

Division of Solid & Hazardous Materials

**FINAL ANNUAL REPORT
ON
1998
NEW YORK STATE
PESTICIDE SALES AND
APPLICATIONS**

July 1, 2000

GEORGE E. PATAKI, *Governor*

JOHN P. CAHILL, *Commissioner*

ACKNOWLEDGMENTS

The Department wishes to acknowledge the cooperation and assistance of the following institutions in the preparation and development of this Annual Report:

Cornell University
New York State Department of Health

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY	v
I. INTRODUCTION	1
II. IMPLEMENTATION OF THE PESTICIDE REPORTING PROGRAM, JUNE 1998 THROUGH MAY 1999	
A. Public Outreach and Education	1
B. Administrative Changes	3
C. Data Base Refinement	4
D. Cornell University	5
E. New York State Department of Health and Health Research Science Board	8
F. Breast Cancer Environmental Risk Factors (BCERF)	9
G. Enforcement Activities	10
III. REPORTING DATA	
A. Reports Received	10
B. General Synopsis of Data	11
C. Data Summaries Overview	13
(See VI. Volumes, For Data Summaries)	
D. Data Qualifications	15
E. Data Management Methodology	17
IV. APPENDICES	
A. Glossary	19
B. Contact List	20

List of Figures

Figure 1: Volume (Gallons) of Pesticide Applications
by County During 1998 Following Page 20

Figure 2: Weight (Pounds) of Pesticide Applications
by County During 1998 Following Page 20

Figure 3: Relative Use (Pounds) of the Top Ten Pesticide
Products Applied by Certified Commercial
Applicators - 1998 Following Page 20

Figure 4: Relative Use (Gallons) of the Top Ten Pesticide
Products Applied by Certified Commercial
Applicators - 1998 Following Page 20

Figure 5: Relative Amount (Pounds) of Top Ten Restricted
and General Use Agricultural Pesticide Products
Sold by Commercial Permit Holders to Certified
Private Applicators - 1998 Following Page 20

Figure 6: Relative Amount (Gallons) of Top Ten Restricted
and General Use Agricultural Pesticide Products
Sold by Commercial Permit Holders to Certified
Private Applicators - 1998 Following Page 20

List of Tables

Table 1: Summary of Total Quantities Statewide Page 11

Table 2: Summary of Quantity by County
(Applications by Commercial Applicators Only) Page 12

V. VOLUMES

- Data Summary 1: New York State Commercial Applicator 1998
Pesticide Applications (Summarized by Product)
- Data Summary 2: New York State Commercial Applicator 1998
Pesticide Applications (Summarized by County)
- Data Summary 3: New York State Commercial Applicator 1998
Pesticide Applications (Summarized by Zip Code)
- Data Summary 4: New York State Commercial Permittees (Including
Importers, Manufacturers and Compounders) 1998
Restricted Use Pesticide Sales to Commercial Permit
Holders for Resale (Summarized by Product)
- Data Summary 5: New York State Commercial Permittees (Including
Importers, Manufacturers and Compounders) 1998
Restricted Use Pesticide Sales to Commercial
Applicators for End Use (Summarized by Product)
- Data Summary 6: New York State Commercial Permittees 1998
Pesticide Sales of Restricted Use Pesticides and
General Use Agricultural Pesticides to Private
Applicators (Summarized by Product)
- Data Summary 7: New York State Commercial Permittees 1998
Pesticide Sales of Restricted Use Pesticides and
General Use Agricultural Pesticides to Private
Applicators (Summarized by County)
- Data Summary 8: New York State Commercial Permittees 1998
Pesticide Sales of Restricted Use Pesticides and
General Use Agricultural Pesticides to Private
Applicators (Summarized by Zip Code)
- Supplement to
Data Summaries: Provides a list of Pesticide Products by Name and
EPA Registration Number

Executive Summary

This is a report detailing the final 1998 pesticides sales and application data submitted under Article 33, Title 12, known as the Pesticide Reporting Law. The Department, in conjunction with work conducted by Cornell University, presents a final data summary of commercial pesticide sales and use for calendar year 1998, including: quantity sold, quantity used, category of applicator, and region of application.

Pesticide Reporting Program

The goal for 1998, the second year of the program, was two fold. The first goal was to increase the compliance rate for reporting primarily through public outreach and education, supplemented by enforcement. The second goal was to improve the quality of the data submitted by expanding the range of technological reporting options and through outreach and education of the regulated community.

The Department's long-term goal is to continually improve the reporting rate and data quality by raising the threshold for report acceptance each year. This increasing standard will parallel the learning curve for the regulated community and the Department. The objective of this approach is to maximize the quantity and quality of data available to health researchers and other users of the data.

The reporting results for calendar year 1998 were as follows:

- C 96% of commercial applicators reported (15,001 out of 15,674). This is a 11-point improvement over the 1997 reporting year.
- C 97% of commercial permittees (i.e. distributors) reported (428 out of 439). This is a 4-point improvement over the 1997 reporting year.

The Department is pleased with the reporting rate and appreciates the cooperation of the reporting community. The Department will continue to work with the reporting community to achieve maximum compliance. As a supplement to the education and outreach efforts, the Department took enforcement actions against those applicators who failed to report for 1998. These applicators were fined and some have had their certification or business registration revoked.

The detailed data on applications and sales are voluminous, and contained in the eight separate data summaries included as part of this report (see the table of contents for a description of each summary). These detailed data summaries are available on the Department's website www.dec.state.ny.us/website/dshm/prl or on CD ROM. For a copy on CD ROM, please call 1-888-457-0110. Constraints on the data are discussed in Section III.D.

