2019 & 2020 Sugarcane Aphid Management on Forage Sorghum Research Trials at MAC

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THE UNIVERSITY OF ARIZONA
Cooperative Extension
Field Crops IPM
Identification

Black tipped antennae
Black Tarsi
Yellowish body
Dark cornicles

Greenbug
Corn leaf aphid
Sampling & Action Threshold

• Determining when to spray varies from state to state and sometimes even within a state.

• Grain vs forage sorghum

• Typically within any given field, any of the thresholds used will be effective and will trigger an insecticide application at about the same time.

• Examples of thresholds:
  • Spray when 25% of the plants are infested with a minimum of 50 aphids per leaf
  • Spray when a field reaches a level of 50 to 125 SCA per leaf
  • Spray when 20 – 30% (depending on growth stage) of plants are infested with localized areas of honeydew and established colonies are present
Quick Aphid Checker

Estimate the number of sugarcane aphids (SCA) per leaf to help time foliar insecticides for SCA control on sorghum. Each photo represents an estimate from the table. For example, photo A shows about 12 aphids.

<table>
<thead>
<tr>
<th>Photo</th>
<th>Range</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1–25</td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td>26–50</td>
<td>38</td>
</tr>
<tr>
<td>C</td>
<td>51–100</td>
<td>75</td>
</tr>
<tr>
<td>D</td>
<td>101–500</td>
<td>300</td>
</tr>
<tr>
<td>E</td>
<td>501–1000</td>
<td>750</td>
</tr>
<tr>
<td>F</td>
<td>&gt;1000</td>
<td>1500</td>
</tr>
</tbody>
</table>

Field Average = Total of All Estimates
                Total # of Leaves Examined

Learn more about sugarcane aphids at http://txscan.blogspot.com

Photos courtesy of Travis Ahrens, Mike Brewer, and Pat Porter.

Funding provided by the Texas Grain Sorghum Producers Board and the USDA NIFA Southern IPM Center and Crop Protection and Pest Management Program.

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1000 copies – New
Sampling for Sugarcane Aphid using Quick Aphid Checker

https://youtu.be/dVZV
DZgpHms
Early Panting Date Trial

Greenbug and corn leaf aphids on early planted forage sorghum

![Graph showing the presence of greenbugs and corn leaf aphids on early planted forage sorghum. The graph shows a significant increase in aphid presence on 6/18/17 compared to 6/12/17 and 6/27/17.]
## 2019 Sugarcane Aphid Trials in Sorghum - MAC

### Foliar Treatments
- **Sivanto Prime (4 & 7 oz/A)**
- **Centric (2.5 & 3.4 oz/A)**
- **Transform (1 & 1.5 oz/A)**
- **Sefina (6 oz/A)**
- **Lorsban (32 oz/A)**
- **UTC**

### Sivanto Prime Injection at Planting + Foliar Treatments
**Planting and injection 6/6/2019**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Sivanto Prime at planting</th>
<th>Centric 2.5 oz/A foliar spray</th>
<th>Transform 1.5 oz/A foliar spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 oz/A</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 oz/A</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 oz/A</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>8 oz/A</td>
<td>X</td>
<td>X</td>
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<tr>
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<td>2 oz/A</td>
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<tr>
<td>8 oz/A</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 oz/A</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2 oz/A</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>UTC1</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>UTC2</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UTC UTC</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Planting and injection 6/6/2019**

**Foliar applications 9/27/2019**
2019 Foliar application trial – SCA populations

Accumulative seasonal population of SCA/leaf for the 2019 foliar application trial in sorghum at MAC

- UTC
- Transform 1.5 oz/A
- Centric 3.4 oz/A
- Transform 1 oz/A
- Sivanto Prime 4 oz/A
- Sefina 6 oz/A
- Centric 2.5 oz/A
- Lorsban Adv. 32 oz/A
- Sivanto Prime 7 oz/A

Legend:
- DAT 6
- DAT 13
- DAT 20
- DAT 32
2019 Foliar application trial – Sorghum yields

Forage Sorghum Yields (ton/A) from the 2019 foliar treatment trial to control SCA at MAC Trial
In-furrow (injection) Application
2019 In-furrow injection + foliar applications trial – SCA populations

Accumulative seasonal population of SCA/leaf for the 2019 in-furrow injection trial in sorghum at MAC

