Sugarcane Insects Update
Blake Wilson
LATMC Sugarcane Breakout Session
February 14, 2020

Spring Insect Outlook
Historic Deadhearts/acre

Data from Randy Richard et al. at USDA Houma

Many acres sprayed, mostly Prevathon
Industry Assessment: Billet Samples

Billet samples from separate trucks (fields)
Collected from 5 sugar mills
Hand inspected for SCB injury

Industry Assessment: Billet samples

![Chart showing average percent bored, percent of samples >3% bored, and highest injury recorded.]

Average percent bored: 0.4, 1.9, 1.8
Percent of samples >3% bored: 8.6, 8.9, 3.2
Highest injury recorded: 23

Industry Assessment: Economic Impact

SCB Injury
$8/acre x Avg % bored
Control cost
No. Insecticide sprays: 0.6/acre
Control cost: $14/acre

Total Impact of SCB:
2017: $24/acre, $9.3 million total
2018: $17/acre, $7.3 million total
2019: $28.4/acre, $12.1 million

White et al. 2008.
Stem Borers Attacking Sugarcane

Mexican rice borer

Sugarcane borer

MRB Range Expansion

MRB in Vermilion Parish
MRB in Vermilion Parish

Cultivars

% Bored Internodes

2018: F = 6.93, P <0.001
2019: F = 7.75, P <0.001

Stem Borer IPM
Variety Resistance

Susceptible
• HoCP 00-950
• HoCP 96-540
• Ho 05-961
• HoCP 04-838 (MRB)
• L 11-183
• L 12-201

Intermediate
• HoCP 07-613
• L 01-283
• L 03-371
• HoCP 12-615

Resistant
• L 01-299
• HoCP 85-845
• HoCP 04-838 (SCB)

Susceptible cultivars are often >5X more injured than resistant varieties when not protected.

Sugarcane Borer Varietal Resistance
St. Gabriel 2018-2019
### USDA Yield loss studies
#### 2019 1st Stubble (2018 plant cane)

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>% Bored</th>
<th>Sugar yield (lbs/a)</th>
<th>% yield loss</th>
<th>% response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Protected</td>
<td>Unprotected</td>
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<tr>
<td>L 13-251</td>
<td>42.6 a</td>
<td>7586</td>
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<td>HoCP 13-740</td>
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<td>6437</td>
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<tr>
<td>L 11-183</td>
<td>30.4 b</td>
<td>8454</td>
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<tr>
<td>HoCP 13-758</td>
<td>29.5 b</td>
<td>6487</td>
<td>5207</td>
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<tr>
<td>HoCP 96-540</td>
<td>21.9 c</td>
<td>8425</td>
<td>7286</td>
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<tr>
<td>Ho 13-708</td>
<td>18.4 cd</td>
<td>9049</td>
<td>6908</td>
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<tr>
<td>Ho 13-739</td>
<td>15.3 d</td>
<td>10474</td>
<td>8679</td>
<td>17.1</td>
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<tr>
<td>L 01-299</td>
<td>10.1 e</td>
<td>7772</td>
<td>9056</td>
<td>NA</td>
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</table>

F = 54.3
P < 0.001

Studies done in cooperation with Randy Richard, Rich Johnson et al.

### USDA Yield loss studies
#### 2019 Plant cane

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>% Bored</th>
<th>Sugar yield (lbs/a)</th>
<th>% yield loss</th>
<th>% response</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td>Protected</td>
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<tr>
<td>HoCP 00-950</td>
<td>40.0 a</td>
<td>11525 bcd</td>
<td>8300 cd</td>
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<tr>
<td>HoCP 14-865</td>
<td>31.4 ab</td>
<td>15321 a</td>
<td>8705 bcd</td>
<td>43.2</td>
</tr>
<tr>
<td>HoCP 13-758</td>
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<td>10798 bcd</td>
<td>8441 cd</td>
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<td>L 14-267</td>
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<td>HoCP 14-802</td>
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<td>Ho 13-739</td>
<td>18.0 b</td>
<td>12329 ab</td>
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<td>Ho 11-073</td>
<td>15.4 b</td>
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<tr>
<td>HoCP 85-845</td>
<td>11.8 b</td>
<td>11252 bcd</td>
<td>10601 bcd</td>
<td>5.8</td>
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</tbody>
</table>

F = 4.4
F = 3.6
P = 0.004
P = 0.004

Studies done in cooperation with Randy Richard, Rich Johnson et al.

### Sugarcane Borer Management Guide for Sugarcane Varieties

![Image of sugarcane borer management guide]
WIC Resistance

<table>
<thead>
<tr>
<th>Variety</th>
<th>Nymphs per leaf</th>
<th>Sooty mold rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 11-183</td>
<td>44.0 a</td>
<td>7.2 a</td>
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<tr>
<td>HoCP 96-540</td>
<td>30.0 ab</td>
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<td>HoCP 04-838</td>
<td>23.7 abc</td>
<td>3.9 bc</td>
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<tr>
<td>L 01-283</td>
<td>20.3 bc</td>
<td>3.3 bc</td>
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<td>L 01-299</td>
<td>14.4 bc</td>
<td>2.8 bc</td>
</tr>
<tr>
<td>L 09-804</td>
<td>12.8 c</td>
<td>2.3 c</td>
</tr>
</tbody>
</table>

F = 5.75 7.64
df = 5, 24.0 5, 19.8
P = 0.001 <0.001

Research Priorities

Sugarcane aphid yield loss
IR-4 Registration of Sivanto
WIC yield loss/threshold
MRB sampling/scouting studies
MRB yield loss/threshold
Wireworm trials
   In furrow Platinum? Whole stalk?

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  James Villegas
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Grower and consultant cooperators

Questions?

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