Chlorpyrifos Use in Alfalfa and Statewide Trends

An Update on the CDPR Critical Use Project

Peter B Goodell
Cooperative Extension Advisor
UC Statewide IPM Program
Kearney Agricultural and Research Center
Background

- CDPR asked for a review of critical uses of **chlorpyrifos** in 4 key crops, including alfalfa to assist them in better understanding the role of this Active Ingredient (AI) in IPM
- **Critical Use** is defined as use of chlorpyrifos against pests for which there are few or no alternative management practices
- Alternative management practices include cultural, biological and chemical control
- Input came from industry and UC
- Results are available in report
Identifying and Managing Critical Uses of Chlorpyrifos Against Pests of Alfalfa, Almonds, Citrus and Cotton

A Report Developed for CA Dept of Pesticide Regulation

Report can be downloaded at: http://cdpr.ca.gov/docs/pestmgt/crit_uses.htm

Or by using this QR image:
Pounds of Chlorpyrifos Applied in Alfalfa by Location 2002 - 2012

10 Year Average:
Sac Valley: 0.52 lbs/ac
Statewide: 0.51 lbs/ac
Monthly Chlorpyrifos Use, 10 Year Average, 2002-2012

- **Sacramento Valley**
- **Statewide Total**
What Are the Critical Use Pests?

**Key Pests with Few or No Alternatives**
- Blue Alfalfa Aphid
- Cowpea Aphid
- Alfalfa Weevils

**Important Pests with Alternatives**
- Alfalfa Caterpillar
- Pea Aphid
- Armyworms

**Occasional Pests with Alternatives**
- Cutworm
- Webworm
- Spotted Alfalfa Aphid
- Leafhopper
# Best Management Practices for Insect Pests in Alfalfa

As identified by Alfalfa Crop Team

Not all practices listed in UC PMG

See Full Report for Details
## Insecticide Options Identified for Management of Alfalfa Pests

As identified by Alfalfa Crop Team

Not all products listed in UC PMG

See Report for details

### New AIs since Crop Team Meetings:
- **Aphid**: Sivanto (4D) and Beleaf (9C) [SLN]

<table>
<thead>
<tr>
<th>Alfalfa Pests by Ais</th>
<th>Trade Name(s)</th>
<th>Active Ingredient</th>
<th>IRAC MoA Group</th>
<th>Key Pests, No or Few Alternatives</th>
<th>Important Pests with Alternative Ais Available</th>
<th>Occasional Pests or Pests with Alternative Ais or Practices Available</th>
<th>Cutworms, variegated, granulate &amp; army</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coragen</td>
<td>Chlorantraniliprole</td>
<td>28</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambush, Pounce</td>
<td>Permethrin</td>
<td>3A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baythroid</td>
<td>Beta-cyfluthrin</td>
<td>3A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belt</td>
<td>Flubendiamide</td>
<td>28</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethoate</td>
<td>Dimethoate</td>
<td>1B</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrust (Organic)</td>
<td>Spinosad</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imidan</td>
<td>Phosmet</td>
<td>1B</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrepid</td>
<td>Methoxyfenozide</td>
<td>18A</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lannate</td>
<td>Methomyl</td>
<td>1A</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lock-On</td>
<td>Chlorpyrifos 2 EC</td>
<td>1B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorsban 4E or Advanced</td>
<td>Chlorpyrifos 4EC</td>
<td>1B</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malathion</td>
<td>Malathion</td>
<td>1B</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mustang</td>
<td>Zeta-cypermethrin</td>
<td>3A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sevin</td>
<td>Carbaryl</td>
<td>1A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steward</td>
<td>Indoxocarb</td>
<td>22A</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warrior</td>
<td>Lamba - cyhalothrin</td>
<td>3A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xentari, Dipel ES</td>
<td>Bacillus thuringiensis</td>
<td>11B1,11B2</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Corrected for UC PMG - version: "4/08" "4/08" "4/08" "4/08" "7/13" "7/13" "4/08" "4/08" "11/06" "11/06"
Alfalfa IPM Training

• Using all IPM tools to manage pests in alfalfa
• Emphasis will be decision support for chlorpyrifos use in managing Key, Important and Occasional Pests
• Update on forthcoming State and County restrictions and regulations
• Local topics of interest
• Schedule, Locations to be announced
  – SJV – Shannon Mueller, September 18, 2015
  – Palo Verde Valley, Vonny Barlow, October 1, 2015
  – Sacramento Valley: Rachael Long, October 22, 2015
  – Delta, Michelle Miles-Leinfelder, January 8, 2016
  – Imperial Valley, Eric Natwick, January 21, 2015
Thanks for Your Attention