

Pyrethroids Residential and Consumer Products Use in California

Pyrethroids Symposium

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Objectives

- How pyrethroids are used in and around residence
- Environmental relevance of pyrethroids use patterns employed in residential settings

Data Sources

- Residential Exposure Joint Venture (REJV) Consumer Survey Data
- CA Pesticide Use Data (2005)
- Product Specific Data

REJV SURVEY – OVERVIEW

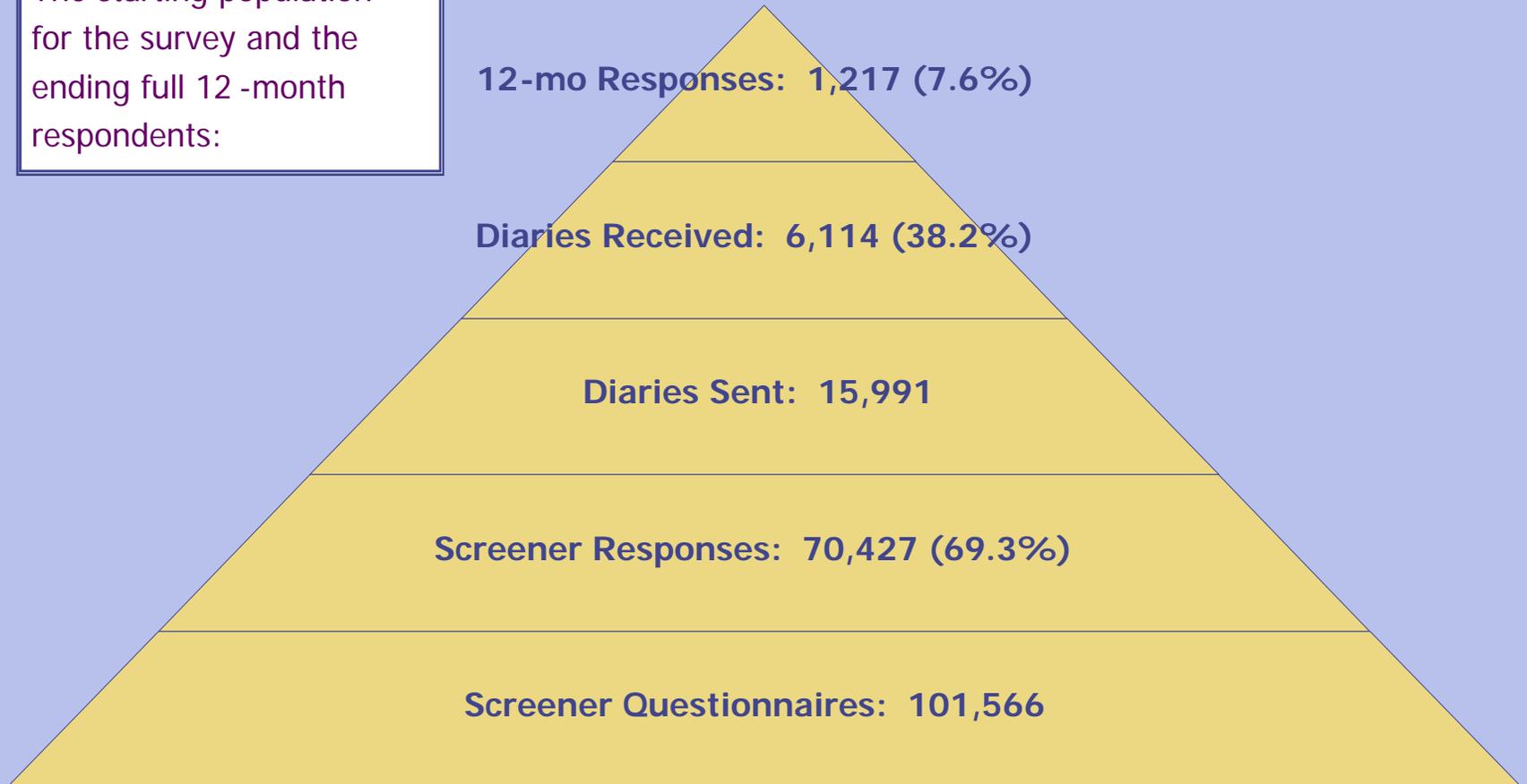
- Residential Exposure Joint Venture (REJV) was formed by CSPA (Consumer Specialty Products Association) to address how, when, and where consumer pesticide products are used in and around the house
- Survey addressed demographic, geographic, and temporal pesticide use over a 12 month period (May 2001 through April 2002)

SURVEY – OBJECTIVES

- Obtain information about pesticide consumer product use in and around houses
- Provide information necessary to generate statistically meaningful pesticide use data over a one-year period among a static sample of households
- Obtain data that could be extrapolated to the overall U.S. population

