

LAWN CARE PESTICIDE USE IN NEW JERSEY: 1995 SURVEY

Towards the end of 1995, a lawn care pesticide use survey was initiated by the NJDEP/Pesticide Control Program (PCP). The specific purpose of this project was to identify what chemicals and how much of each were used in 1995 for lawn care purposes. A more general purpose of the survey was to supplement data gathered from previous pesticide use surveys for addressing the impact of pesticide use statewide.

Surveys were mailed over an eight month period, the first mailing going to all New Jersey registered pesticide businesses with a responsible applicator holding a category "3B" (turf) on his or her license. A second mailing went to all applicators holding a category "3B" and a third certified mailing went out to non-respondents. Survey forms were mailed along with instructional letters and return envelopes asking for 1995 lawn care pesticide use. Lists of 3B businesses and applicators were kept in the office and marked off as the surveys returned.

Each survey form received by the PCP was entered into a database. When the data entry was completed the database was reviewed for any duplication of entries and input errors. Subroutines in the database identified active ingredients and calculated pounds of active ingredients from the information supplied by the applicators.

Once all three mailings were completed, 3702 out of 4142 (89%) applicators were accounted for.

Table 1 lists the chemicals and their respective amounts appearing in the survey.

Table 2 selects out the highest use compounds.

Table 3 shows lawn care pesticide use by county.

In reporting and evaluating pesticide use, it is important to consider the many, diverse influences on pesticide use. No single factor, or even set of factors, can completely account for fluctuations in the amounts of pesticide active ingredients used from survey to survey. Weather conditions such as temperature and rainfall, in terms of duration, timing and amounts or degrees, influence pest pressure and the associated response. In agricultural settings, issues such as cropping patterns and the associated pest impacts vary from year to year. Economic factors play a significant role, ranging from crop demand to golf course playability to product and/or service cost. The changing face of land use also plays a part. While agricultural acreage has been declining, new home building starts and the associated lawns around those new homes have been increasing. Another factor is the adoption of IPM (Integrated Pest Management). Short term, some pest control situations may require increased pesticide applications beyond the alternative means contained in an IPM program. Long term, however, IPM should result in overall

pesticide use reduction. This may be confounded by the increased use of reduced-risk alternatives that may have higher application rates than the materials they replace.

[Curt Brown, RSII] revised 2/02

Table 1. Pesticide amounts (lbs. active ingredient) reported in the New Jersey 1995 Lawn Care Pesticide Use Survey.

HERBICIDES:

2,4-D	46121
2,4-DP	4180
Amitrole	2
Ammonium Chloride	<1
Atrazine	18
Benfluralin	19612
Bensulide	972
Bentazon	335
Bromacil	9
Butylate	4
CAMA	<1
Chlorthal-Dimethyl	1570
Clopyralid	1949
Cyanazine	18
Dicamba	7229
Dichlorbenil	163
Diquat	26
Dithiopyr	1116
DSMA, MSMA	2779
Endothal	20
Fenoxaprop-ethyl	271
Fluazifop-butyl	<1
Glufosinate-ammonium	219
Glyphosate	19542
Imazapyr	1
Isoxaben	565
MCPA	29181
Mecoprop	33410
Metalochlor	132
Napropamide	296
Nonanoic acid	492
Oryzalin	3161
Oxadiazon	134
Oxyfluorfen	11
Paraquat	55
Pendimethalin	49141
Prodiamine	5511
Prometon	866
Sethoxydim	1
Siduron	630
Simazine	51

Sodium chlorate	30
Tebuthiuron	4
Triclopyr	8532
Trifluralin	9957
TOTAL HERBICIDES:	248316

INSECTICIDES:

