Pyrethroid Outreach To Structural Pest Management Professionals

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Project Manager: Jared Sisneroz

DPR Seminar December 17, 2018
Project Background

- 2013 US EPA label changes to non-ag pyrethroid products
- Changes to Title 3 CCR §6970
- Improve awareness and adoption by structural pest management professionals (PMPs)
- Darren Haver’s project in Southern CA
Project Deliverables

- Identify PMPs in Sacramento metropolitan area
- Survey PMPs
- Develop a workshop curriculum
- Conduct a minimum of 3 workshops for 30 participants each
Project Collaborators

- Michael Ensminger - DPR Environmental Monitoring
- Dave Fujino - California Center for Urban Horticulture
- Darren Van Steenwyk - Clark Pest Control
- Rick Strider/ Alicia Scott - DPR Enforcement
- Andrew Sutherland - UC ANR Urban IPM Advisor
Curriculum Development

- Process
- Topics covered in workshops
  - Hands-on section
- Structural Pest Control Board mandatory CE quiz
- Pre/Post Questions
  - Help us evaluate knowledge coming into workshop
  - Did they gain knowledge from the training
Initial Curriculum (Pilot)

• Ecological impacts of runoff and impact of monitoring on regulations - Michael Ensminger

• Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications - Alicia Scott

• Critical uses and alternatives to pyrethroid insecticide applications around structures - Karey Windbiel-Rojas

• Group Exercise: Overview of best practices, from calibration to recording - Darren Van Steenwyk, moderator
Pilot workshop, October 19, 2017

- Held in Davis at UC ANR building
- Initial Curriculum
- Evaluated
  - Pre/Post questions
  - Pest Board questions
  - Participant satisfaction
When applying pyrethroids to a horizontal impervious surface such as a driveway, which of the following application methods are not permitted according to updated surface water regulations in Title 3, California Code of Regulations Section 6970 Surface Water Protection in Outdoor Nonagricultural Settings?

a) Crack and crevice treatment
b) Spot treatment less than 2 sq. ft.

**c) Perimeter band application less than 2’ wide**
d) Pin stream
Pre/Post Question 1 Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Pre (N=21)</th>
<th>Post (N=18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crack and crevice treatment</td>
<td>4.8%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Spot treatment less than 2 sq ft.</td>
<td>4.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Perimeter band application less than 2’ wide</td>
<td>81.0%</td>
<td>89.5%</td>
</tr>
<tr>
<td>Pin stream</td>
<td>9.5%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Broadcast applications of granular pyrethroids are not permitted within __ feet of horizontal impervious surfaces.

a) 1’
b) 2’
c) 3’
d) 4’
Pre/Post Question 2 Results

- Pre (N=22):
  - 1' (14%)
  - 2' (77%)
  - 3' (5%)
  - 4' (5%)

- Post (N=19):
  - 2' (100%)
  - 3' (5%)
  - 4' (5%)

# of Responses
In California, pyrethroid applications can be made to vertical surfaces up to 3’ above grade, if the label states that.

a) True
b) False
Pre/Post Question Question 4

In California horizontal perimeter band treatments cannot be made 3’ or greater from the base of a building outward.

a) True
b) False

![Bar chart showing responses]

- Pre (N=23): True (60.87%), False (39.13%)
- Post (N=19): True (78.95%), False (21.05%)
11. Pyrethrin applications are regulated under Title 3, California Code of Regulations Section 6970 Surface Water Protection in Outdoor Nonagricultural Settings.
   • True
   • False (correct)

20. The following applications are exempt from regulations:
   • Applications to above ground insect nests made of mud or paper combs (5%)
   • Applications of baits in weather-proof stations or gel baits (correct) (11%)
   • Applications to ant nest holes that go below grade (0%)
   • All of the Above (84%)
Participant review of Pilot workshop

Overall Workshop Rating

- Very good. I learned a lot!
- Pretty good. I learned some new things.
- Ok. I learned a little.
- Not useful.