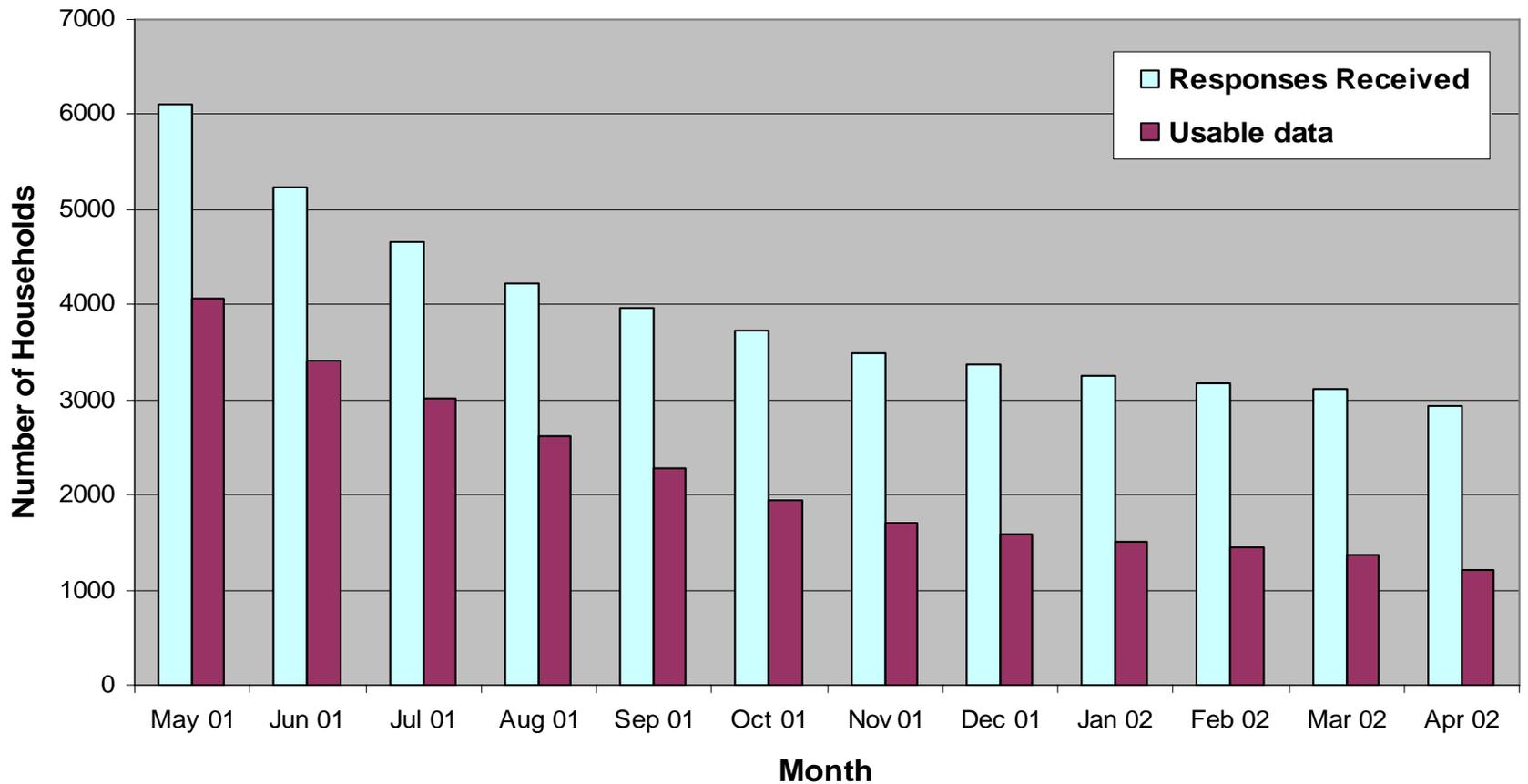
SURVEY – RESPONSE

The starting population for the survey and the ending full 12 -month respondents:



SURVEY – RESPONSE

Household Responses with Pesticide Applications



SURVEY – DATA

- Household Description
- Geographic Information
- Demographic Information
- Inventory Data (with PPIS connection)
- Application Data (with PPIS connection)

SURVEY – APPLICATION DATA

- Day and Month of Product Use
- Product name (including brand) and EPA Registration Number
- Site of application
- Method of application
- Whether product was used and container disposed after specific use

APPLICATION SITE

Indoor		
Office/Den/Study	Living Room	Family Room
Family Game Room	Dinning Room	Kitchen
Child's Play Room	Bed Room	Basement
Utility/Laundry Room	Bath	Crawlspace
Indoor Enclosed Porch	Attic	Greenhouse
Other Indoor Area	Garage	

Outdoor		
Outdoor Deck/Patio	Lawn	Vegetable Garden
Ornamental Flowers	House Exterior	Fruit/Nut Trees
Aquatic Garden/Pond	Outdoor shed	Shrubs/Bushes
Other Outdoor Areas	Kennel	Other Type Trees

APPLICATION SITE

People and Pets		
Child under 1Yr	Child 1-6 Yr	Self
Child 7-12 Yr	Child 13-17 Yr	Adults 18+ Yr
Cat	Dog	Other Pet

