MANAGING THRIPs ON VEGETABLE CROPS

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Melon thrips and its hosts

**Solanaceae:** Eggplants, pepper, potato, tobacco, ground cherry.

**Cucurbitaceae:** Cucumber, watermelon, muskmelon, cantaloupe, pumpkin, bitter melon, squash, hairy gourd.

**Leguminosae:** Kidney bean, broad bean, cowpea, soybean, etc.
Melon thrips damage

Melon thrips adults

Melon thrips larvae

Eggplant

Bean

Cucumber

Squash
Seasonal abundance of *T. palmi* in ‘Pod Squad’ beans during 1994 – 2014
Melon thrips control

Various studies were conducted at TREC research plots using:

Bean
Squash
Cucumber
Tomato
Melon thrips control on tomato using various insecticide treatments at TREC, UF-IFAS, 2014

![Bar chart showing mean number of melon thrips for different treatments.](image)

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Rate [oz.]/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>A21390a</td>
<td>8</td>
</tr>
<tr>
<td>A21390b</td>
<td>8</td>
</tr>
<tr>
<td>A21390c</td>
<td>8</td>
</tr>
<tr>
<td>Radiant</td>
<td>8</td>
</tr>
<tr>
<td>Durivo</td>
<td>13</td>
</tr>
<tr>
<td>Exirel</td>
<td>13.5</td>
</tr>
</tbody>
</table>

Applied two times on the foliage at 7 d intervals. Samples were collected 48h after each application. Evaluation was made by counting larvae on randomly selected 10 flowers/plot.

Durivo: Thiamethoxam+Chlorantraniliprole; A21390: Abamectin+Cyantraniliprole
Melon thrips control using various insecticide treatments in a commercial tomato field, 2014

Applied four times on the foliage at 7 d intervals. Samples were collected 48h after each application.
Evaluation was made by counting larvae on randomly selected 10 flowers/plot (Brigadier: Befenthin + imidacloprid; Beleaf: Flonicamid; Belay: Clothianidin)

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<tbody>
<tr>
<td>Exirel</td>
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</tr>
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<td>Brigadier</td>
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</tr>
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<td>Venom + Radiant</td>
<td>5.0 + 8.0</td>
</tr>
<tr>
<td>Assail + Lorsban</td>
<td>6.0 + 16.0</td>
</tr>
<tr>
<td>Beleaf</td>
<td>4</td>
</tr>
<tr>
<td>Movento + Radiant</td>
<td>5.0 + 8.0</td>
</tr>
<tr>
<td>Belay + Malathion</td>
<td>6.0 + 32.0</td>
</tr>
<tr>
<td>Lorsban</td>
<td>16</td>
</tr>
<tr>
<td>Agrimek</td>
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</tr>
<tr>
<td>Brigade</td>
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Melon thrips control using various insecticide treatments at a commercial tomato field, 2014

Percent reduction

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<td>Control</td>
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</table>
Melon thrips control on squash using various insecticide treatments at TREC field, 2014

Mean no. of larvae

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Rate[oz]/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfoxaflor</td>
<td>4.50</td>
</tr>
<tr>
<td>Sulfoxaflor</td>
<td>3.50</td>
</tr>
<tr>
<td>Movento</td>
<td>5.00</td>
</tr>
<tr>
<td>Sulfoxaflor</td>
<td>3.50</td>
</tr>
<tr>
<td>Radiant</td>
<td>8.00</td>
</tr>
<tr>
<td>Sulfoxaflor</td>
<td>3.50</td>
</tr>
<tr>
<td>Radiant</td>
<td>8.00</td>
</tr>
<tr>
<td>Belay</td>
<td>6.00</td>
</tr>
<tr>
<td>Sulfoxaflor</td>
<td>3.50</td>
</tr>
<tr>
<td>Tolfenpyrad</td>
<td>21.00</td>
</tr>
<tr>
<td>Sulfoxaflor</td>
<td>3.50</td>
</tr>
<tr>
<td>Lannate</td>
<td>24.00</td>
</tr>
<tr>
<td>Cyazypyr</td>
<td>20.50</td>
</tr>
<tr>
<td>Control</td>
<td></td>
</tr>
</tbody>
</table>

Applied four times on the foliage at 7 d intervals. Samples were collected 48 h after each application.
Evaluation was made by counting larvae on randomly selected 10 leaves/plot.
(Sulfoxaflor: Trade name Closure; IRAC: 4C)
Effectiveness of various insecticides in controlling melon thrips on squash, 1995 to 2014.

Applied four times on the foliage at 7 d intervals. Samples were collected 48h after each application. Evaluation was made by counting larvae on randomly selected 10 leaves/plot.

<table>
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<tbody>
<tr>
<td>Radiant</td>
<td>6.0 - 8.0</td>
</tr>
<tr>
<td>Lannate</td>
<td>16</td>
</tr>
<tr>
<td>Guthion</td>
<td>16</td>
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<td>Agrimek</td>
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<td>Control</td>
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F=25.4; df=3,15; P > 0.05
Effectiveness of Torac and Belay in controlling *T. palmi* in cucumber, 2013

Applied four times on the foliage at 7 d intervals
Samples were collected 48h after each application
Evaluation was made by counting larvae on randomly selected 10 leaves/plot.

