Insect Management in Drip Irrigation

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Insect Management in Drip Irrigation

**Advantages**
- Water / Nutrient management
- Access to field with ground equipment
- Ability to Chemigate

**Chemigation**
- Vapam
- Cloropicrin
- Vydate
- MSR

**Soil Application**
- Pre-plant bed shaping
- At-planting
**Chemigation**

Drip irrigation is the optimal application method for Admire and Platinum.

**Surface drip**  
**Sub-surface drip**

**Influence of Drip Irrigation on Imidicloprid Efficacy & Whitefly Control**

Yuma, AZ - June 4, 2001

- **Nymphs / cm²**
  - 60 DAT

- **Treatment Differences**
  - Admire 16 oz
  - Platinum 11 oz
  - Check

**Green Peach Aphid Control with Admire in Lettuce via Drip Chemigation**

- Wet Date – Nov 17
- Yuma Ag Center, Spring 1996

- **Mean aphids per plant**
  - 0
  - 5
  - 10
  - 15
  - 20
  - 25
  - 30
  - 35
  - 40

- **Treatments**
  - Admire 5 oz
  - Admire 10 oz
  - Admire 15 oz
  - Admire 20 oz
  - Untreated

**Lettuce Aphid Efficacy In Drip Irrigated Romaine**
Uniform Chemigation is Critical for Effective Insect Management

- You need to have the injection period be long enough to move the chemical through the entire drip system.

AND

- You need to have a post-injection period of clean irrigation water.

Insect Management in Drip Irrigation

- The easiest way to determine travel times of chemicals (and water) through a drip system:
  - Inject chlorine (at about 10 - 20 ppm) into the system and follow its movement through the drip system.
  - It is easy to spot when chlorine reaches any point by testing the water with a pool/spa test kit.

Insect Management in Drip Irrigation

Uniform Chemigation:

The injection period should be at least as long as it takes water/chemical to move from the head to tail-end of the drip system. Twice as long is better.

The post-injection, clean water irrigation period should be at least as long as it takes water/chemical to move from the head to tail-end of the drip system. Twice as long is definitely better.

Timing of Admire / Platinum Application
**Fall Melon Trial**
Brown Ranch
Somerton, AZ
Fall 2002

* Admire 16 oz
* Platinum 8 oz

**Neonicotinoids For Flea Beetle Control**

**Flea Beetle Control on Melons**

**Fall 2001 - Furrow Irrigated**

<table>
<thead>
<tr>
<th>% Damaged Plants</th>
<th>14 DAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaves</td>
<td>Coty.</td>
</tr>
<tr>
<td>Admire 16 oz</td>
<td>c</td>
</tr>
<tr>
<td>Platinum 8 oz</td>
<td>b</td>
</tr>
<tr>
<td>Platinum 5 oz</td>
<td>b</td>
</tr>
<tr>
<td>Dinotefuron</td>
<td></td>
</tr>
<tr>
<td>Untreated</td>
<td>c</td>
</tr>
</tbody>
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**Flea Beetle Control on Melons**

**Fall 2002 - Drip Irrigated**

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