APPLICATION METHOD

Application Method		
Aerosol Spray	Fly Strip	Pellets
Bait Box/Trap/Station	Foam/Gel	Spot-On
Candles/Coils	Lotion	Shampoo
Direct Pour (liquid)	Pet Color	Sprayer, Hose-end
Fogger, Indoor Bomb or Room Fogger	Granular, Broadcast/Rotary Spreader	Granular Handheld/Rotary Spreader
Fogger, Outdoor Area	Granular – Drop Spreader	Granular/Dust/Powder, Pour Spout, Shaker Can
Sprayer, Hand Wand/Pump/Tank	Sprayer, backpack	Sprayer, Spritz
Sprayer, hand Trigger	Other	

REJV DATA

Pyrethroids Summary for California

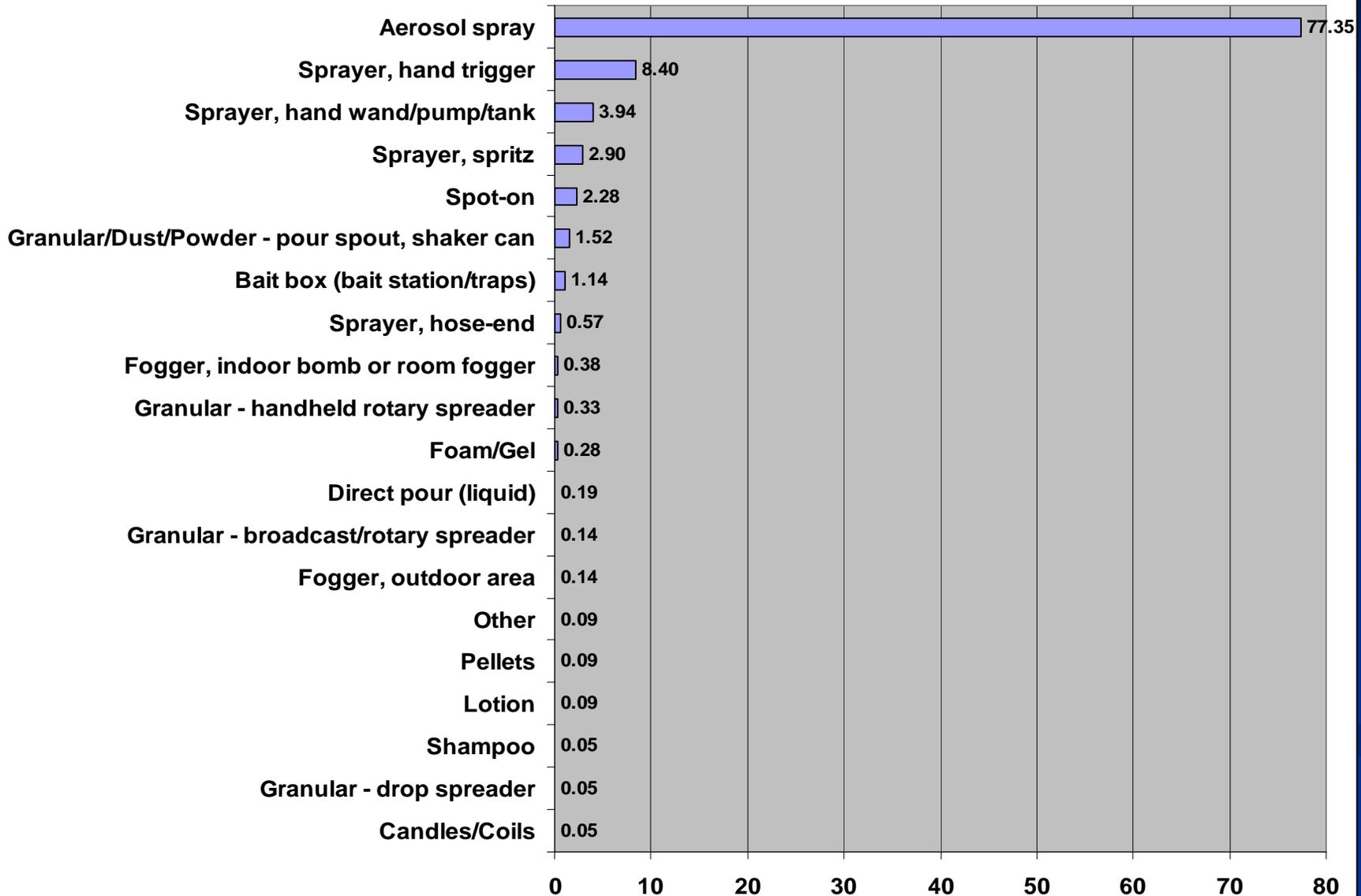
PYRETHROIDS (w EPA PC CODE)

Allethrin, D	004005	Esfenvalerate	109303
Bifenthrin	128825	Fenpropathrin	127901
Bioallethrin	004001	Fluvalinate, Tau	109302
Cyfluthrin	128831	Imiprothrin	004006
Cyfluthrin, Beta	118831	Permethrin	109701
Cyhalothrin, Gamma	128807	Phenothrin	069005
Cyhalothrin, Lambda	128897	Prallethrin	128722
Cypermethrin	109704	Resmethrin	097801
Cypermethrin, S	129064	Tetramethrin	069003
Deltamethrin	209400	Tralomethrin	121501
Deltamethrin, cis	097805		

