



Survey of Pesticide Use by Homeowners in Two California Residential Neighborhoods



K. Goodell & R. Budd
Environmental Monitoring Branch
California Department of Pesticide Regulation
Sacramento, CA 95814

Abstract

Pesticides have been commonly detected in California's urban surface waters. However, there is a lack of information on input sources. Pesticide use by professional pest control operators (PCOs) is recorded in the Department of Pesticide Regulation's (DPR) Pesticide Use Reporting (PUR) database. However, pesticide use by residents is not tracked in the PUR database, therefore estimating pesticide contributions from this group is difficult. To better understand current pesticide practices of homeowners in Northern (NorCal) and Southern (SoCal) California, DPR conducted a survey in two neighborhoods that contribute runoff to current DPR monitoring locations. Survey participants ("homeowners") were asked five questions to determine their pesticide use practice. A total of 699 residences were contacted and 178 participated in the survey. In the surveyed residential areas, pesticides were applied mostly by PCOs or residents themselves. Most pest control was performed quarterly or as needed, with applications mainly around perimeter foundation targeting ants and spiders.



Figure 2. Residential neighborhood where survey was conducted in NorCal.

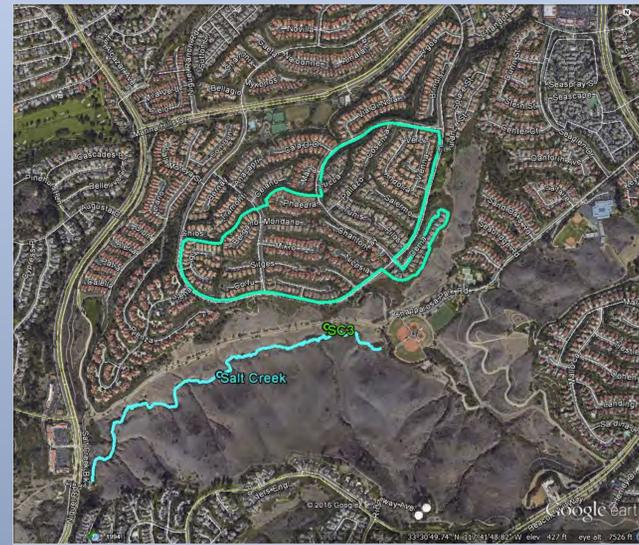


Figure 3. Residential neighborhood where survey was conducted in SoCal.

Results

- 71% of contacted homeowners responded.
- 39% utilize a PCO for pest management, 33% apply pesticides themselves.
- The use of gardeners (6%) and HOAs (1%) are not as common.
- Most pesticide use was around house perimeters.
- Homeowners were most concerned about ants.
- Only about half of the residents recalled the products they used. Of these, the majority (63%) indicated a ready-to-use over-the-counter product containing one or more pyrethroids.
- Most PCOs apply quarterly (36%). Homeowners who apply pesticides themselves make applications "infrequently" or "whenever necessary" (43%).
- A higher percentage of homeowners in the Southern California neighborhood (43%) use a PCO compared to Northern California neighborhood (36%).
- 26% of residents stated they do not use pesticides on their properties.



Figure 1. A PCO applying pesticides.

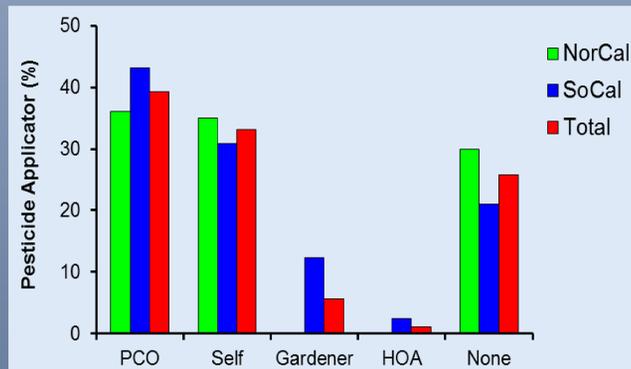


Figure 4. Percent of pesticide use by application category.

