Weed Control Update in Processing Tomatoes

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# Treatments in 2011

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Timing</th>
<th>Rate (lbs/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Magnum</td>
<td>PRE</td>
<td>1.6</td>
</tr>
<tr>
<td>Prowl H₂O</td>
<td>PRE</td>
<td>1.4</td>
</tr>
<tr>
<td>Matrix</td>
<td>PRE</td>
<td>0.03</td>
</tr>
<tr>
<td>Treflan</td>
<td>PRE</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Zeus</strong></td>
<td>PRE</td>
<td><strong>0.1</strong></td>
</tr>
<tr>
<td>PRE herbicides+ Matrix POST</td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td>PRE herbicides + Shark POST</td>
<td></td>
<td>0.031</td>
</tr>
<tr>
<td>Matrix</td>
<td>POST</td>
<td>0.03</td>
</tr>
<tr>
<td>+ Matrix</td>
<td>POST (20 day interval)</td>
<td>0.03</td>
</tr>
<tr>
<td>Shark</td>
<td>POST shielded</td>
<td>0.031</td>
</tr>
<tr>
<td>Shark + Shark</td>
<td>POST shield (20 day interval)</td>
<td>0.031</td>
</tr>
<tr>
<td><strong>Treflan</strong></td>
<td>PRE</td>
<td><strong>2.0</strong></td>
</tr>
<tr>
<td>Untreated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Background population
Field Bindweed Control (%) on June 7, 2011

Field bindweed control (%)

- Dual Magnum 1.6 lb
- Prowl H2O 1.4 lb
- Matrix 0.03 lb
- Treflan 1.0 lb
- Zeus 0.1 lb
Field Bindweed Control (%) on June 21, 2011

- Dual Magnum 1.6 lb
- Prowl H2O 1.4 lb
- Matrix 0.03 lb
- Treflan 1.0 lb
- Zeus 0.1 lb
Field Bindweed control (%) on July 13, 2011

Field Bindweed control (%)

- Dual
- Prowl
- Matrix
- Treflan
- Zeus
Field Bindweed control (%) on July 13, 2011

Field Bindweed control (%)
Field Bindweed control (%) on July 13, 2011
Field Bindweed control (%) on June 23, 2010
Field Bindweed control (%) on June 23, 2010

Field Bindweed control (%)

Dual  Prowl  Matrix  Treflan

red: plus Shark  light blue: Alone
Field Bindweed control (%) on Oct. 12, 2011

- Dual: 50%
- Prowl: 10%
- Matrix: 20%
- Treflan: 80%
- Zeus: 30%
Field Bindweed control (%) on Oct. 12, 2011

Field Bindweed control (%)

- Dual
- Prowl
- Matrix
- Treflan
- Zeus

Legend:
- Red: plus Shark
- Light blue: Alone
Field Bindweed control (%) on Oct. 12, 2011
Field Bindweed Control (%) following POST treatments

- **Matrix 2X 0.03lb**
- **Shark 0.03lb**
- **Shark + Shark 0.031 lb ai POST**
Field Bindweed Control (%) at Two Rates of Treflan

Field Bindweed control (%)

7-Jun  | 21-Jun  | 13-Jul  | 12-Oct
1.0 lb/a | 2.0 lb/a

7-Jun | 21-Jun | 13-Jul | 12-Oct

7-Jun  | 21-Jun  | 13-Jul  | 12-Oct
1.0 lb/a | 2.0 lb/a
Dual Magnum 1.6 lbs/acre
Prowl H₂O 1.4 lbs/acre
Matrix PRE 0.03 lb/acre
Treflan 1.0 lbs/acre
Treflan 2.0 lbs/acre
Zeus 0.10 lb/acre
Tomato Yield (tons/acre) on Oct. 12, 2011
Tomato Yield (tons/acre) on Oct. 12, 2011

- Dual
- Prowl
- Matrix
- Treflan
- Zeus

[Bar chart showing yield comparison between 'plus Shark' and 'Alone' for each variety]
Tomato Yield (tons/acre) on Oct. 12, 2011

- Dual: Yield (tons/acre)
- Prowl: Yield (tons/acre)
- Matrix: Yield (tons/acre)
- Treflan: Yield (tons/acre)
- Zeus: Yield (tons/acre)