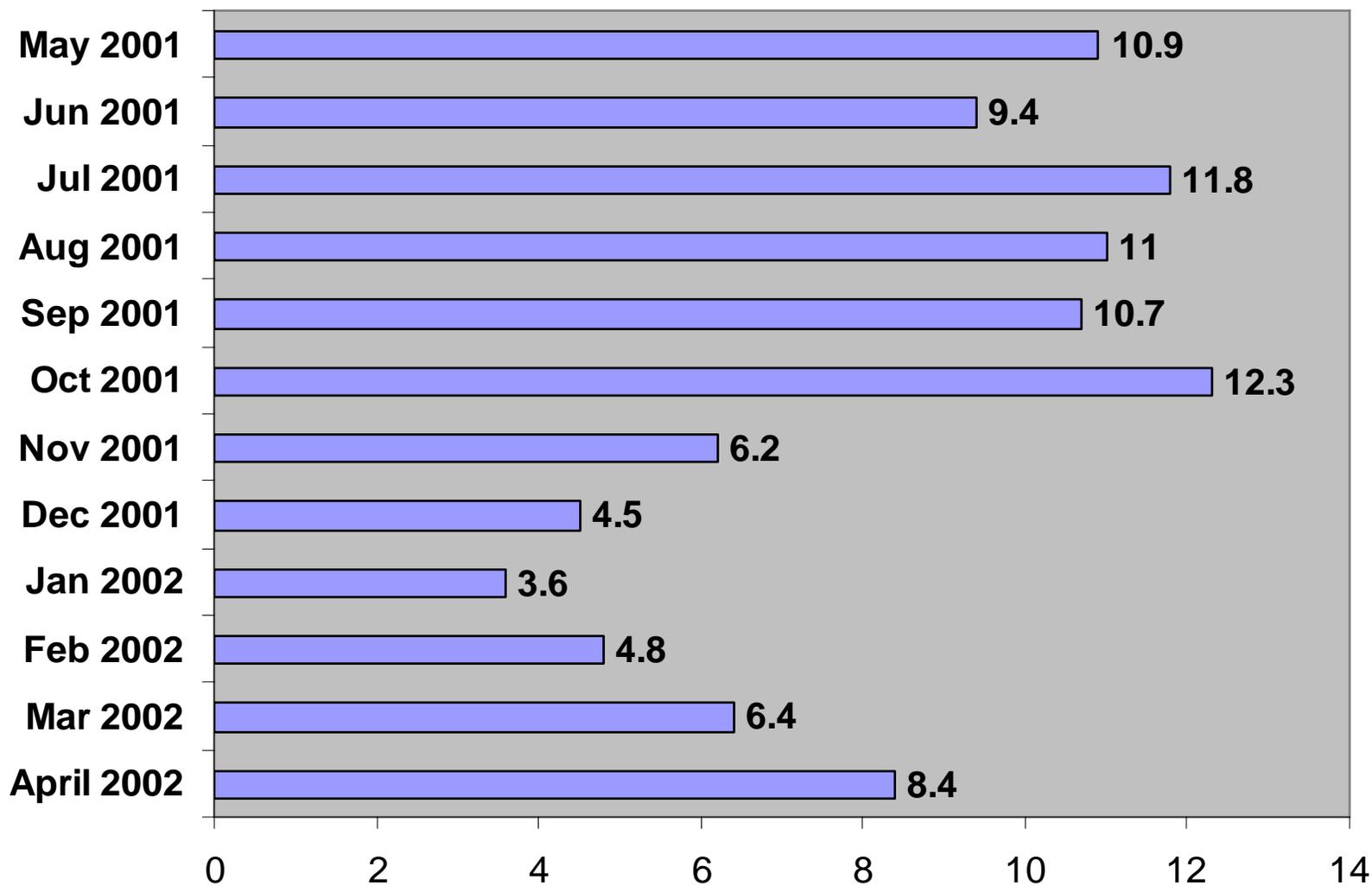
PYRETHROIDS (w EPA PC CODE)

Number of Households in CA with Application Data	593
Number of “Pyrethroids” Households in CA with Application Data	256
Number of “Pyrethroids” Households in CA with 12-Month Application Data	107
Number of Application Records for “Pyrethroids” Households in CA with Application Data	2160

PYRETHROIDS (Application (%); N=2106)



PYRETHROIDS (Month (%); N=2106)



