

## **STRUCTURAL PESTICIDE USE IN NEW JERSEY: 2008 SURVEY**

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### 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 2008 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 2008.

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 almost 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 2008 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 2009.

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, 3018 out of 3519 (86%) 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. Essex and Union have the highest reported use.

**Table 1.** Pesticide amounts (lbs active ingredient) reported in the New Jersey 2008 Structural Pesticide Use Survey.

**INSECTICIDES:**

Acephate	230
Acetamiprid	10
Allethrin	5
Avermectin	7
Bendiocarb	<1
Bifenthrin	1623
Borate/Boric acid	5916
Carbaryl	98
Chlorfenapyr	859
Chlorpyrifos	<1
Cyfluthrin	1207
Cyhalothrin	898
Cypermethrin	1138
DDVP	45
Deltamethrin	503
Diatomaceous earth	83
Diazinon	3
Dichlorvos	32
Diflubenzuron	3
Dinotefuran	8
Esfenvalerate	121
Fipronil	5365
Fluvalinate	5
Hexaflumuron	3
Hydramethylnon	30
Hydroprene	515
Imidacloprid	1245
Indoxacarb	15
Limonene	<1
Linalool	22
Methomyl	9
Methoprene	32
Naphtalene	17
Nithiazine	1
Permethrin	1017
Phenothrin	157
Phenylethyl propionate	6
Prallethrin	2
Propetamphos	74
Propoxur	65
Pyrethrins	447
Pyriproxyfen	87

Resmethrin	2
Silica gel	615
Spinosad	<1
Sulfluramid	<1
Tetramethrin	<1
Thiamethoxam	<1
Tralomethrin	<1
<b>Total Insecticides:</b>	<b>22520</b>

**RODENTICIDES:**

Brodifacoum	1
Bromadiolone	6
Bromethalin	<1
Chlorophacinone	1
Difethialone	<1
Diphacinone	3
Vitamin D3	1
Warfarin	<1
Zinc Phosphide	213
<b>Total Rodenticides:</b>	<b>225</b>

**AVICIDES:**

4-Aminopyridine	1
Anthraquinone	90
Methyl anthranilate	44
Polybutene	11
<b>Total Avicides:</b>	<b>146</b>

**FUMIGANTS:**

Aluminum phosphide	81
Magnesium phosphide	1171
Methyl bromide	37810
Sulfuryl fluoride	29116
<b>Total Fumigants:</b>	<b>68178</b>

**MISCELLANEOUS**

Ammonium chloride	150
Denatonium saccharid	<1
Eugenol	<1
Isopropanol	8853
Metaldehyde	35
OBD	942
PBO	2699
Pepper oil	1
Phenylethyl propionate	6
Sulfur	65
Tricosene	12
<b>Total Miscellaneous:</b>	<b>12763</b>

**TOTAL PESTICIDE USE: 103832**

**Table 2.** Highest use insecticides (non-fumigants) reported in the 2008 Structural Pesticide Use survey. Shown are compounds  $\geq 5\%$  of total use.

Compound	Lbs active ingredient	% of insecticide use
Borate/Boric acid	5916	26 %
Fipronil	5365	24 %
Bifenthrin	1623	7 %
Imidacloprid	1245	5 %
Cyfluthrin	1207	5 %
Cypermethrin	1138	5 %

**Table 3.** Totals by type of pest control as reported in the 2008 Structural Pesticide Use survey.

Pest Type	Lbs active ingredient	% of total use
<b>General (non-Termite)</b>	24946	24 %
<b>Termites</b>	10224	10 %
<b>Vertebrates</b>	484	<1 %
<b>Fumigation</b>	68178	66 %

**Table 4.** Pesticide use by county and type of pest control as reported in the 2008 Structural Pesticide Use survey.

<b>COUNTY</b>	<b>General</b>	<b>Termite</b>	<b>Vertebrate</b>	<b>Totals</b>	<b>% by County</b>
Atlantic	743	263	1	1007	1 %
Bergen	2863	639	77	3579	3 %
Burlington	410	702	<1	1112	1 %
Camden	4185	886	8	5079	5 %
Cape May	461	175	<1	636	1 %
Cumberland	110	328	<1	438	<1 %
Essex	33019	979	10	34008	33 %
Gloucester	434	905	12	1351	1 %
Hudson	13670	397	123	14190	14 %
Hunterdon	243	25	17	285	<1 %
Mercer	634	197	32	863	1 %
Middlesex	6614	544	16	7174	7 %
Monmouth	1792	1244	6	3042	3 %
Morris	865	261	8	1134	1 %
Ocean	1121	960	4	2085	2 %
Passaic	749	173	52	974	1 %
Salem	63	7	<1	70	<1 %
Somerset	425	73	1	499	<1 %
Sussex	187	64	3	254	<1 %
Union	23453	490	104	24047	23 %
Warren	26	7	1	34	<1 %
No County Listed	1056	904	9	1969	2 %