

Training Pesticide Control Operators (PCO's) and PCO companies in Urban Pyrethroid Applications

CDPR Agreement No. 15-C0056

Appendixes A-C

August 2016 – December 2018

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Appendix A

Revised Workshop Curriculum

Introduction/Darren Van Steenwyk

- Workshop outline
- Emphasis on industry stewardship for continued product use
- Pyrethroids are a current concern; workshop will provide guidance on compliance in the current regulatory environment, methods

Current practices survey/Loren Oki

- Turning Point® used to ask 7 questions
- Questions focus on determining current practices and several questions will be repeated in the SPCB exam to measure workshop effectiveness

Ecological impacts of runoff and impact of monitoring on regulations/Mike Ensminger

- Description of monitoring- presence/absence sampling, toxicity evaluations, seasonal & regional trends
- Sampling protocol and procedures, including chemical analysis and aquatic toxicity testing
- Intent of monitoring is to ensure regulations are based on data, examples of pyrethroid impact on aquatic communities driving initial regulatory changes
- Effect of research influences policy- explanation of SoCal project working with PCO's and detection rates of specific pyrethroids

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

- Origin of regulations, reasons for label changes
- 2012 pyrethroid regulations/ updated EPA labels in 2012/ DPR 2011 MOA with bifenthrin professional product registrants
- How to interpret and understand regulations using CCR §6970. Surface Water Protection in Outdoor Nonagricultural Settings & Overview of §6972. Exemptions from Surface Water Protection in Outdoor Nonagricultural Settings
- How to read a pyrethroid label with the intent of linking changes in CCR to the label
- Differences between bifenthrin label and other pyrethroids
- How PMP's can use regulations and label information to ensure their applications are in compliance

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

- Perimeter protection against ant invasion, focus on Argentine ants
- Perimeter protection against nuisance invaders, focus on outdoor cockroaches
- Protection against seasonal invaders, focus on aggregating true bugs
- Discussion of pest system ecologies
- Use of structural exclusion tactics, baiting programs, habitat modification
- Alternative products

Group Exercise: Overview of best practices, from calibration to recording/Darren Van Steenwyk

- Group instruction on how to calibrate sprayers, calculate spray rates, and active ingredient requirements with several example problem sets provided
- Participants were randomly split into groups, each group completed one exercises listed and reported their results to the other workshop participants
- Three exercises offered were: granular application, pin stream application (B&G handcan), and power rig and utilized a different pyrethroid for each exercise, e.g. bifenthrin, deltamethrin, and esfenvalerate, to highlight label differences
- The fourth exercise covered newer fipronil label changes and restrictions
- Each group was provided a worksheet covering all four exercises, to be filled out during the exercise and after listening to the group presentations
- A moderator facilitated each group to answer questions and provide feedback and assistance.
- Each group addressed:
 1. Reading the label
 2. Measuring an application area
 3. Calibrating equipment
 4. Determining proper amount of AI needed for application
 5. Performing an application - correct volume for square foot allowed on label
 6. How to report active ingredients applied - using program like CalAgPermits, what is the correct amount to report (concentrate from product container, undiluted product/ensure correct units are included/in-house QC check of entered information
 7. How to report correct and consistent license number (e.g. PR1234, not PR 1234, or 1234, PR1234000000, etc.)
 8. Reporting application count allows for QC check of data, to let DPR know that PMPs are reporting correctly, and that over-reporting is not occurring which would look like the industry has much higher use than is actually occurring.

Quiz

- Fulfills Structural Pest Control Board requirements for CE units, 10 questions/hr
- 50 Questions
- Four questions repeated from morning Turning Point® survey
- 10 questions total from Group Exercise section
- 12 questions from each classroom session

Questions related to session content were developed by the presenter(s).