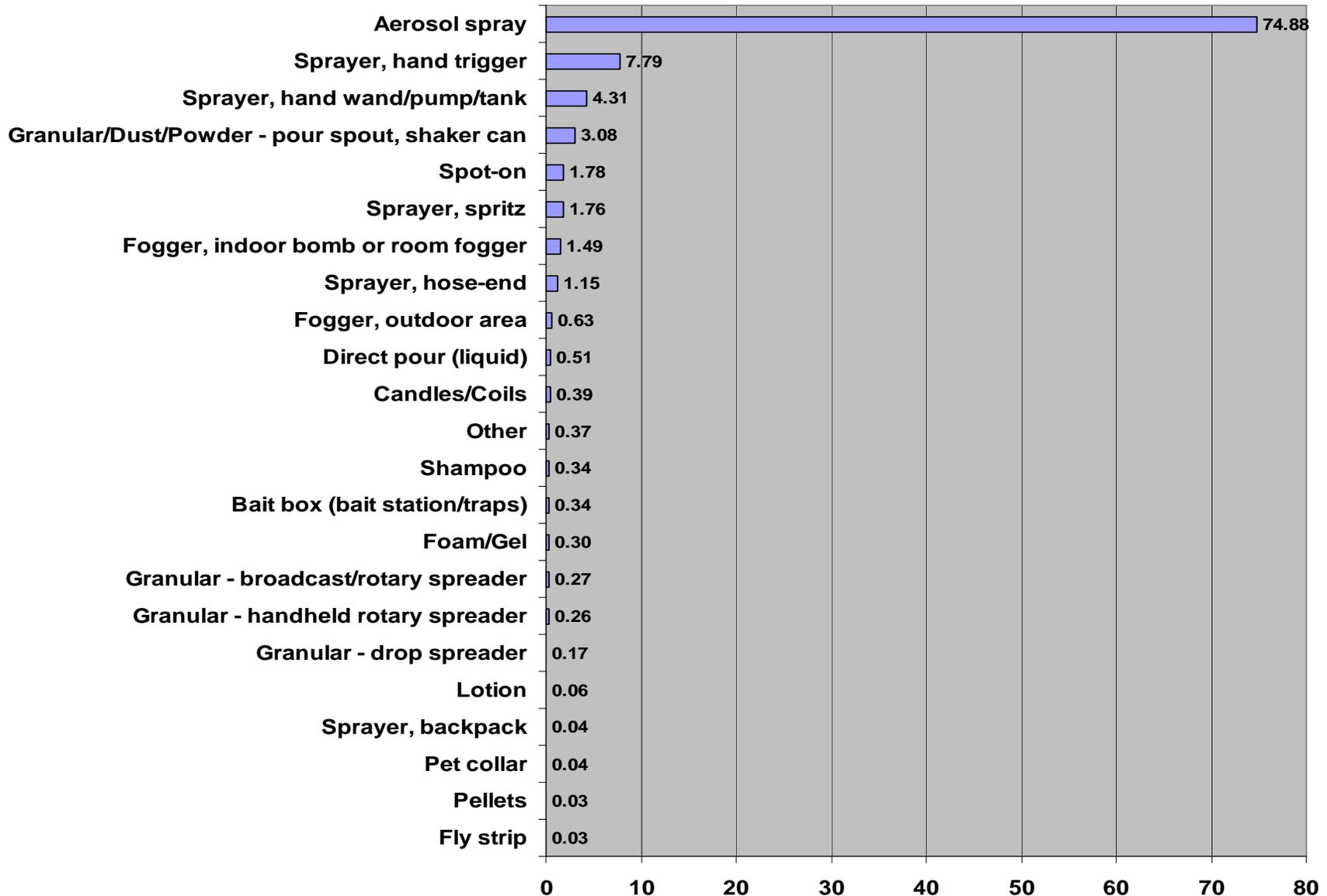
REJV DATA

Pyrethroids Summary for US

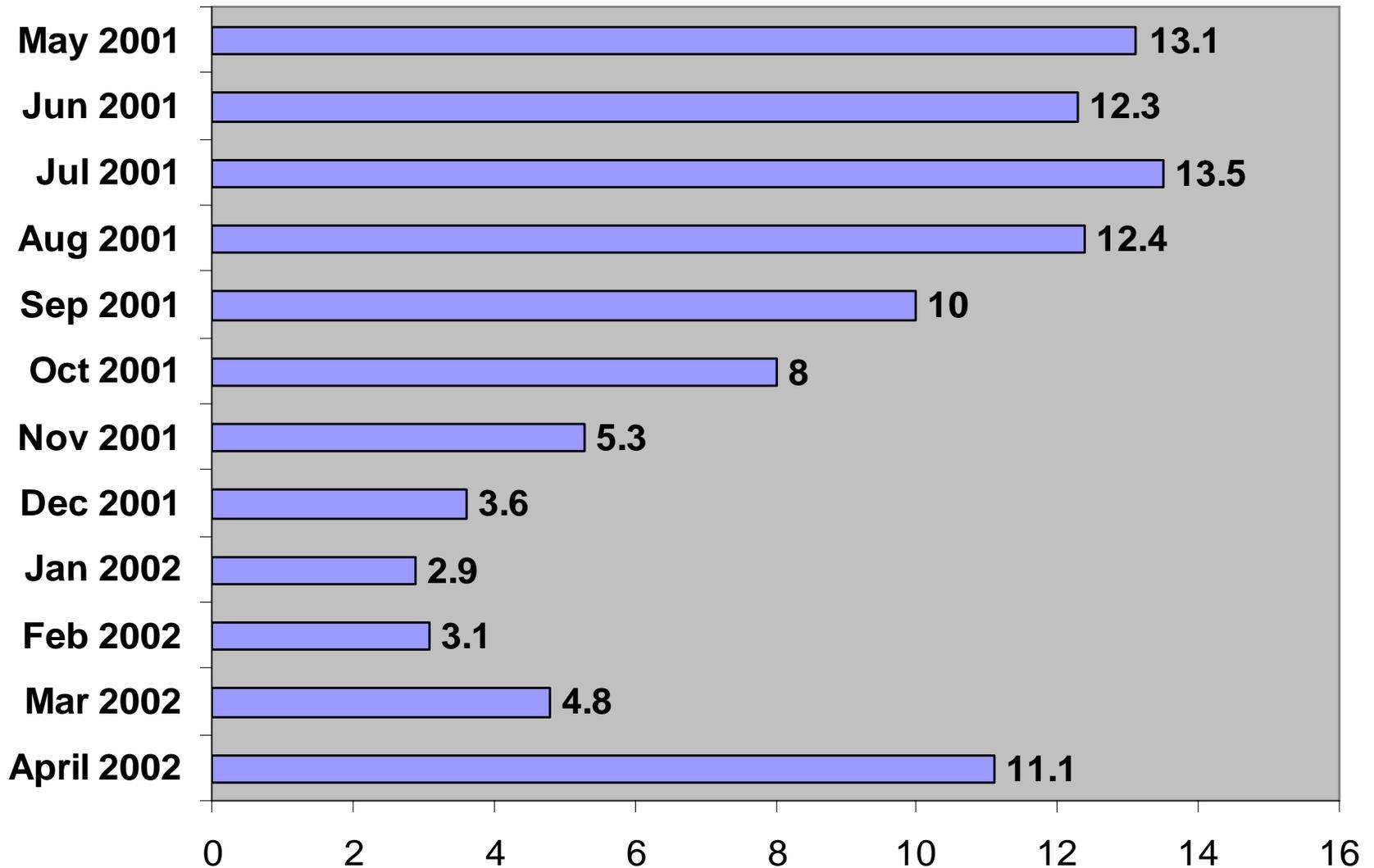
PYRETHROIDS (US)

