Sugarbeet Root Maggots
Sugarbeet Root Maggot Fly Activity – Highest in 15 yrs

Flies / Trap (RRV Average)

44 46 102 78 42 78 83 111 210 110 78 156 165 194 227

Boetel et al. 2022, NDSU
2022 Root Maggot Forecast*

*Based on fly counts & root maggot feeding injury ratings
2022 Root Maggot Forecast*

**ND high risk:**
- Auburn
- Buxton
- Cavalier
- Crystal
- Drayton
- Grand Forks
- Oakwood
- Reynolds
- St. Thomas
- Thompson

**MN high risk:**
- Ada
- Argyle
- Climax
- Crookston
- E. Grand Forks
- Kennedy

*Based on fly counts & root maggot feeding injury ratings
## Moderate Root Maggot Risk in 2022

<table>
<thead>
<tr>
<th>North Dakota:</th>
<th>Minnesota:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bathgate</td>
<td>• Angus</td>
</tr>
<tr>
<td>• Caledonia</td>
<td>• Borup</td>
</tr>
<tr>
<td>• Forest River</td>
<td>• Donaldson</td>
</tr>
<tr>
<td>• Hamilton</td>
<td>• Euclid</td>
</tr>
<tr>
<td>• Hoople</td>
<td>• Fisher</td>
</tr>
<tr>
<td>• Leroy</td>
<td>• Sabin</td>
</tr>
<tr>
<td>• Merrifield</td>
<td>• Stephen</td>
</tr>
<tr>
<td>• Minto</td>
<td>• Warren</td>
</tr>
</tbody>
</table>
2021 Sugarbeet Root Maggot (SBRM) Observations

SBRM area & acres have grown

- Moderate Severity Acres = 87,992
- Severe Severity Acres = 61,769
- Total Acres = 149,761 (36%)
- Total Growers Affected = 348 (54%)
- Up 10,000 acres from 2020
- Mostly in the Severe category
### Additive Granular Insecticides for SBRM Control: St. Thomas, ND

#### 7-yr Combined Analysis (2015-2021)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rec Sucrose (lb/ac)</th>
<th>Tons/ac</th>
<th>$/ac above Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter 8.9 lb Band + Thimet 7 lb Post Band</td>
<td>8,746 a</td>
<td>29.3 a</td>
<td>$438</td>
</tr>
<tr>
<td>Poncho Beta + Counter 8.9 lb At-plant Band</td>
<td>8,735 a</td>
<td>29.7 a</td>
<td>$414</td>
</tr>
<tr>
<td>Poncho Beta + <strong>Counter 8.9 lb Post Band</strong></td>
<td>8,544 a</td>
<td>28.9 a</td>
<td>$399</td>
</tr>
<tr>
<td>Poncho Beta + Thimet 7 lb Post Band</td>
<td>7,851 b</td>
<td>27.2 b</td>
<td>$285</td>
</tr>
<tr>
<td>Counter 8.9 lb Band</td>
<td>7,771 b</td>
<td>27.1 b</td>
<td>$269</td>
</tr>
<tr>
<td>Poncho Beta</td>
<td>7,533 b</td>
<td>26.3 b</td>
<td>$237</td>
</tr>
<tr>
<td>CHECK</td>
<td>5,744 c</td>
<td>20.8 c</td>
<td>---</td>
</tr>
</tbody>
</table>

**LSD (0.05)** 541.7 1.68

*No significant Treatment x Yr Interaction ($\alpha = 0.05$)*
St. Thomas – 2021

Check

Counter 8.9# + Thimet 7# PB

Poncho Beta

PBeta + Counter 8.9# at-plt.

