Thrips Control in Peanut in North Carolina with Insecticides Applied During Planting and After Peanut Emergence

Lance Grimes
NC Cooperative Extension
Martin county
Lance Grimes
Extension Agent, Agriculture
Martin County Center
lance_grimes@ncsu.edu

OFFICE PHONE:
(252) 789-4370

FAX:
(252) 789-4389

DOWNLOAD VCARD
Martin County Peanuts

- 2015-2017 Peanut Acreage
  - 8,046
- 3 year average yield: 4000 lbs/acre
- Five buying points
- Around 85 peanut producers
  - Acres per grower range from 10 to 700 acres
Importance of thrips
Interactions with Herbicide Injury
Control Options
Systemic insecticides at planting
Acephate
Phorate/Thimet
Admire Pro/Generics
Velum Total

Foliar applications
Acephate
Concerns
Acephate and delayed peanut emergence
Imidacloprid increasing spotted wilt
Velum Total expense and unpredictable and erratic nematode populations
Thimet injury to peanut
Acephate and Thimet MOAs and registrations
Potential resistance to imidacloprid
Benefits of In-Furrow

Good thrips control
Easier to handle
Use additional products
  Fungicide
  Inoculants
Thimet injury
Challenges – Logistics
Acephate POST
Planting Date, Phorate, Acephate
Jordan, Brandenburg, Shew
Thrips injury as affected by the interaction of planting date by phorate by acephate application.\textsuperscript{a,b}

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Early May</th>
<th>Mid May</th>
<th>Late May</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>3.1 a</td>
<td>2.3 b</td>
<td>1.8 c</td>
</tr>
<tr>
<td>Phorate (IFG)</td>
<td>0.7 f</td>
<td>1.0 e</td>
<td>0.3 g</td>
</tr>
<tr>
<td>Acephate (POST)</td>
<td>1.2 d</td>
<td>1.0 e</td>
<td>1.1 de</td>
</tr>
<tr>
<td>Phorate fb acephate (IFG fb POST)</td>
<td>0.3 g</td>
<td>0.4 g</td>
<td>0.2 g</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Means within a year followed by the same letter are not significantly different according to Fisher’s Protected LSD test at P ≤ 0.10. Data are pooled over years. Phorate applied in the seed furrow at planting and acephate applied POST 3 WAP at 5 lbs/acre and 8 oz/acre, respectively.

\textsuperscript{b}Injury from thrips feeding was recorded 2 weeks after acephate was applied using an ordinal scale of 0 to 5, where 0 = no damage, 1 = noticeable feeding but no stunting, 2 = noticeable feeding and 25% stunting, 3 = feeding with blackened terminals and 50% stunting, 4 = severe feeding and 75% stunting, 5 = severe feeding and 90% stunting.

Less injury from thrips as planting is delayed in absence of insecticide.
Peanut yield in 2013-2016 as affected by the interaction of phorate and acephate application. \(^{a, b}\)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Peanut yield (lbs/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No insecticide</td>
<td>4830 b</td>
</tr>
<tr>
<td>Phorate</td>
<td>5080 a</td>
</tr>
<tr>
<td>Acephate</td>
<td>5020 a</td>
</tr>
<tr>
<td>Phorate followed by acephate</td>
<td>5120 a</td>
</tr>
</tbody>
</table>

\(^{a}\) Means followed by the same letter are not significantly different according to Fisher’s Protected LSD test at P ≤ 0.10. Data are pooled over years and planting dates. Phorate applied in the seed furrow at planting and acephate applied POST 3 WAP at 5 lbs/acre and 8 oz/acre, respectively.

Protection from thrips injury is needed regardless of planting date.
Planting Date, Phorate, Acephate

Delaying planting often results in less thrips injury

Phorate and Acephate were equally effective in protecting yield
Admire Pro Trials
Brandenburg and Jordan
Thrips Injury (Scale 0-5) 5 Weeks after Planting (WAP)
Acephate applied 3 WAP
Brandenburg and Jordan Trials (7 total)

LSD = 0.2
Positive yield response to Acephate regardless of in-furrow insecticide treatment
Admire Pro provided greater yield than other treatments
Velum Total Trials
Brandenburg and Jordan
Thrips Injury (Scale 0-5) 5 Weeks after Planting (WAP)
Acephate applied 3 WAP
Brandenburg and Jordan Trials (6 total)

LSD = 0.4
Peanut Yield (pounds/acre)
Brandenburg and Jordan Trials (6 total)

LSD = 380
## Peanut Response to In-Furrow Insecticides in 2015

<table>
<thead>
<tr>
<th>In-furrow insecticide</th>
<th>Injury from thrips 5 WAP</th>
<th>Peanut yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rocky Mt F1</td>
<td>Rocky Mt F2</td>
</tr>
<tr>
<td>None</td>
<td>1.0 a</td>
<td>1.0 a</td>
</tr>
<tr>
<td>Admire Pro</td>
<td>0.3 b</td>
<td>0.1 c</td>
</tr>
<tr>
<td>Velum Total</td>
<td>0.2 b</td>
<td>0.3 b</td>
</tr>
<tr>
<td>Thimet</td>
<td>0.3 b</td>
<td>0.3 b</td>
</tr>
</tbody>
</table>

Pooled over 4 trials.

Velum Total at 18 oz/acre. Admire Pro at 9 oz/acre. Thimet at 5 lbs/acre. Acephate at 8 oz/acre 3 WAP.

**Thrips control relatively consistent – yield response often inconsistent**
Velum Total Trials
Images from 2015, 2017, 2018
Non-treated control

Admire Pro
Non-treated control  

Acephate POST
Non-treated control  

Velum Total/Acephate
Non-treated control

Admire Pro/Acephate
Non-treated control

Thimet/Acephate
Non-treated control

Admire Pro
Non-treated control

Thimet
Non-treated control

Velum Total/Acephate
Non-treated control

Admire Pro
Non-treated control

Thimet
Non-treated control  Acephate POST
Non-treated control  Velum Total/Acephate
Non-treated control  Admire Pro/Acephate
Summary
-Thrips control is critical in NC.
-Tools are currently effective.
-Some concerns about long-term utility of products (MOA of Thimet and potential for imidacloprid resistance).