Number of Households in US with Application Data	6102
Number of “Pyrethroids” Households in US with Application Data	2378
Number of “Pyrethroids” Households in US with 12-Month Application Data	895
Number of Application Records for “Pyrethroids” Households in US with Application Data	16242

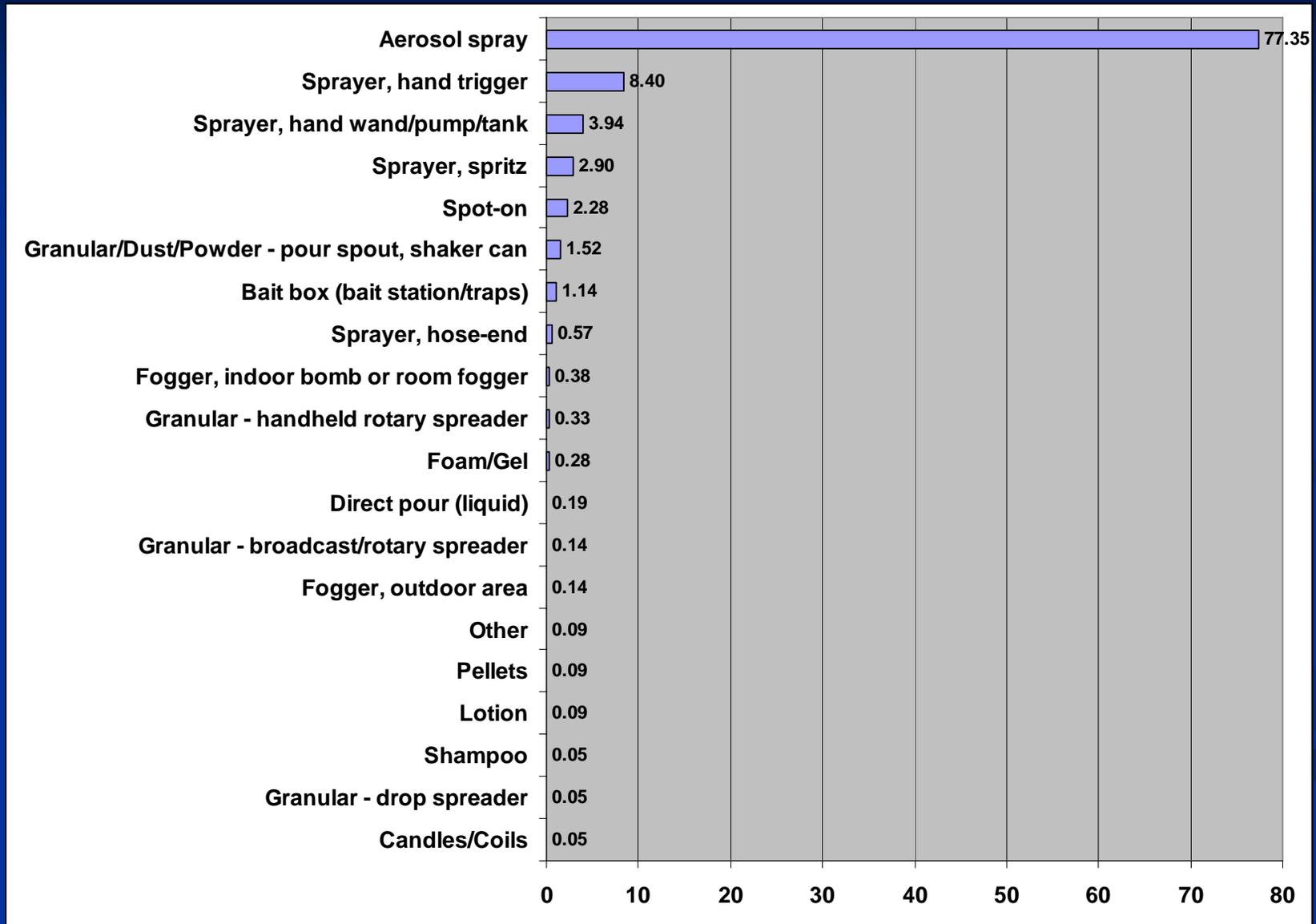
PYRETHROIDS (Application (%); US; N=16242)