- UTC
- Transform 1.5 oz/A
- Centric 2.5 oz/A
- Sivanto 2 oz + Transform 1.5 oz/A
- Sivanto 4 oz + Transform 1.5 oz/A
- Sivanto 8 oz + Transform 1.5 oz/A
- Sivanto 2 oz + Centric 2.5 oz/A
- Sivanto 4 oz + Centric 2.5 oz/A
- Sivanto 8 oz + Centric 2.5 oz/A
- Sivanto Prime 2 oz/A
- Sivanto Prime 4 oz/A
- Sivanto Prime 8 oz/A

DAT 6  DAT 13  DAT 20  DAT 27
2019 In-furrow injection + foliar application trial – Sorghum yields

Yield (ton/A) for the 2019 in-furrow injection trial for SCA control in sorghum at MAC
2020 Sugarcane Aphid Trials in Sorghum - MAC

**Foliar Treatments**
- Sivanto Prime (4 & 7 oz/A)
- Centric (2.5 & 3.4 oz/A)
- Transform (1 & 1.5 oz/A)
- Sefina (6 oz/A)
- Lorsban (32 oz/A)

**Sivanto HL Injection at Planting + Foliar Treatments**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Sivanto HL at planting</th>
<th>Centric 2.5 oz/A foliar spray</th>
<th>Transform 1.5 oz/A foliar spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 oz/A</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 oz/A</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 oz/A</td>
<td>X</td>
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<tr>
<td>4 oz/A</td>
<td>X</td>
<td>X</td>
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<tr>
<td>2 oz/A</td>
<td>X</td>
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<tr>
<td>1 oz/A</td>
<td>X</td>
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<tr>
<td>4 oz/A</td>
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</tr>
<tr>
<td>2 oz/A</td>
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<td>X</td>
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</tr>
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<td>1 oz/A</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>UTC UTC</td>
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</tbody>
</table>

**Planting and injection 6/5/2020**
**Foliar application for Injection trial 8/24/2020**
**Application Foliar only trial 9/9/2020**
Symptoms of SCA damage & comparison among treatments in 2020 Foliar trial at MAC
Symptoms of SCA damage & comparison among treatments in 2020 In-furrow Injection trial at MAC

- Sivanto HL 4oz/A; no foliar
- Sivanto HL 1oz/A; no foliar
- No injection; no foliar
- Sivanto HL 4oz/A; Centric 2.5oz/A
- No injection; no foliar
- Sivanto HL 4oz/A; Transform 1.5oz/A
2020 Foliar application trial – SCA populations

Accumulative Number of SCA per leaf for foliar application efficacy trial in sorghum at MAC - 2020

UTC
Centric40 3.4 oz/A
Centric40 2.5 oz/A
Lorsban Adv. 32 oz/A
Sefina 6 oz/A
Sivanto 4 oz/A
Sivanto 7 oz/A
Transform 1 oz/A
Transform 1.5 oz/A

4 DAT  11 DAT  18 DAT  25 DAT  32 DAT  39 DAT  46 DAT
2020 In-furrow injection + foliar applications trial – SCA populations

Accumulative Number of SCA per leaf for **in-furrow injection** efficacy trial in sorghum at MAC - 2020

UTC
Centric 2.5 oz/A
Transform 1.5 oz/A
Sivanto-1oz+Centric
Sivanto-1oz+Transform
Sivanto-1oz
Sivanto-2oz+Centric
Sivanto-2oz+Transform
Sivanto-2oz
Sivanto-4oz+Centric
Sivanto-4oz+Transform
Sivanto-4oz

4 DAT  11 DAT  18 DAT  25 DAT  32 DAT  39 DAT  46 DAT
VIRTUAL TOUR OF THE 2020 SCA EFFICACY TRIALS AT MAC

• 2020 SCA Injection trial in sorghum at MAC (https://youtu.be/LrkIZs5Q4f0)

• 2020 SCA Foliar trial in Sorghum at MAC (https://youtu.be/l_XBSFsmxhA)
Best Management Practices for SCA

• Control Johnson grass and other sorghum species around field
• Plant early to avoid infestations early in the season
• Scout early and often
• Do not let SCA populations develop to large numbers
  – Treat when 20% of leaves checked have 50 or more SCAs
  – Use common sense concerning pending weather, number of fields needing to cover, etc.
• Use an efficacious insecticide; preferably one that is soft on beneficials
  – Avoid pyrethroids for other pests if possible
• Good spray coverage is key for SCA control
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