Legend:
- Green: Alone
- Turquoise: plus Matrix
Tomato yield (tons/ac) POST treatments

- Matrix 2X: 45 tons/ac
- Shark: 42 tons/ac
- Shark 2X: 41 tons/ac
- Untreated: 37 tons/ac
Tomato yield (tons/ac)
Treflan treatments

Treflan 1.0  |  Treflan 2.0  |  Untreated
50          |  60           |  45

Field bindweed conclusions

- Treflan was best at suppressing established field bindweed (in both 2010 and 2011)
- POST treatments improved control in most cases
- Dual Magnum, Prowl H₂O, Matrix and Spartan/Zeus good at suppressing seedling bindweed, but less effective against established bindweed
Zeus (Spartan) Update

- Received Federal registration for *transplanted tomatoes*, with California registration currently in review.
- Maybe available later this year, but should be available in 2013 for use in tomatoes.
Direct seeded tomatoes

Zeus @ 0.375 lb/a PRE
## Tomato Stand - 2011

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate (lb ai/a)</th>
<th>Stand (#/15ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeus</td>
<td>0.10</td>
<td>12.5</td>
</tr>
<tr>
<td>Zeus</td>
<td>0.14</td>
<td>11.2</td>
</tr>
<tr>
<td>Zeus</td>
<td>0.1875</td>
<td>10.5</td>
</tr>
<tr>
<td>Zeus + Dual Mag</td>
<td>0.10 + 1.6</td>
<td>12.8</td>
</tr>
<tr>
<td>Zeus + Dual Mag</td>
<td>0.14 + 1.6</td>
<td>11.5</td>
</tr>
<tr>
<td>Zeus + Treflan</td>
<td>0.10 + 0.75</td>
<td>11.8</td>
</tr>
<tr>
<td>Zeus + Treflan</td>
<td>0.14 + 0.75</td>
<td>10.8</td>
</tr>
<tr>
<td>Zeus + Matrix</td>
<td>0.14 + 0.03</td>
<td>12.2</td>
</tr>
<tr>
<td>Matrix</td>
<td>0.03</td>
<td>12.5</td>
</tr>
<tr>
<td>Dual Magnum</td>
<td>1.6</td>
<td>12.5</td>
</tr>
<tr>
<td>Untreated</td>
<td>---</td>
<td>13.0</td>
</tr>
</tbody>
</table>
Tomato Vigor (%) 1 month after Transplanting

Tomato Vigor (%)
Tomato Yield (% of untreated) on Aug. 23, 2011
Black Nightshade Control (%) - 2007

- 29-May
- 20-Jun
- 3-Jul
- 20-Jul
- 6-Aug

Nightshade control (%)

Zeus 0.10 PRE
Zeus 0.15 PRE
Matrix 0.03 PRE
Matrix 0.03 POST
Purslane Control (%) - 2007

- **Zeus 0.10 PRE**
- **Zeus 0.15 PRE**
- **Matrix 0.03 PRE**
- **Matrix 0.03 POST**
Zeus 0.10 lb/a – June 1, 2007
Zeus 0.15 lb/a – June 1, 2007
Matrix 0.03 lb/a (PRE) – June 1, 2007
Matrix 0.03 lb/a (POST) – June 1, 2007
Tomato injury (%) - 2007
Zeus PRE 0.10 lb/a
Matrix PRE 0.03 lb/a
Tomato Yield (tons/ac) - 2007

Tomato Yield (tons/ac) - 2007

Zeus 0.10 PRE
Zeus 0.15 PRE
Matrix 0.03 PRE
Matrix 0.03 POST

Tomato Yield (t/a)
Tomato Yields (% of untreated)

![Bar graph showing tomato yields for different years and treatments.]

- Zeus 0.10
- Zeus 0.15
- Matrix PRE 0.03
- Matrix POST 0.03
- Untreated
Zeus Summary

• Early reduction in tomato growth seen in all trials
• Excellent broadleaf weed control (lambsquarters, nightshade), but weak on grasses
• Long residual activity
• Excellent tomato yields
Questions?
Shark over the top