

MOSQUITO CONTROL PESTICIDE USE IN NEW JERSEY – 2004

In the early part of 2005 the NJDEP/Pesticide Control Program (PCP) conducted a mosquito control pesticide use survey. The specific purpose of this project was to identify what chemicals and what quantities of each were used in 2004 for mosquito control. The survey was to supplement data gathered from previous pesticide use surveys for addressing the impact of pesticide use statewide. There is a general interest in the trends of pesticide use for mosquito control, especially due to the issue of West Nile virus transmission through mosquitoes.

Regarding survey procedures, three mailings were made over the course of six months to county mosquito control commissions and individuals carrying an 8B (mosquito control) or 8C (campground applicator) category code on his or her license. Survey forms, along with instructional letters and a return envelope, were mailed to these agencies or individuals asking for their 2004 mosquito control pesticide use. A survey mailing list was kept in the office. As surveys were received the various mosquito control applicators were marked off the list. Second and third mailings were made to non-respondents indicating that the previously mailed survey had not been received.

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. Subroutines in the database identified active ingredients and calculated pounds of active ingredients from the information supplied by the applicators.

Once the three mailings were completed, 526 out of 594 (88%) surveys were received.

Table 1 lists the chemicals and their amounts in pounds of active ingredient (a.i.) appearing in the 2004 survey. The trade names corresponding with these chemicals are also included. Various factors, such as weather, can influence pest populations from year to year and vary that year's pesticide use response. Allotted funding from year to year could also affect pesticide use totals.

Table 2 lists the chemicals and their a.i. amounts applied by site for 2004.

Table 3 lists the chemicals and their a.i. amounts applied by county for 2004.

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.

Table 1. Compounds appearing in the 2004 Mosquito Control Pesticide Use Survey and their amounts (pounds active ingredient). Not all brand names are listed, only the most popular according to the survey.

Chemical	Brand Name	Pounds a.i.
BIFENTHRIN	Talstar	265
B. sphaericus	Vectolex	2233
B. thuringensis	Teknar, Vectobac	8852
CYFLUTHRIN	Tempo	9
DELTAMETHRIN	Suspend	16
ISOOCTADECANOL	Arosurf, Agnique	86
MALATHION	Atrapa, Fyfanon	6834
METHOPRENE	Altosid	2308
OBD	(surrogate)	100
OIL	Bonide, Golden Bear	41031
PERMETHRIN	Aqua Reslin	47
PHENOTHRIN	Anvil	17
PIPERONYL BUTOXIDE	(surrogate)	3896
PYRETHRINS	Hydrom 300	31
RESMETHRIN	Scourge	1247
TEMEPHOS	Abate	6581
Total:		73553

Table 2. Pesticide amounts (in active ingredient) in the 2004 Mosquito Control Pesticide Use survey by site.

Site	Pounds a.i.	Percent of Total
Residential/Commercial	10285	14%
Parks, campground	576	<1%
Golf course	473	<1%
Catch basins, ditches	25385	35%
Coastal wetlands	11883	16%
Non-coastal wetlands	15183	21%
Lakes, ponds	1718	2%
Other*/No code	8050	11%
Total:	73553	

* "Other" sites include uplands (Cape May), tires and other artificial containers, retention basins, sewage treatment plants, woodland pools, and abandoned swimming pools.

Table 3. Pesticide amounts (in active ingredient) in the 2004 Mosquito Control Pesticide Use survey by county.

County	Pounds a.i.	Percent of Total
Atlantic	4469	6 %
Bergen	2375	3 %
Burlington	5784	8 %
Camden	655	<1 %
Cape May	10116	14 %
Cumberland	1452	2 %
Essex	4194	6 %
Gloucester	7349	10 %
Hudson	1063	1 %
Hunterdon	530	<1 %
Mercer	483	<1 %
Middlesex	11253	15 %
Monmouth	1668	2 %
Morris	5601	8 %
Ocean	3324	5 %
Passaic	5301	7 %
Salem	1788	2 %
Somerset	1800	2 %
Sussex	1525	2 %
Union	2262	3 %
Warren	561	<1 %
Total:	73553	