PYRETHROIDS (Month (%); US; N=16242)



PYRETHROIDS, CA (Application (%); N=2106)



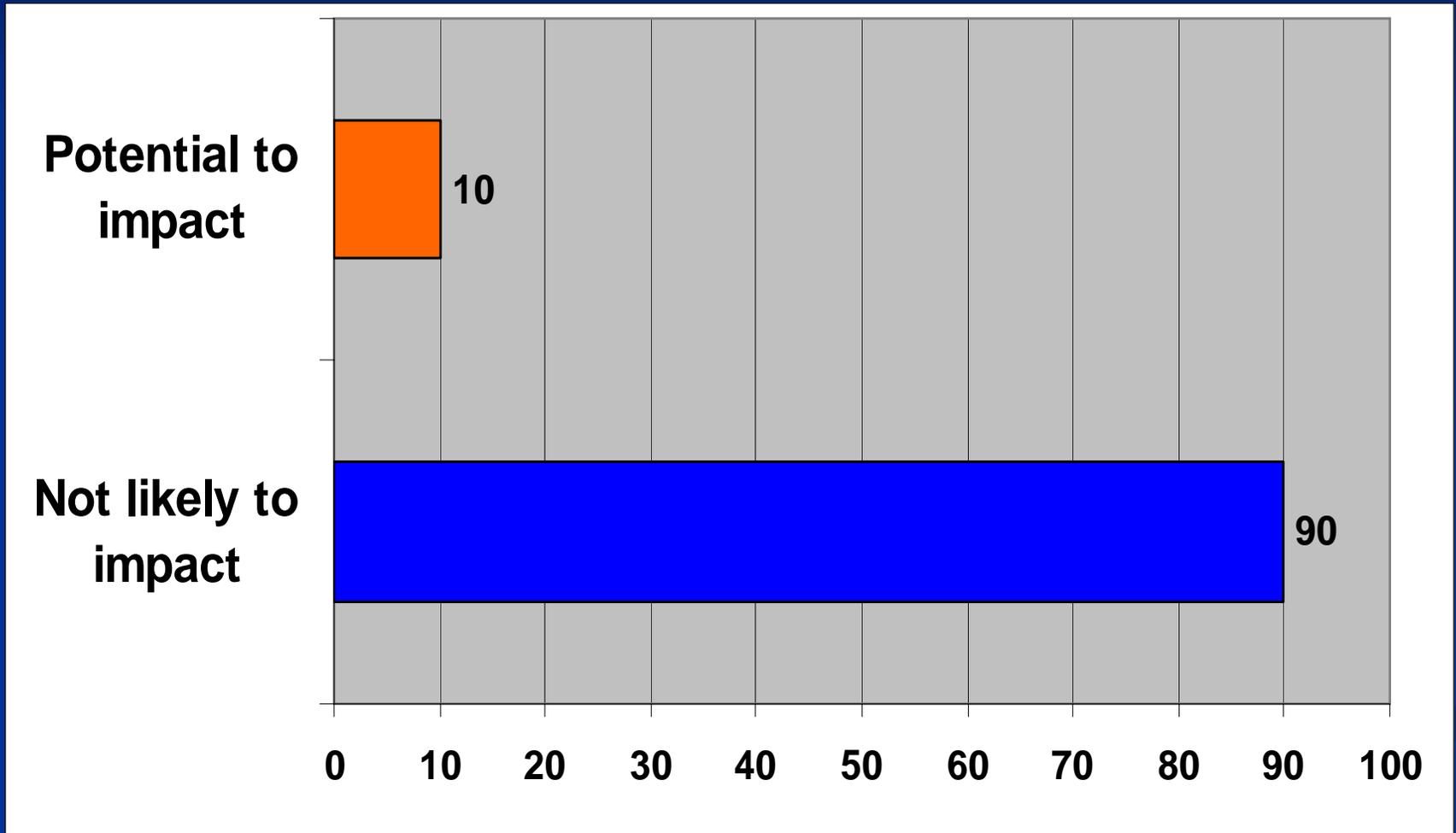
Uses That Could Potentially Impact Water/Sediment

