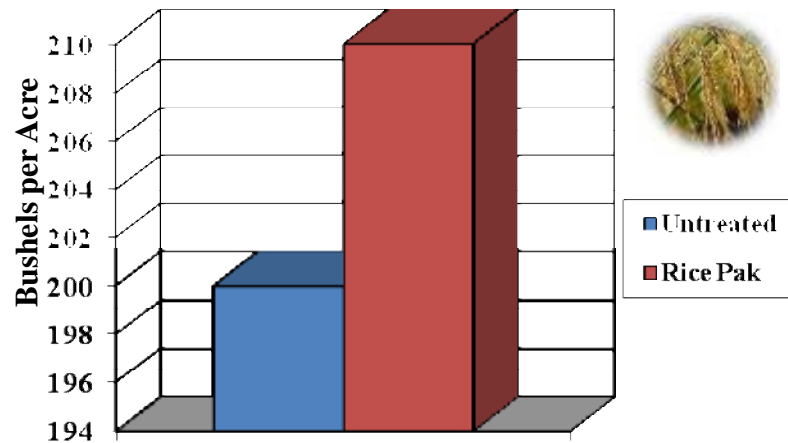
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Early Season Disease Protection



- Dr. Rick Cartwright – University of Arkansas
- 12% moisture
- Means followed by the same letter do not significantly differ (P= 0.05, LSD)



Rice Pak = 0.32 Apron XL, 0.4 Maxim and 0.153 floz/cwt Dynasty

** Rick Cartwright – University of Arkansas - 2001*

Cruiser vs. Dermacor

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Compatibility with Agronomic practices

- Both Cruiser and Dermacor are labeled for dry-seeded rice only!!!
- Compatibility with crawfish production: both compounds less acutely toxic to crawfish than pyrethroids

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- Low seeding rates

Seeding rates: Dermacor vs. Cruiser

- Dermacor: increase amount of product applied to seed as seeding rate decreases to maintain ~constant rate of active ingredient per acre
- Cruiser Maxx: do not increase amount of product applied to seed at low seeding rates, so less active ingredient per acre at low seeding rates

Processor Dermacor®X-100 cwt Table

12/16/2009

Rate 1.75 oz - 6 oz / cwt

| ai Target / acre | oz/acre target | Seeding rate | oz/cwt Target |
|-------------------------|-----------------------|---------------------|----------------------|
| 0.07 | 1.75 | 120 | 1.5 |
| 0.07 | 1.75 | 115 | 1.5 |
| 0.07 | 1.75 | 110 | 1.5 |
| 0.07 | 1.75 | 105 | 1.75 |
| 0.07 | 1.75 | 100 | 1.75 |
| 0.07 | 1.75 | 95 | 1.75 |
| 0.07 | 1.75 | 90 | 2 |
| 0.07 | 1.75 | 85 | 2 |
| 0.07 | 1.75 | 80 | 2 |
| 0.07 | 1.75 | 75 | 2.5 |
| 0.07 | 1.75 | 70 | 2.5 |
| 0.07 | 1.75 | 65 | 2.5 |
| 0.07 | 1.75 | 60 | 3 |
| 0.07 | 1.75 | 55 | 3 |
| 0.07 | 1.75 | 50 | 3.5 |
| 0.07 | 1.75 | 45 | 4 |
| 0.07 | 1.75 | 40 | 4 |
| 0.07 | 1.75 | 35 | 5 |
| 0.07 | 1.75 | 30 | 6 |
| 0.07 | 1.75 | 25 | 6 |

Seeding rates: Dermacor vs. Cruiser

- Dermacor: increase amount of product applied to seed as seeding rate decreases to maintain ~constant rate of active ingredient per acre
- Cruiser Maxx: do not increase amount of product applied to seed at low seeding rates, so less active ingredient per acre at low seeding rates