Acephate	63
Bendiocarb	4421
Bifenthrin	1
Boric acid	15
Carbaryl	9563
Chlorpyrifos	28107
Chlorpyrifos-meth	4
Cyfluthrin	78
Cyhalothrin	2
Diazinon	1032
Dicofol	1
Dimethoate	10
Disulfoton	6
Ethoprop	2
Fenbutatin oxide	<1
Fluvalinate	11
Fonofos	2583
Imidacloprid	8173
Isazofos	1702
Isofenphos	1403
Lindane	4
Malathion	343
Oil	3233
Permethrin	800
Pyrethrum	<1
Resmethrin	1
Rotenone	<1
Soap	187
Trichlorfon	31695
TOTAL INSECTICIDES:	93440

FUNGICIDES:

Anilazine	270
Benomyl	165
Chloroneb	10
Chlorothalonil	12555
Cyproconazole	<1
Etridiazole	66
Fenarimol	79
Flutolanil	106
Fosetyl-al	1813
Iprodione	3954
Mancozeb	1805
Metalaxyl	338
Myclobutanil	83
Oxythioquinox	10
PMA	3
Propamocarb HCL	2780
Propiconazole	253
Quintozene	316
Thiophanate-methyl	1603
Thiram	2324
Triadimefon	2374
<u>Vinclozolin</u>	<u>1942</u>
TOTAL FUNGICIDES:	32849

Herbicides:	66%
Insecticides:	25%
Fungicides:	9%
Growth Hormones:	0%
Repellents:	0%

GROWTH HORMONES:

Chlorflurenol	51
Ethephon	<1
Flurprimidol	100
Mefluidide	55
<u>Trinexapac-ethyl</u>	<u>65</u>
TOTAL GR HORMONES:	271

REPELLENTS:

<u>Methyl Anthranilate</u>	<u>115</u>
TOTAL REPELLENTS:	115

TOTAL PESTICIDE USE: 374991

Table 2. Highest use compounds from the main pesticide categories. Shown are compounds $\geq 3\%$ of class.

Compound	Lbs Active ingredient	% of class	% of total use
HERBICIDES:			
Pendimethalin	49141	19.8%	13.1%
2,4-D	46121	18.6%	12.3%
Mecoprop	33410	13.5%	8.9%
MCPA	29181	11.8%	7.8%
Benfluralin	19612	7.9%	5.2%
Glyphosate	19542	7.9%	5.2%
Trifluralin	9957	4.0%	2.7%
Triclopyr	8532	3.4%	2.3%
INSECTICIDES:			
Trichlorfon	31695	33.9%	8.5%
Chlorpyrifos	28107	30.1%	7.5%
Carbaryl	9563	10.2%	2.6%
Imidacloprid	8173	8.7%	2.2%
Bendiocarb	4421	4.7%	1.2%
Oil	3233	3.5%	0.9%
FUNGICIDES:			
Chlorothalonil	12555	38.2%	3.3%
Iprodione	3954	12.0%	1.1%
Propamocarb HCl	2780	8.5%	0.7%
Triadimefon	2374	7.2%	0.6%
Thiram	2324	7.1%	0.6%
Vinclozolin	1942	5.9%	0.5%
Fosetyl-al	1813	5.5%	0.5%
Mancozeb	1805	5.5%	0.5%
Thiophanate-methyl	1603	4.9%	0.4%

Table 3. Total pesticide amounts (in pounds active ingredient) by county, 1995 lawn care survey.

<u>COUNTY</u>	<u>Amount</u>	<u>% of Total Use</u>
Atlantic	10147	2.7%
Bergen	42737	11.4%
Burlington	18202	4.8%
Camden	13334	3.5%
Cape May	2126	0.6%
Cumberland	4901	1.3%
Essex	11596	3.1%
Gloucester	29170	7.8%
Hudson	1120	0.3%
Hunterdon	15271	4.1%
Mercer	14685	3.9%
Middlesex	37751	10.1%
Monmouth	50090	13.4%
Morris	53360	14.2%
Ocean	16439	4.4%
Passaic	7392	2.0%
Salem	183	0.0%
Somerset	33056	8.8%
Sussex	1754	0.5%
Union	8246	2.2%
Warren	3407	0.9%
<u>Not listed</u>	<u>24</u>	<u>0.0%</u>
TOTAL	374991	100.0%