Appendix B

Results from Pre/Post Surveys

Pre- & Post Survey Results		Davis		Folsom		Roseville	
		Count of responses					
Question/Answer		Pre	Post	Pre	Post	Pre	Post
1	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?	n=21	n=18	n=20	n=18	n=21	n=25
	Crack and crevice treatment	1	1	1	1	1	3
	Spot treatment less than 2 sq ft.	1	0	2	0	3	1
	Perimeter band application less than 2' wide (correct)	17	17	11	15	17	20
	Pin stream	2	0	6	2	0	1
2	Broadcast applications of granular pyrethroids are not permitted within ___ feet of horizontal impervious surfaces.	n=22	n=19	n=20	n=18	n=22	n=25
	1'	3	0	3	1	5	2
	2' (correct)	17	19	12	16	10	22
	3'	1	0	2	0	5	1
	4'	1	0	3	1	2	0
3	In California, pyrethroid applications can be made to vertical surfaces up to 3' above grade, if the label states that.	n=20	n=16	n=20	n=19	n=22	n=25
	True	9	4	8	2	6	4
	False (correct)	11	12	12	17	16	21
4	In California horizontal perimeter band treatments cannot be made 3' or greater from the base of a building outward.	n=23	n=19	n=20	n=19	n=22	n=25
	True (correct)	14	15	17	14	20	20
	False	9	4	3	5	2	5

Participant Background and Practices		Davis	Folsom	Roseville
Question/Answer		Count of Responses		
1	How long have you been a Pest Management Professional (PMP)?	n=24	n=20	n=22
	0-1 years	1	1	1
	1-5 years	4	6	4
	6-10 years	2	0	4
	11-15 years	5	1	4
	16-20 years	12	12	9
	21+ years	0	0	0
2	Of the options below, which source of information do you rely on the most to learn about new regulations and label requirements?	n=22	n=20	n=22
	Internal/company provided education	2	2	2
	Continuing education classes and/or workshops	7	9	10
	Vendors and/or pesticide suppliers	8	2	4
	Trade publications	1	0	1
	Government and regulatory agencies	4	7	5
3	How do you apply pyrethroids? Please select all that apply:	n=23	n=42	n=59
	Handcan (overhead application)	2	13	17
	Handcan (ground application)	6	16	18
	Power-rig	7	8	13
	Granule spreader	5	3	8
	I do not apply pyrethroids	3	2	3
4	I primarily use pyrethroids to control _____. (select one)	n=23	n=20	n=23
	Ants	7	5	9
	Bed Bugs	1	0	0
	Cockroaches	2	4	3
	Fleas	0	0	0
	Flies	0	0	0
	Mosquitos	0	1	1
	Spiders	11	9	8
	I do not use pyrethroids	2	1	2

Participant Background & Practices (cont'd)

Question/Answer		Davis	Folsom	Roseville
		Count of Responses		
5	The main reason for my product selection is _____. (select one)	n=23	n=20	n=22
	Price/economy	1	2	1
	Toxicity	2	0	3
	Previous experience with a product	14	9	8
	Customer preferences	0	0	0
	Advice from pesticide supplier/dealer	3	0	3
	Advice from boss/manager	3	9	7
6	As a PMP, I apply the most pesticides _____.	n=21	n=20	n=23
	Outdoors	17	14	17
	Indoors	1	2	0
	Equally indoors and outdoors	3	4	6
7a	On a scale of 1-5, with five being the most familiar, rate your familiarity with pyrethroid labels, and application requirements pertaining to surface water quality? (Davis Only)	n=22	n=0	n=0
	1 - Very familiar	7		
	2	4		
	3 - Moderately familiar	7		
	4	1		
	5 - Somewhat familiar	3		
7b	On a scale of 1-5, with five being the most familiar, rate your familiarity with pyrethroid labels, and application requirements pertaining to surface water quality? (Revised after Pilot Workshop)	n=0	n=20	n=23
	1- Not familiar		0	0
	2		1	0
	3 - Moderately familiar		9	10
	4		5	4
	5 - Very familiar		5	9

Appendix C

Workshop Agendas

Best Practices for Urban Pyrethroid Applicators

UC ANR Building, Sacramento Valley Room
2801 2nd Street, Davis CA 95618

October 19, 2017

7:30 am – 12:00 pm

DPR CEUs: 3.0 (1 Laws & Regs., 2 Other)