Cruiser Maxx label

- “apply Cruiser 5FS at a rate to achieve 0.03 milligrams thiamethoxam per seed”
- Target application rate: 3.3 fl oz per cwt
- **Variation with seed size:** ~17,000 – 21,000 seeds per lb

| Per seed rate | Seeds per pound | Grams ai per 100 kg seed |
|---------------|-----------------|--------------------------|
| 0.03 mg ai | 17,000 | 112 |
| 0.03 mg ai | 21,000 | 139 |

Variation with seeding rate

Cruiser Seed Treatment Rate in Grams AI Per Acre at Selected Treatment and Planting Rates

**Planting Rate in Pounds
Per Acre**

| Rate (oz/lb) | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|
| 0.0275 | 12.2 | 14.6 | 19.5 | 24.3 | 29.2 | 34.1 | 38.9 | 43.8 | 48.7 | 53.5 | 58.4 |
| 0.0285 | 12.6 | 15.1 | 20.2 | 25.2 | 30.3 | 35.3 | 40.4 | 45.4 | 50.4 | 55.5 | 60.5 |
| 0.0295 | 13.1 | 15.7 | 20.9 | 26.1 | 31.3 | 36.6 | 41.8 | 47.0 | 52.2 | 57.4 | 62.7 |
| 0.0305 | 13.5 | 16.2 | 21.6 | 27.0 | 32.4 | 37.8 | 43.2 | 48.6 | 54.0 | 59.4 | 64.8 |
| 0.0315 | 13.9 | 16.7 | 22.3 | 27.9 | 33.5 | 39.0 | 44.6 | 50.2 | 55.8 | 61.3 | 66.9 |
| 0.0325 | 14.4 | 17.3 | 23.0 | 28.8 | 34.5 | 40.3 | 46.0 | 51.8 | 57.5 | 63.3 | 69.0 |
| 0.0335 | 14.8 | 17.8 | 23.7 | 29.6 | 35.6 | 41.5 | 47.4 | 53.4 | 59.3 | 65.2 | 71.2 |
| 0.0345 | 15.3 | 18.3 | 24.4 | 30.5 | 36.6 | 42.7 | 48.9 | 55.0 | 61.1 | 67.2 | 73.3 |

Will Cruiser Maxx work at low seeding rates?

- Both Cruiser and Dermacor are systemic (taken up by the plant), but Cruiser probably more so
- Greenhouse experiments: Cruiser-treated plants kill adults, 1st instars, and late instars as they feed on treated plants
- Theoretically, it is amount of Cruiser in the plant that is important, not amount in soil



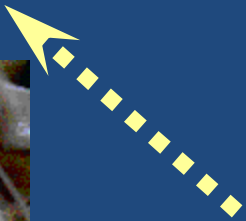
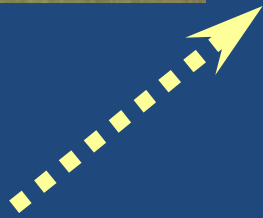
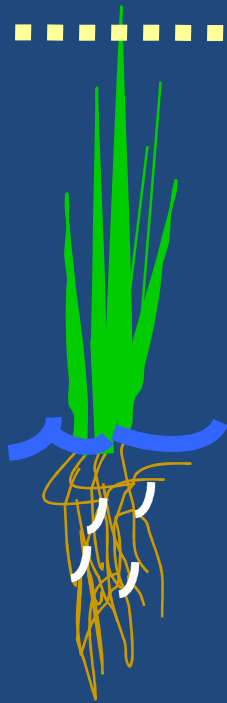
**Adult
overwintering**

