NJ Department of Environmental Protection
Pesticide Control Program
Pesticide Evaluation and Monitoring

STRUCTURAL PESTICIDE USE IN NEW JERSEY: 2014 SURVEY

Introduction

The New Jersey Pesticide Control Program (NJPCP) began a series of pesticide use surveys in 1985. These surveys address pesticide use in the state of New Jersey for agriculture, golf courses, structural pest control, right-of-way, mosquito control, and lawn care. This report focuses on the structural pesticide use survey initiated by the NJPCP to identify what chemicals and how much of each were used for termite and other structural pest control in 2014.

All statewide pesticide use surveys are performed under the authority of the New Jersey Pesticide Control Code, N.J.A.C. 7:30-1 et.seq., requiring applicators to maintain pesticide records for two years and to submit use records to the state when requested. This regulative authority provides an accuracy and level of response that is difficult to duplicate in a voluntary, nationwide survey. In fact, these New Jersey surveys represent a pesticide usage census rather than a probabilistic survey.

The information collected from the NJPCP pesticide use surveys is used by agencies within the NJ Department of Environmental Protection along with other state agencies to aid in research, exposure management and monitoring efforts in areas such as ground water protection, farm worker protection and education, and residual pesticide sampling. The survey data are also entered into state and federal geographical information systems for mapping purposes.

Methods

The NJPCP's registration records were used to identify all 3519 licensed commercial applicators holding a category 7A (general and household pest control,) 7B (termite control) or 8A (General Public Health) on his or her license. Survey forms for the 2014 Structural Pesticide Use survey, along with instructional letters and return envelopes, were mailed at the end of the year. A survey form was sent to each applicator, but since two or more applicators can work on the same commercial business, the instructional letter requested that only one form be returned for each establishment to avoid duplication of response. A total of three mailings (one initial and two follow-ups to non-respondents) were sent and collected the first six months of 2015.

The survey requested information on each pesticide product used. This included trade name, percent active ingredient, EPA registration number, amount applied, and type of pest control. Survey information was entered into a database file. This information file was then merged with a second database that linked chemical names with trade names, and a subprogram converted total

amounts of formulated product to total amounts of active ingredient (lbs ai).

Results

Once all three mailings were completed, 2716 out of 3519 (77%) surveys were received.

Table 1 lists the chemicals and their respective active ingredient amounts reported.

Table 2 selects out the highest use non-fumigant compounds.

Table 3 shows pesticide use by type of pest controlled.

Table 4 shows pesticide use by county.

Table 1. Pesticide amounts (lbs active ingredient) reported in the New Jersey 2014 Structural Pesticide Use Survey.

INSECTICIDES:	
Abamectin	2
Acephate	730
Acetamiprid	2172
Allethrin	4
Bifenthrin	7981
Borate/Boric acid	2822
BTI	82
Carbaryl	5
Chlorantraniliprole	69
Chlorfenapyr	1893
Cyfluthrin	27030
Cyhalothrin	2716
Cypermethrin	49149
DDVP	408
Deltamethrin	4625
Diatomaceous earth	1082
Dinotefuran	683
Esfenvalerate	2351
Ethofenprox	169
Fipronil	18662
Fluvalinate	4
Hexaflumuron	<1
Hydramethylnon	25
Hydroprene	311
Imidacloprid	38750
Indoxacarb	4042
Linalool	54
Methomyl	3
Methoprene	82
MGK 264	305
Naphtalene	4
Nithiazine	<1
Noviflumuron	73
OBD	229
Permethrin	947
Phenothrin	68
Phenylethyl propionate	<1
Prallethrin	1
Propetamphos	2
Propoxur	19
Pyrethrins	300
Pyriproxyfen	52
Rotenone	50
Silica gel	251
Silicon dioxide	874
Sulfluramid	<1
Tetramethrin	2
Thiamethoxam	6
Tralomethrin	<1
Total Insecticides:	**169089**

FUNGICIDES*:	
Fosetyl-al	35
Total Fungicides:	**35**

GROWTH REGULATORS:	
Novaluron	4
Total Growth Regulators:	**4**

HERBICIDES*:	
2,4-D	15
2,4-DP	<1
Dicamba	6
Dithiopyr	62
Glyphosate	39
MCPA	46
MCPP	7
Prometon	31
Sulfosulfuron	1596
Triclopyr	5
Total Herbicides:	**1807**

RODENTICIDES:

Brodifacoum	1
Bromadiolone	23
Bromethalin	<1
Chlorophacinone	1
Cholecalciferol	1
Difethialone	1
Diphacinone	2
Vitamin D3	<1
Zinc Phosphide	69
Total Rodenticides:	**98**

AVICIDES:

4-Aminopyridine	<1
Anthraquinone	2595
Methyl anthranilate	1
Polybutene	21
Total Avicides:	**2617**

FUMIGANTS:

Aluminum phosphide	77
Magnesium phosphide	29
Methyl bromide	18860
Sulfuryl fluoride	48641
Total Fumigants:	**67607**

MISCELLANEOUS

Ammonium chloride	36
Capsaicin	<1
Egg solids	<1
Eugenol	3
Isopropanol	3163
Oil	22
Pipernyl butoxide	2311
Sulfur	14
Thiram	161
Tricosene	5
Total Miscellaneous:	**5715**

TOTAL PESTICIDE USE: 246933 lbs ai

***The focus of this survey is chemicals used for structural pest control. However, many applicators in NJ provide both structural and lawn care services. The fungicide and herbicide use reported most likely reflects an overlap in record keeping.**

Table 2. Highest use **insecticides** reported in the 2014 Structural Pesticide Use survey. Shown are compounds >= 5% of total insecticide use.

Compound	Lbs active ingredient	% of insecticide use
Cypermethrin	49149	29 %
Imidacloprid	38750	23 %
Cyfluthrin	27030	16 %
Fipronil	18662	11 %
Bifenthrin	7981	5 %

Table 3. Totals by type of pest control as reported in the 2014 Structural Pesticide Use survey.

Pest Type	Lbs active ingredient	% of total use
General Insect Pests - Indoors	138831	56 %
General Insect Pests – Perimeter	45458	18 %
Termites	27003	11 %
Vertebrates (mice, birds, etc.)	4958	2 %
Fumigation	67607	27 %

Table 4. Pesticide use by county (in lbs active ingredient) as reported in the 2014 Structural Pesticide Use survey.

COUNTY	Total County ai	% of Total ai
Atlantic	17158	7 %
Bergen	32631	13 %
Burlington	2542	1 %
Camden	8234	3 %
Cape May	3441	1 %
Cumberland	461	<1 %
Essex	37128	15 %
Gloucester	4888	2 %
Hudson	1902	1 %
Hunterdon	211	<1 %
Mercer	22904	9 %
Middlesex	31812	13 %
Monmouth	2392	1 %
Morris	9641	4 %
Ocean	3985	2 %
Passaic	666	<1 %
Salem	10	<1 %
Somerset	62301	25 %
Sussex	292	<1 %
Union	4065	2 %
Warren	156	<1 %
Not specified	113	<1 %