SPCB CEUs: 4.0 (3 Rules & Regs, 0.5 IPM, 0.5 General) SPCB CEUs

Agenda

7:00 - 7:30 AM	Check-in- Registration and continental breakfast
7:30 - 7:45 AM	Introduction Darren Van Steenwyk, Technical Director, Clark Pest Control
7:45 - 8:00 AM	Pre-Quiz - current pesticide application practices Loren Oki, Environmental Horticulture Specialist, UC Davis
8:00 - 8:40 AM	Ecological impacts of runoff and impact of monitoring on regulations Mike Ensminger, Senior Environmental Scientist, California Department of Pesticide Regulation
8:40 - 9:25 AM	Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications Alicia Scott, Environmental Scientist, California Department of Pesticide Regulation
9:25 – 10:00 AM	Critical uses for and alternatives to pyrethroid insecticide applications around structures Karey Windbiel-Rojas, Area Urban IPM Advisor, UC Statewide IPM Program
10:05 - 10:20 AM	Break
10:20 - 11:35 AM	Group Exercise: Overview of best practices, from calibration to recording Moderator: Darren Van Steenwyk
11:35 - 11:50 AM	Post Quiz- Required for Structural Pest Control Board CEU's
11:50 - 12:00 PM	Quiz Discussion

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Best Practices for Urban Pyrethroid Applicators

Folsom Community Center
52 Natoma Street, Folsom CA 95630

March 9, 2018

7:00 am – 12:00 pm

DPR CEU's: 4.5 (1.5 Laws & Regs., 3 Other)

SPCB CEUs: 4.5 (3.5 Rules & Regs, 0.5 IPM, 0.5 General)

Agenda

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|------------------|--|
| 6:30 - 7:00 AM | Check-in- Registration and continental breakfast |
| | Introduction |
| 7:00 - 7:10 AM | Darren Van Steenwyk, Technical Director, Clark Pest Control |
| | Pre-Quiz - current pesticide application practices |
| 7:10 - 7:25 AM | Loren Oki, Environmental Horticulture Specialist, UC Davis |
| | Ecological impacts of runoff and impact of monitoring on regulations |
| 7:25 - 8:00 AM | Mike Ensminger, Senior Environmental Scientist, California Department of Pesticide Regulation |
| | Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications |
| 8:00 - 8:45 AM | Alicia Scott, Environmental Scientist, California Department of Pesticide Regulation |
| | Critical uses for and alternatives to pyrethroid insecticide applications around structures |
| 8:45 - 9:20 AM | Karey Windbiel-Rojas, Area Urban IPM Advisor, UC Statewide IPM Program |
| 9:20 - 9:30 AM | Break |
| | Group Exercise: Overview of best practices, from calibration to recording |
| 9:30 - 11:40 AM | All Presenters |
| 11:40 – 12:00 AM | SPCB Quiz- Required for Structural Pest Control Board CEU's |

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Best Practices for Urban Pyrethroid Applicators

Maidu Community Center
1550 Maidu Drive, Roseville, CA 95661

March 14, 2018

6:30 am – 12:00 pm

DPR CEU's: 4.5 (1.5 Laws & Regs., 3 Other)

SPCB CEUs: 4.5 (3.5 Rules & Regs, 0.5 IPM, 0.5 General)

Agenda

Time	Topic	Material Covered
6:30 - 7:00 AM	Check-in	-Distribute materials -Workshop outline
7:00 - 7:10 AM	Introduction	-Industry Stewardship to maintain current toolkit
7:10 - 7:25 AM	Current Practices Survey	-Current Practices Survey -What pesticides are currently used outdoors -How are pesticides currently applied -Level of IPM use
7:25 - 8:00 AM	Ecological Impacts of Runoff	-Connections between pesticide application and environment -Relate label changes to data -New areas of concern (Fipronil)
8:00 - 8:45 AM	Regulatory response to monitoring data - Using CA Code of Regulations and product labels to inform applications	-Changes to applications -EPA regulations vs California regs -Bifenthrin regs vs other pyrethroids -Overview of pyrethroid regs
8:45 - 9:20 AM	Critical uses for and alternatives to pyrethroid insecticide applications around structures	-Select pest system ecologies -Exclusion, baiting, habitat modification
9:20 - 9:30 AM	Break	
9:30 - 10:10 AM	Calculation Exercise	Assess site and apply 6970 label restrictions regulations, perform applications, what techniques were used to satisfy regs & label
10:10 - 10:50 AM	Complete 1st Station	
10:50 - 11:15 AM	Complete 2nd Station	
11:15 - 11:40 AM	Complete 3rd Station	
11:40 - 12:00 PM	Quiz	-Assess curriculum effectiveness -Satisfy CEU reporting requirements
12:00 - 12:10 PM	Quiz Discussion	-Overview of correct answers

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