PBeta + Counter 8.9# POST
<table>
<thead>
<tr>
<th>At-Plant</th>
<th>Post</th>
<th>Rec. Sucrose (lb/ac)</th>
<th>Tons/ac</th>
<th>$/ac above Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poncho Beta + Counter 8.9 lb</td>
<td>Lorsban 4E 1 pt</td>
<td>9,114 a</td>
<td>30.6 a</td>
<td>$439</td>
</tr>
<tr>
<td>Poncho Beta + Counter 8.9 lb</td>
<td></td>
<td>8,891 ab</td>
<td>29.6 ab</td>
<td>$424</td>
</tr>
<tr>
<td>Poncho Beta</td>
<td>Counter 8.9 lb</td>
<td>8,733 ab</td>
<td>29.3 ab</td>
<td>$398</td>
</tr>
<tr>
<td>Counter 8.9 lb</td>
<td>Thimet 7 lb</td>
<td>8,715 ab</td>
<td>29.1 ab</td>
<td>$400</td>
</tr>
<tr>
<td>Poncho Beta</td>
<td>Thimet 7 lb &amp; Lors. 4E 1 pt</td>
<td>8,342 bc</td>
<td>28.3 bc</td>
<td>$332</td>
</tr>
<tr>
<td>Poncho Beta</td>
<td>Thimet 7 lb</td>
<td>7,896 cd</td>
<td>27.1 cd</td>
<td>$262</td>
</tr>
<tr>
<td>Counter 8.9 lb</td>
<td></td>
<td>7,873 cd</td>
<td>26.8 cd</td>
<td>$271</td>
</tr>
<tr>
<td>Poncho Beta</td>
<td></td>
<td>7,706 d</td>
<td>26.3 d</td>
<td>$250</td>
</tr>
<tr>
<td>CHECK</td>
<td></td>
<td>5,964 e</td>
<td>21.2 e</td>
<td>---</td>
</tr>
<tr>
<td><strong>LSD (0.05)</strong></td>
<td></td>
<td>599.6</td>
<td>1.97</td>
<td></td>
</tr>
</tbody>
</table>

*No significant Treatment x Yr Interaction (α = 0.05)*
There is no change in chlorpyrifos revocation status!!!

Chlorpyrifos cannot be used in 2022 if it is found it will be considered a miss applied chemical application.

What will growers need to do?
Acres Treated with Counter

• 2004 = Highest @ 69% - 346,712 acres
• 2009 = Year insecticide seed treatments became available
• 2018 = Lowest @ 11% - 41,554 acres
• 2021 = 15% - 60,104 acres
We need to get more Counter down

- Pull the Smartboxes out of the trees
- Used 24row set of Smartboxes is roughly $15,000
- Used boxes are hard to find if you aren’t using yours Amvac would sure take them off your hands
- Amvac has went away from Smartboxes and has a new system is $53-55,000 with no rebate and sales reps are as excited for new system
- Supply is good but shipping is a major concern
- Scott Nelson is our area rep 605-880-1500
  Email:ScottN@AMVAC.com
Thimet Applicators & Application

- Create/Develop/Modify existing equipment
- Install a Gandy Unit or Smart Boxes on to a bar
- Examples to right:
  - Rotary hoe
  - Keller band sprayer
- Share/Rent with neighbors
- Custom work

Timing & Rate:
- 5 – 13 days Pre-Peak
- 7 lbs./acre in 5-7” Band
- Thimet requires incorporation: Mechanical or Rain event
- Moisture is required to activate Thimet
Recommendations for SEVERE area

• High rate of Counter 20G 8.9# At-Plant
• Thimet (7.0#) application 6-14 days Pre-Peak

When fly counts reach threshold*
• Mustang Maxx at 4 oz./acre
  - or
• Asana XL @ 9.6 oz./acre

*Sugarbeet Root Maggot Fly Thresholds
Post emergence insecticide applications should occur ahead of peak fly activity when:
• Unprotected fields have cumulative fly counts of 40-45 flies/stake
• Fields protected with an at-plant insecticide exceed cumulative fly counts of 70 flies/stake

Insecticide Application Timing:
• Post Granule Applications: 6-14 days before expected SBRM fly activity peak
• Post Liquid Applications: 2-3 days before expected SBRM fly activity peak
Recommendations for MODERATE area

- Moderate rate Counter 20G 7.5# At-Plant

When fly counts reach threshold*
- Mustang Maxx at 4 oz./acre
- or
- Asana XL at 9.6 oz./acre
Recommendations for LOW area

- Moderate rate of Counter 20G 7.5# At-Plant
- -or - a seed treatment
- -or - Midac FC In-Furrow

- Monitor SBRM fly population

- If fly counts reach threshold*
  - Mustang Maxx at 4 oz./acre
  - -or
  - Asana XL at 9.6 oz./acre
Websites for fly counts and growing degree days

• https://www.ndsu.edu/snrs/people/faculty/mark_boetel/sugarbeet_entomology/
• https://ndawn.ndsu.nodak.edu/help-sugarbeet-root-maggot.html
• https://ndawn.ndsu.nodak.edu/sugarbeet-root-maggot.html
• https://www.crystalsugar.com/agronomy/ag-tools/pest-alert/
Questions??

M. Boetel, NDSU