# of Responses:

- Very good: 10
- Pretty good: 11
- Ok: 1
- Not useful: 0
Revised Curriculum

• Ecological impacts of runoff and impact of monitoring on regulations - *Michael Ensminger*

• Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications - *Alicia Scott*

• Critical uses and alternatives to pyrethroid insecticide applications around structures - *Karey Windbiel-Rojas*

• Calculation & Calibration Exercise - *Loren Oki/K. Windbiel-Rojas*

• Group Exercise: Overview of best practices, from calibration to recording - *Darren Van Steenwyk, moderator*
Workshops in March 2018

- Folsom -
  - March 9
  - Folsom Community Center
- Roseville
  - March 14
  - Maidu Community Center

Photo: K. Windbiel-Rojas
Workshop Promotion

- PCO List
  - email invites
  - Phone calls
- Product distributor
- Pest Control Operators of California (PCOC)
  - District meeting announcement
  - Emailed out to local membership list
Folsom & Roseville Pre/Post Results

- Similar answer pattern to Pilot
- Some confusion about horizontal perimeter band application
In California, pyrethroid applications can be made to vertical surfaces up to 3’ above grade, if the label states that.

<table>
<thead>
<tr>
<th>True (correct)</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre (N=20)</strong></td>
<td><strong>Post (N=19)</strong></td>
</tr>
<tr>
<td>85.00%</td>
<td>73.68%</td>
</tr>
<tr>
<td>15.00%</td>
<td>26.32%</td>
</tr>
</tbody>
</table>
In California, pyrethroid applications can be made to vertical surfaces up to 3’ above grade, if the label states that.

90.91% True (correct) 80.00% False

# of Responses

Pre (N=22) 90.91% 20.00%
Pre (N=25) 9.09%
• Previous question:
  In California, pyrethroid applications can be made to **vertical** surfaces up to 3’ above grade, if the label states that.
• Current regs: 2’ up, 3’ out
Evaluation Results - Folsom

- Overall Rating
- Ecological impacts of runoff and impact of monitoring on regulations
- Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications
- Critical uses for and alternatives to pyrethroid insecticide applications around structures
- Group Exercise: Overview of best practices, from calibration to recording
Roseville Evaluation Results

Overall Rating
- Ecological impacts of runoff and impact of monitoring on regulations
- Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications
- Critical uses for and alternatives to pyrethroid insecticide applications around structures

# of Responses

- Very Good
- Pretty Good
- Ok
- Not usefull

- Calibration
- Calculation
- Hands On
Information about Participants

• How long have you been a PMP?
• Where do you get information about regulations & label requirements?
• What do you primarily use pyrethroids to control?
• What drives your product selection?
• Where do you apply pesticides?
• Familiarity with pyrethroids
How long have you been a Pest Management Professional (PMP)?

- 0-1 years
- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years

Locations:
- Davis
- Folsom
- Roseville
Which source of information do you rely on the most to learn about new regulations and label requirements?

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Davis</th>
<th>Folsom</th>
<th>Roseville</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal/company provided education</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Continuing education classes and/or workshops</td>
<td>7</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Vendors and/or pesticide suppliers</td>
<td>8</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Trade publications</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Government and regulatory agencies</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

n= 22  20  22
I primarily use pyrethroids to control?

<table>
<thead>
<tr>
<th>Pest</th>
<th>Davis</th>
<th>Folsom</th>
<th>Roseville</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ants</td>
<td>7</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Bed Bugs</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cockroaches</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Fleas</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flies</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mosquitos</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spiders</td>
<td>11</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>I do not use pyrethroids</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

n= 23 20 23
## What drives product selection?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Davis</th>
<th>Folsom</th>
<th>Roseville</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price/economy</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Toxicity</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Previous experience with a product</td>
<td>14</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Customer preferences</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Advice from pesticide supplier/dealer</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Advice from boss/manager</td>
<td>3</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

n= 23, 20, 22
Where do you apply pesticides?

<table>
<thead>
<tr>
<th></th>
<th>Davis</th>
<th>Folsom</th>
<th>Roseville</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoors</td>
<td>17</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>81%</td>
<td>70%</td>
<td>74%</td>
</tr>
<tr>
<td>Indoors</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Equally indoors and outdoors</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>14%</td>
<td>20%</td>
<td>26%</td>
</tr>
<tr>
<td>n=</td>
<td>21</td>
<td>20</td>
<td>23</td>
</tr>
</tbody>
</table>
Future Project Goals

• Increase accessibility to content
• Break up workshop to individual talks
• Convert talks to online training resources
Questions

Photo: K. Windbiel-Rojas