Use Form	% of Total
Sprayer, Hand wand/Pump/Tank	3.94
Sprayer, Spritz	2.90
Granular/dust/Powder-Pour Spout, Shaker Can	1.52
Sprayer, Hose-end	0.57
Granular-Handheld Rotary Spreader	0.33
Direct Pour (Liquid)	0.19
Granular-Broadcast/Rotary Spreader	0.14
Fogger, Outdoor Area	0.14
Other	0.09
Pellets	0.09
Shampoo	0.05
Granular-Drop Spreader	0.05
Total	10.01

Uses Not Likely To Impact Water/Sediment

Use Form	% of Total
Aerosol Spray	77.4
Hand Held Sprayer, Hand Trigger	8.40
Spot-on	2.28
Bait Box (Bait Station/Traps)	1.14
Fogger, Indoor Bomb, or Room Fogger	0.38
Foam/Gel	0.28
Lotion	0.09
Candles/Coils	0.05
Total	90.0

Water/Sediment Impact Potential



Impregnated Clothing (permethrin)

- Several tests of 50 washes and 100 washes each
- Each wash done in a standard Sears Top Loader on normal cycle with 2 ounces of powder soap

Average total ai loss in grams per wash of all tests
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0.021

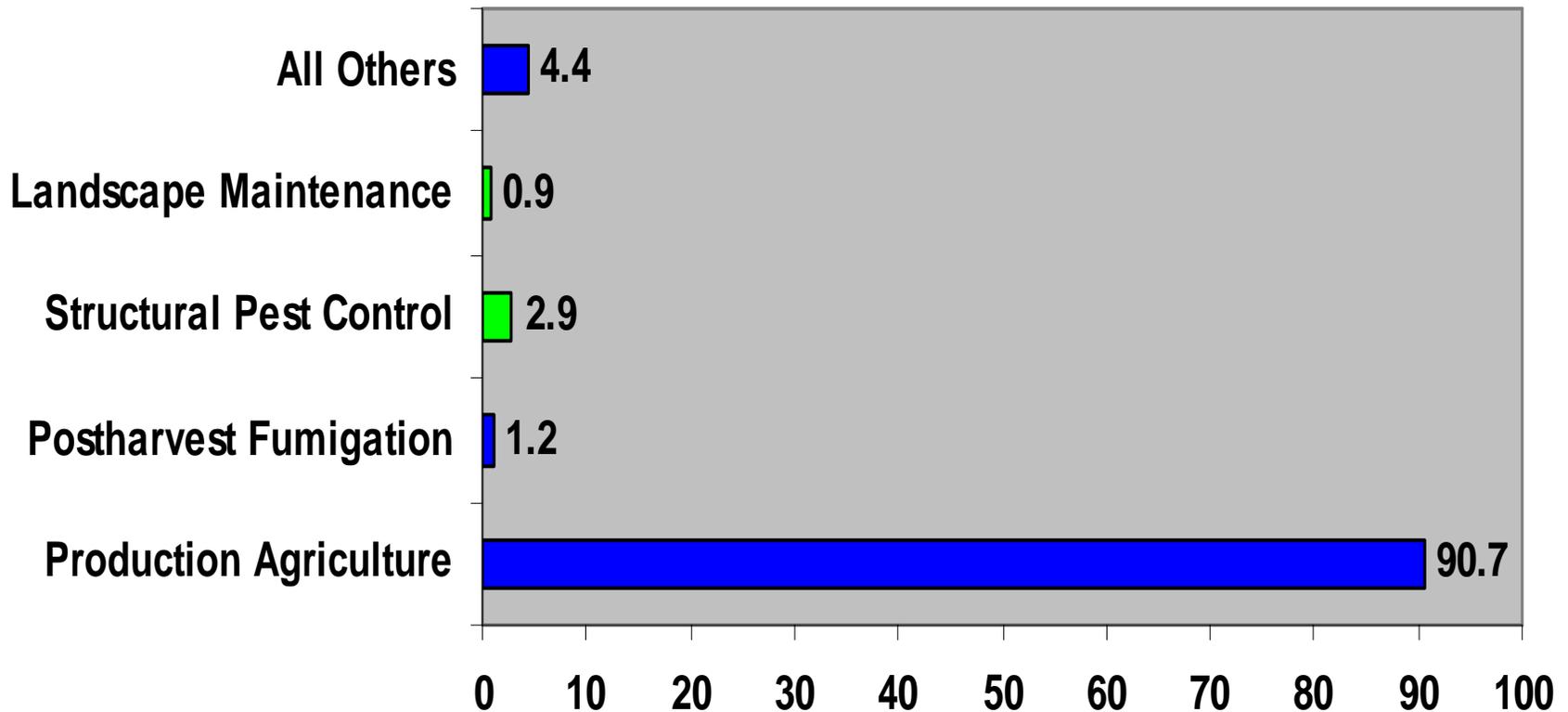
% loss per wash

0.61%

CA Pesticide Use Overview

(Source: CA DPR 2005 Pesticide Use Data)

% of All Pesticides Used in CA (2005)



Conclusions

- A small percentage of consumer products have the “potential” to impact water and sediment
- Potential contamination would represent a negligible fraction of applied product
- Understanding use patterns coupled with use data information could be a valuable tool in determining where additional data generation is most effective

Pyrethroid Uses (DPR 2005 Data)

(Three Pyrethroids From DPR Top 100 Pesticides Summary)

