

## **STRUCTURAL PESTICIDE USE IN NEW JERSEY: 2005 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 2005 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 2005.

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 3504 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 2005 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 2006.

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, 3047 out of 3504 (87%) surveys were received.

Table 1 lists the chemicals and their respective active ingredient amounts reported. Although sometimes used for structural treatment, fumigants were not included in this survey.

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 2005 Structural Pesticide Use Survey.

<b>INSECTICIDES:</b>		Xanthrin	<1
Acephate	406	<b>Total Insecticides:</b>	<b>41246</b>
Allethrin	13		
Amidinohydrazone	<1	<b>RODENTICIDES:</b>	
Avermectin	6	Brodifacoum	1
Bendiocarb	17	Bromadiolone	5
Bifenthrin	1894	Bromethalin	<1
Borate/Boric acid	14806	Chlorophacinone	3
Carbaryl	55	Difethialone	<1
Chlorfenapyr	1029	Diphacinone	3
Chlorpyrifos	2	Vitamin D3	1
Cyfluthrin	1646	Warfarin	<1
Cyhalothrin	1041	Zinc Phosphide	126
Cypermethrin	3056	<b>Total Rodenticides:</b>	<b>140</b>
Deltamethrin	811		
Dichlorvos	146	<b>MISCELLANEOUS</b>	
Diflubenzuron	3	4-Aminopyridine	4
Esfenvalerate	148	Ammonium chloride	200
Fenoxycarb	<1	Anthraquinone	25
Fipronil	9700	Denatonium saccharid	<1
Hexaflumuron	3	Eugenol	11
Hydramethylnon	69	Isopropanol	1500
Hydroprene	419	N-octyl bicycloheptene dicarboximide	
Imidacloprid	1599		1048
Linalool	10	Pipernyl butoxide	2652
Methomyl	10	Polybutene	77
Methoprene	6	Sulfur	32
Naphtalene	26	Tricosene	1
Nithiazine	<1	<b>Total Miscellaneous:</b>	<b>5550</b>
Oxypurinol	<1		
Permethrin	2676	<b>TOTAL PESTICIDE USE:</b>	<b>46936 lbs ai</b>
Phenothrin	22		
Phenylethyl propionate	17		
Propetamphos	34		
Propoxur	110		
Pyrethrins	531		
Pyriproxyfen	45		
Silica gel	875		
Sulfluramid	2		
Tetramethrin	12		
Tralomethrin	1		

**Table 2.** Highest use insecticides reported in the 2005 Structural Pesticide Use survey. Shown are compounds  $\geq 5\%$  of insecticide use.

Compound	Lbs active ingredient	% of insecticide use
Borate/Boric acid	14806	36 %
Fipronil	9700	23 %
Cypermethrin	3056	7 %
Permethrin	2676	6 %
Bifenthrin	1894	5 %

**Table 3.** Totals by type of pest control as reported in the 2005 Structural Pesticide Use survey.

Formulation Type	Lbs active ingredient	% of total use
<b>General Pest Control</b>	26891	57 %
<b>Termite Control</b>	19742	42 %
<b>Vertebrate Control</b>	303	1 %

**Table 4.** Pesticide use by county (in lbs active ingredient) as reported in the 2005 Structural Pesticide Use survey.

<b>COUNTY</b>	<b>Total County ai</b>	<b>% of Total ai</b>
Atlantic	3157	7 %
Bergen	5124	11 %
Burlington	2975	6 %
Camden	3395	7 %
Cape May	988	2 %
Cumberland	797	2 %
Essex	3359	7 %
Gloucester	1665	3 %
Hudson	2728	6 %
Hunterdon	900	2 %
Mercer	802	2 %
Middlesex	6000	13%
Monmouth	4258	9 %
Morris	1452	3 %
Ocean	3246	7 %
Passaic	1597	3 %
Salem	244	1 %
Somerset	1051	2 %
Sussex	683	1 %
Union	1941	4 %
Warren	518	1 %
Not specified	56	<1 %