Result from On-Farm Soybean Aphid Trials

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2002 Dodge County Plot

- Replicated 4 times - field size equipment
- Planted May 22
- Next to another soybean field planted 10 to 14 days earlier
- Scouted weekly - 10 whole plants
- Whole plant aphid counts using 1 thru 6 system
- Warrior was the insecticide at 2.9 oz/A
**2002 Dodge County**

- Rating system used
  1. 0-50 aphids per plant
  2. 51-100 aphids per plant
  3. 101-200 aphids per plant
  4. 201-500 aphids per plant
  5. 501-1000 aphids per plant
  6. 1001+ aphids per plant

**Recommended treatment level = 200**
### 2002 Dodge County

<table>
<thead>
<tr>
<th>Date</th>
<th>Check plot</th>
<th># per plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/18</td>
<td>1</td>
<td>0-50</td>
</tr>
<tr>
<td>7/25</td>
<td>1.1</td>
<td>51-100</td>
</tr>
<tr>
<td>8/2</td>
<td>5.4</td>
<td>500-1000</td>
</tr>
<tr>
<td>8/10</td>
<td>5.8</td>
<td>500-1000</td>
</tr>
<tr>
<td>8/16</td>
<td>5</td>
<td>501-1000</td>
</tr>
<tr>
<td>8/23</td>
<td>3.9</td>
<td>101-200</td>
</tr>
<tr>
<td>8/30</td>
<td>2.2</td>
<td>51-100</td>
</tr>
<tr>
<td>9/5</td>
<td>1</td>
<td>0-50</td>
</tr>
</tbody>
</table>

Any spray treatment knocked them down and treatment threshold was not reached again.
2002 Dodge County - Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td>Check</td>
<td>58.7</td>
<td>C</td>
</tr>
<tr>
<td>7/19</td>
<td>62.9</td>
<td>AB</td>
</tr>
<tr>
<td>8/2</td>
<td>63.7</td>
<td>A</td>
</tr>
<tr>
<td>8/9</td>
<td>59.1</td>
<td>BC</td>
</tr>
<tr>
<td>Multiple</td>
<td>61.9</td>
<td>ABC</td>
</tr>
</tbody>
</table>

2002 Soybean Aphid Trial

<table>
<thead>
<tr>
<th>Yield bu/A</th>
<th>Check</th>
<th>7/19</th>
<th>8/2</th>
<th>8/9</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.7</td>
<td>62.9</td>
<td>63.7</td>
<td>59.1</td>
<td>61.9</td>
<td></td>
</tr>
</tbody>
</table>

Yield timing: 7/19, 8/2, 8/9, Multiple
Dane County

- Trial established in Sun Prairie area
- Plots sprayed with backpack sprayer using Warrior at 3.2 oz/A in 20 GPA water
- Plots 20X30 ft harvested with producer’s combine
Dane County

- Aphid numbers remained lower than expected season long
- First treatment – less than 5 aphids/plant
- Second treatment – 65 aphids per plant
- Other insects
  - Bean leaf beetle, leafhopper
  - Present in extremely low numbers
Dane County

- After treatment no plots had any rebound
- Very low predator numbers all year
- Site was very dry mid June – August
- No yield response was expected
- BUT…….
Dane County Yields

- UTC: 69 bu/A
- R2: 77 bu/A
- R4: 74 bu/A
Similarities to Previous Years

- Aphids were again seen in WI
- Aphid control resulted in increased yields
- Control timing R2-R4 soybean, late July - early August
Differences Found

- Between studies
  - Ideal control timing
  - Economic threshold for control
  - Sooty mold presence

- Between years
  - Location of aphids on plant
  - Predator populations
  - Length of aphid presence
Observations and Conclusions

- **Dodge Co.**
  - Plot ends next to the earlier planted field had highest numbers
  - Numbers stayed high longer (almost leaf color)
  - Edge between the two varieties and planting dates was attractive to the aphids
  - Sooty Mold cause plant discoloration could it be the cause of yield loss?
Observations and Conclusions

- Dane Co.
  - Low numbers resulted in yield loss
- Both locations
  - Aphids don’t do well in hot and dry
  - Predator numbers stayed low
  - Populations never rebounded after treatment
Aphid appears to be here to stay
  – May not always need treatment

Scouting
  – Mid July

Thresholds
The Future

- Was Dane Co. results a one time occurrence?
- Additional on farm trials with farmers to expand the knowledge base
- Interactions with other pest insects