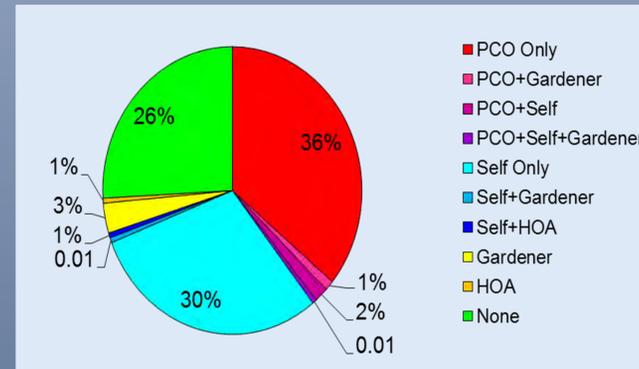


Figure 5. Percentage from responses for combined applicator categories.



Figure 6. A typical single family residence next to F2 monitoring site.

Objectives

To better understand pesticide practices of residential pesticide users in California

- 1) What percentage of residents use pesticides?
- 2) Who applies pesticides on residential landscapes?
- 3) What are the frequencies and locations of pesticide applications?
- 4) What primary pests are treatments for?
- 5) What products are preferred for those that apply pesticides themselves?
- 6) Do regional differences exist?

Methods

- Addresses were compiled from current DPR monitoring areas (F2, F3, and SC3; Figures 2–3). All homes were single-family dwellings.
- Southern California area was surveyed on August 9-10th, 2015 and Northern California was surveyed November 7th, 2015 by DPR staff.
- Each residence was marked as "Responded," "Not Home," "Did not answer/Asked to come back", or "Refused to answer/No solicitor sign posted".

Survey Questions

1. Who takes care of your pests such as insect and weed concerns?
 - a. Professional pest control company
 - b. Home owner association
 - c. Professional gardener
 - d. Self
2. How often do you or the professional business apply pesticides for control of pests?
 - a. Quarterly
 - b. Weekly
 - c. Monthly
 - d. Other: _____
3. If you use pesticides: What products do you use to control insects, slugs, or weeds? If others apply: Do you know what products the professional applicators use to control insects, slugs, or weeds?
4. What pests do you primarily control for? (can be more than one)
 - a. Ants
 - b. Spiders
 - c. Weeds
 - d. Fleas
 - e. Other: _____
5. Where do you/they typically apply? (can be more than one)
 - a. Around perimeter of house
 - b. Driveway
 - c. Edge of driveway
 - d. Other: _____

Conclusions

This survey highlights how residents in two California single family home neighborhoods choose to address their outdoor pest problems. Residents commonly use pesticides to deal with pests, suggesting that pesticides are commonly used on urban landscapes. Regionally, Southern California has higher pesticide use; presumably due to higher pest pressure. This survey suggests that PCO use is a common method for pest control in CA neighborhoods. Information gained from this survey will allow DPR to gain a better understanding of pesticide use patterns and source identification within urban landscapes and to target appropriate education and outreach efforts aimed at mitigating pesticide transport to California surface waters.

Acknowledgments: The authors appreciate April DaSilva, Jennifer Teerlink, Kaylynn Newhart, Mariah Thomas, Leah Judson, and Jewel Mauricio for assisting and conducting this survey in Northern and Southern California.

Table 1. Pesticide application frequency, area of application, and targeted pests.

Frequency	%*	Application Area	%	Pests	%
Weekly	7	Foundation perimeter	84	Ants	73
Monthly	9	Driveway	14	Spiders	44
Annually	7	Edge	14	Weeds	10
Quarterly	36	Other	24	Fleas	1
As necessary**	43			Other*	26

*Percentages based on total number of respondents; for each question respondents could answer more than one category (resulting in total >100%); **Infrequently