**Adult
feeding**

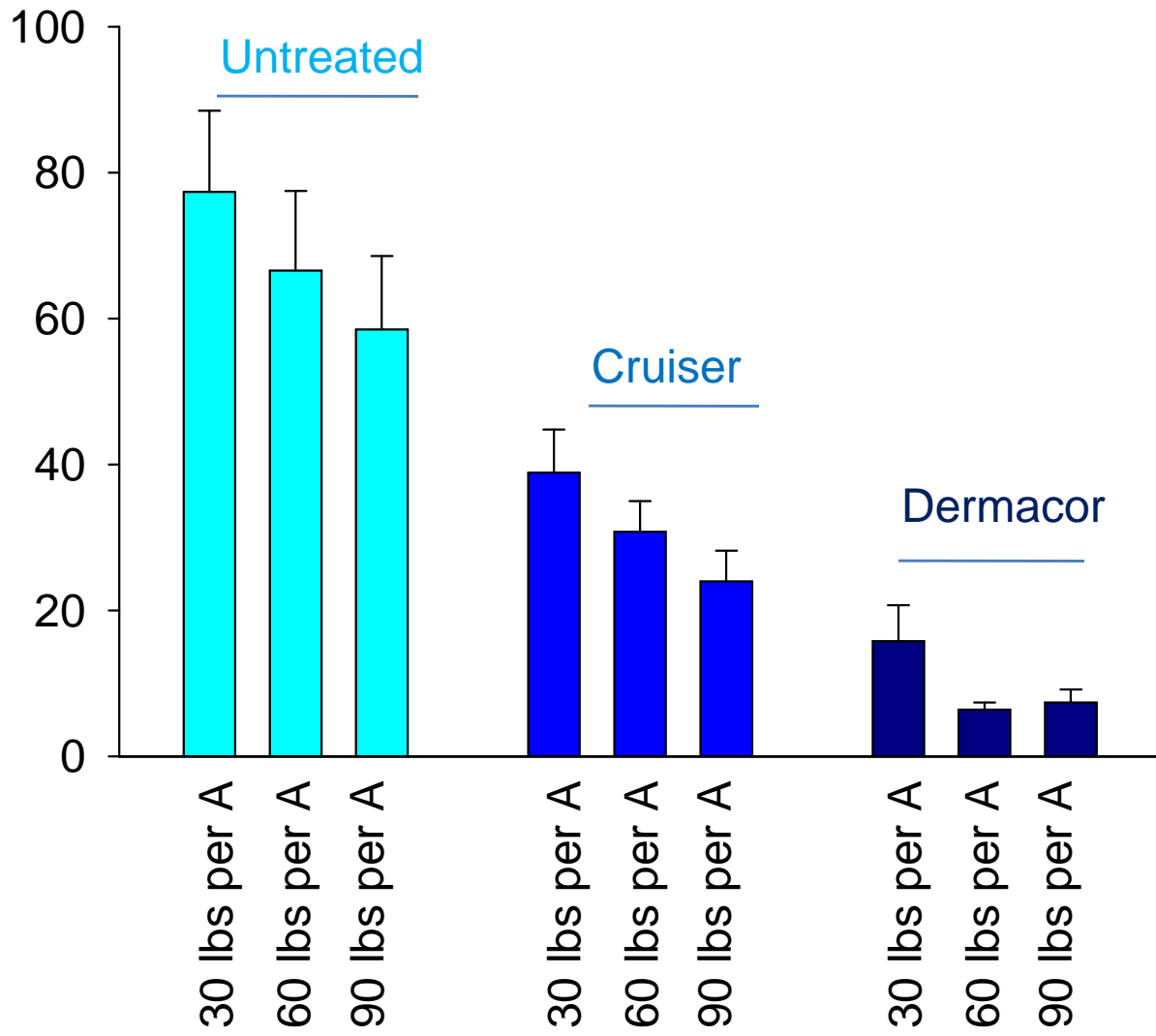


**Mating and
oviposition**

**Larval
feeding**



Average total larvae per three core samples



Pricing

- Pricing not yet released, but expected that Cruiser will be cheaper at low seeding rates (prices similar at higher seeding rates)
- Cruiser Maxx has fungicides Apron / Maxim / Dynasty

You might consider using Dermacor if...

- Field has a history of heavy weevil infestations or borer infestations
- You are nervous about lack of data on Cruiser at low seeding rates or lack of commercial data for weevil efficacy

You might consider using Cruiser Maxx if...

- You think you may have problems with colaspis
- You are worried about early-season diseases or early season sucking pests (chinch bugs & aphids)