(Torac: Tolfenpyrad; IRAC: 21A)
10 mature melon thrips larvae were used in each replication. Each treatment was replicated four times. (Sivanto: Flupyradifurone; Butenolide group; IRAC 4D)
Management of *Frankliniella* thrips, vectors of tospoviruses, GRSV and TCSV, in tomatoes using various insecticides
COMMON BLOSSOM THRIPS

- F. schultzei
- F. fusca
- F. occidentalis
- T. palmi
WESSTERN FLOWER THRIPS

About 2.0 mm in length
150-300 eggs
Egg – adult: 13 days
Female longevity: 45 days

http://www.sardi.sa.gov.au

TSWV
Common blossom thrips control using various insecticide treatments at TREC tomato field, 2014

![Bar chart showing mean number of adults](chart.png)

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Applied two times on the foliage at 7 d intervals
Samples were collected 48h after each application
Evaluation was made by counting larvae on randomly selected 10 flowers/plot.
Western flower thrips control using various insecticide treatments at TREC tomato field, 2014

Applied two times on the foliage at 7 d intervals
Samples were collected 48h after each application
Evaluation was made by counting larvae on randomly selected 10 flowers/plot.
(A21390: abamectin + cyantraniliprole)
Common blossom thrips control using various insecticide treatments at a commercial tomato field, 2014

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Samples were collected 48h after each application
Evaluation was made by counting larvae on randomly selected 10 flowers/plot.

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Western flower thrips control using various insecticide treatments in a commercial tomato field, 2014

Mean no. of WFT adults

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<td>Brigade</td>
<td>2.5</td>
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<tr>
<td>Control</td>
<td></td>
</tr>
</tbody>
</table>

Applied two times on the foliage at 7 d intervals.
Samples were collected 48h after each application.
Evaluation was made by counting larvae on randomly selected 10 flowers/plot.
Control of Common blossom thrips (*Frankliniella shultzei*) and Flower thrips (*F. occidentalis*) in tomato by applying DPX-HGW86 20SC as a soil drench

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Rate [oz]/A</th>
<th>Method of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DPX-HGW86 20SC</td>
<td>13.5</td>
<td>At plant</td>
</tr>
<tr>
<td>2. Admire Pro DPX-HGW86 20SC</td>
<td>10.5</td>
<td>At plant</td>
</tr>
<tr>
<td></td>
<td>10.3</td>
<td>Drip at 14 &amp; 28 DAP</td>
</tr>
<tr>
<td>3. Admire Pro</td>
<td>10.5</td>
<td>At plant</td>
</tr>
<tr>
<td>4. DPX-HGW86 20SC</td>
<td>10.3</td>
<td>On foliage</td>
</tr>
<tr>
<td>5. Untreated check</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DPX-HGW86 20SC = Cyazypyr (Verimark and Exirel)
Control of *F. schultzei* in tomatoes using DPX and Admire Pro as a soil drench

DPX applied on foliage provided better reduction of *F. schultzei* than other treatments. *F. Schultzei* was not recorded on the combination treatment for the first 20 d.
Control of *F. occidentalis* in tomatoes using DPX and Admire Pro as a soil drench

DPX applied on foliage provided better reduction of *F. occidentalis* than other treatments, but did not differ from the combination treatment. *F. occidentalis* was not recorded on the DPX treatments for the first 10 d
DPX applied on foliage did not differ from DPX applied in soil in reducing GRSV. Admire in soil followed by DPX on foliage was significantly better than all other treatments in reducing GRSV incidence.
Evaluation of premixed products in controlling pests of tomato: all treatments were applied once at plant as a soil drench

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Rate/acre</th>
<th>Active ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>A16901</td>
<td>131.0 oz wt</td>
<td>Thiamethoxam + an experimental product</td>
</tr>
<tr>
<td>A16971</td>
<td>65.4 oz wt</td>
<td>An experimental product</td>
</tr>
<tr>
<td>Durivo</td>
<td>123.0 fl oz</td>
<td>Thiamethoxam + chlorantraniliprole</td>
</tr>
<tr>
<td>Platinum</td>
<td>34.2 oz wt</td>
<td>Thiamethoxam</td>
</tr>
<tr>
<td>Venom</td>
<td>6.0 oz wt</td>
<td>Dinotefuran</td>
</tr>
<tr>
<td>Check</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Management of GRSV applying premixed insecticides, TREC, 2012

Durivo, Venom, and Platinum did not significantly reduce GRSV affected plants when compared with the nontreated control.
Disclaimer

• The above information on the efficacy of insecticides in controlling thrips were generated based on our various research studies. This information should not be used as a recommendation by the University of Florida for controlling any specific pest. Use of an insecticide must be based on the label of that insecticide.
Thanks!

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