

MOSQUITO CONTROL PESTICIDE USE IN NEW JERSEY – 1999-2000

In the early months of 2001 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 1999 and 2000 for mosquito control. Conducting two surveys simultaneously is not the PCP's usual procedure. 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 1999 and 2000 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, 324 out of 355 (91%) surveys were received.

Table 1 lists the chemicals and their amounts in pounds of active ingredient appearing in the 1999 survey. The trade names corresponding with these chemicals are also included.

Table 2 lists the chemicals and their amounts (a.i.) applied by county for 1999.

Table 3 lists the chemicals and their amounts in pounds of active ingredient appearing in the 2000 survey.

Table 4 lists the chemicals and their amounts (a.i.) applied by county for 2000.

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, RS II]

Table 1. Compounds appearing in the 1999 Mosquito Control Pesticide Use Survey and their amounts (pounds active ingredient).

Chemical	Brand Name	Pounds a.i.
BT & Similar	Aquabac, Bactimos, Vectobac	1283
ISOCTADECANOL	Agnique	20
MALATHION	Fyfanon	6867
METHOPRENE	Altosid	1013
OIL	Golden Bear	33424
PBO	Scourge	2474
PERMETHRIN	Permethrin	3
RESMETHRIN	Scourge	817
TEMEPHOS	Abate	5531
Total:		51432

Table 2. Pesticide amounts (in active ingredient) in the 1999 Mosquito Control Pesticide Use survey by county.

County	Pounds a.i.	Percent of Total
Atlantic	2483	5 %
Bergen	1626	3 %
Burlington	1986	4 %
Camden	337	1 %
Cape May	7721	15 %
Cumberland	1606	3 %
Essex	1813	4 %
Gloucester	2180	4 %
Hudson	140	0 %
Hunterdon	0	0 %
Mercer	3542	7 %
Middlesex	7391	14 %
Monmouth	315	1 %
Morris	1392	3 %
Ocean	1783	3 %
Passaic	2585	5 %
Salem	1448	3 %
Somerset	11803	23 %
Sussex	413	1 %
Union	722	1 %
Warren	148	0 %
Total:	51432	100%

Table 3. Compounds appearing in the 2000 Mosquito Control Pesticide Use Survey and their amounts (pounds active ingredient).

Chemical	Brand Name	Pounds a.i.
BT & similar	Aquabac, Bactimos, Vectobac	2884
ISOOCTADECANOL	Agnique	315
MALATHION	Fyfanon	5290
METHOPRENE	Altosid	1580
OIL	Golden Bear	61615
PBO	Scourge	4489
PERMETHRIN	Permethrin	8
RESMETHRIN	Scourge	1482
TEMEPHOS	Abate	11404
Total:		89067

Table 4. Pesticide amounts (in active ingredient) in the 2000 Mosquito Control Pesticide Use survey by county.

County	Pounds a.i.	Percent of Total
Atlantic	1553	2 %
Bergen	3225	4 %
Burlington	3668	4 %
Camden	406	0 %
Cape May	11887	13 %
Cumberland	1576	2 %
Essex	1920	2 %
Gloucester	5720	6 %
Hudson	390	0 %
Hunterdon	3	0 %
Mercer	4027	5 %
Middlesex	10607	12 %
Monmouth	1100	1 %
Morris	3701	4 %
Ocean	3318	4 %
Passaic	2822	3 %
Salem	1930	2 %
Somerset	26296	30 %
Sussex	2611	3 %
Union	1882	2 %
Warren	427	1 %
Total:	89067	100%