

STRUCTURAL PESTICIDE USE IN NEW JERSEY: 2008 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 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 insecticides.

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 2008 Structural Pesticide Use Survey.

INSECTICIDES:

Acephate	230
Acetamiprid	10
Allethrin	5
Avermectin	7
Bendiocarb	<1
Bifenthrin	1801
Borate/Boric acid	5687
Carbaryl	98
Chlorfenapyr	1356
Chlorpyrifos	<1
Cyfluthrin	1997
Cyhalothrin	946
Cypermethrin	1138
Deltamethrin	544
Diatomaceous earth	83
Diazinon	3
Dichlorvos	77
Diflubenzuron	3
Dinotefuran	8
Esfenvalerate	123
Fipronil	5839
Fluvalinate	5
Hexaflumuron	3
Hydramethylnon	30
Hydroprene	515
Imidacloprid	2005
Indoxacarb	15
Limonene	<1
Linalool	22
Methomyl	9
Methoprene	32
Naphtalene	17
Nithiazine	1
Permethrin	1017
Phenothrin	166
Phenylethyl propionate	6
Prallethrin	2
Propetamphos	74
Propoxur	65
Pyrethrins	456
Pyriproxyfen	16

Resmethrin	2
Silica gel	615
Spinosad	<1
Sulfluramid	<1
Tetramethrin	<1
Thiamethoxam	<1
Tralomethrin	<1
Total Insecticides:	25028

RODENTICIDES:

Brodifacoum	1
Bromadiolone	6
Bromethalin	<1
Chlorophacinone	<1
Difethialone	<1
Diphacinone	3
Vitamin D3	1
Warfarin	<1
Zinc Phosphide	213
Total Rodenticides:	224

AVICIDES:

4-Aminopyridine	1
Anthraquinone	90
Methyl anthranilate	44
Polybutene	11
Total Avicides:	146

FUMIGANTS:

Aluminum phosphide	81
Magnesium phosphide	1171
Methyl bromide	37810
Sulfuryl fluoride	29117
Total Fumigants:	68179

MISCELLANEOUS

Ammonium chloride	125
Denatonium saccharid	<1
Eugenol	<1
Isopropanol	9692
Metaldehyde	35
N-octyl bicycloheptene dicarboximide	976
Piperonyl butoxide	2718
Pepper oil	1
Phenylethyl propionate	6
Sulfur	65
Tricosene	12
Total Miscellaneous:	13630

TOTAL PESTICIDE USE: 107207 lbs ai

Table 2. Highest use insecticides reported in the 2008 Structural Pesticide Use survey. Shown are insecticides $\geq 5\%$ of total use.

Compound	Lbs active ingredient	% of insecticide use
Fipronil	5839	23 %
Borate/Boric acid	5687	22 %
Imidacloprid	2005	8 %
Cyfluthrin	1997	8 %
Bifenthrin	1801	7 %
Chlorfenapyr	1356	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
General (non-Termite)	27383	26 %
Termites	11193	10 %
Vertebrates	452	<1 %
Fumigation	68179	64 %

Table 4. Pesticide use by county (in lbs active ingredient) as reported in the 2008 Structural Pesticide Use survey.

COUNTY	Total County ai	% of Total ai
Atlantic	1356	1 %
Bergen	3757	3 %
Burlington	1119	1 %
Camden	5069	5 %
Cape May	638	1 %
Cumberland	438	<1 %
Essex	34169	32 %
Gloucester	1465	1 %
Hudson	14104	13 %
Hunterdon	285	<1 %
Mercer	862	1 %
Middlesex	7375	7 %
Monmouth	4306	4 %
Morris	1189	1 %
Ocean	1758	2 %
Passaic	974	1 %
Salem	70	<1 %
Somerset	1085	1 %
Sussex	253	<1 %
Union	24608	23 %
Warren	347	<1 %
Not specified	1980	2 %