The following totals are those most frequently requested:

Total amount of pesticides applied by commercial applicators in New York State in 1998: 3,608,305 gallons and 23,551,785 pounds. The three largest total amounts of pesticide products applied by commercial applicators, by weight, were: Cynoff EC Insecticide (EPA Registration No. 279-3081); Various formulations of Fertilizer/Pendimethalin Herbicide Combinations (EPA Registration No. 10404-82); and Prentox Diazinon 4E Insecticide (EPA Registration No. 655-457). The three largest total amounts of pesticide products applied by commercial applicators, by volume, were: Dursban Pro (EPA Registration No. 62719-166); Demon TC Insecticide (EPA Registration No. 10182-107); and Dragnet FT & SFR Termiticide/Insecticide (EPA Registration No. 279-3062).

Total amount of pesticides sold to private applicators for agricultural use in New York State in 1998: 915,725 gallons and 5,818,360 pounds. The three largest total amounts of pesticide products sold to private applicators, by weight, were: Lorsban 15G Granular Insecticide (EPA Registration No. 62719-34); Force 3G Insecticide (EPA Registration No. 10182-373); and Force 1.5G Insecticide (EPA Registration No. 10182-130). The three largest total amounts of pesticide products sold to private applicators, by volume, were: Prowl 3.3 EC Herbicide (EPA Registration No. 241-337); Bicep Lite II (EPA Registration No. 100-766); and MON 78300/Round Up Pro & Ultra Herbicides (EPA Registration No. 524-475).

Total amount of pesticides sold to distributors for resale in New York State in 1998 was 395,838 gallons and 6,083,437 pounds; the total sold for end use by applicators was 173,265 gallons and 963,789 pounds.

I. INTRODUCTION

The Department, in conjunction with work conducted by Cornell University, presents a final data summary for calendar year 1998 of pesticide sales, the quantity of pesticides used, the category of applicator and region of application. This report also describes refinements made in 1998 to the pesticide reporting program and provides detailed information in eight data summaries. These summaries provide pesticide sales and use information by county, zip code and product.

It is not the Department's role, for purposes of this report, to draw any correlations between pesticide use and health impacts. This critical activity is the prerogative of independent health researchers who elect to use the data base.

II. IMPLEMENTATION OF THE PESTICIDE REPORTING PROGRAM

The Department's pesticide reporting program performs a range of functions: outreach to industry, environmental interest groups, and cancer research advocacy groups; interpretation and clarification of statutory and regulatory requirements; and development and execution of procedures for reporting and managing data.

A. Public Outreach and Education

The Department places primary emphasis on the education of the regulated community to encourage the highest level of compliance and to obtain the most accurate data possible. To further that goal, the Department conducted 11 workshops in 1998 at nine locations across the State: Albany, Syracuse, Rochester, Binghamton, Long Island, Bear Mountain, New York City, Buffalo and Plattsburgh. The latter three locations were added in response to suggestions from the regulated community and other interest groups. The workshops were attended by over 2,000 applicators and businesses. In 1998, the Department also participated in over 100 other events across the State for pesticide user groups and associations, cancer advocacy groups, environmental advocacy groups, the public and others. These events also reached thousands of interested parties. Also, the Department mass-mailed information and forms, on several occasions, to thousands of known regulated entities that were impacted by the Pesticide Reporting Law.

In addition, the Department established communication links with regulated entities through our e-mail address *prl@gw.dec.state.ny.us* and a toll-free (within New York State) hot line telephone number 1-888-457-0110. This hot line received 7,680 telephone calls between April 1, 1998 and March 31, 1999. Customers could contact the Department, have questions answered, request forms or conduct other business associated with the pesticide program.

The World Wide Web site for Pesticide Reporting Law information went on line in July 1998. This website provides Internet access to Pesticide Reporting Law information including a copy of the statute, forms that can be downloaded and printed, general guidance materials, and a copy of the July 1, 1998 Annual Report with a link to Cornell's website that contains final data for 1997. The Department's website had an approximate total of 4,570 user sessions and 3,759 Pesticide Reporting Law annual report forms downloaded during 1998.

The Department continues to write and publish a series of Technical and Administrative Guidance Memoranda (TAGMs) which will provide guidance, enhance understanding of the Pesticide Reporting Law, and clarify program issues for Department staff, the public and the regulated community. The first of these Technical and Administrative Guidance Memoranda, DSHM-97-05, became effective January 20, 1998.

The Department also issued two Program Policies to clarify record keeping and reporting requirements of the Pesticide Reporting Law and existing regulations in Parts 325 and 326.

Program Policy OGC-3 establishes a policy of enforcement discretion with regard to the New York State pesticide record keeping and reporting requirements for commercial applicators. Program Policy OGC-4 establishes a policy of enforcement discretion with regard to the New York State pesticide record keeping and reporting requirements for commercial permit holders, including importers, manufacturers and compounders. These two Program Policies stated that the Department would allow and accept an annual report or reports submitted in accordance with the Pesticide Reporting Law, in lieu of the reports required under 6 NYCRR Parts 325.25 and 326.10. These policies also stated the record keeping requirements for both commercial applicators and commercial permit holders. These Program Policies help clarify statutory and regulatory requirements for the regulated community and facilitate compliance with such mandates.

B. Administrative Changes

The Department continues to refine the process for reporting and the system for managing reports received. The principal administrative changes for 1998 follow.

1. Quality Control

The Department instituted a front-line quality control program where Department staff evaluated incoming reports to ensure basic criteria were met. The criteria were established to maximize the volume of data that would be transferrable into Cornell's master data base. To be accepted, a report had to:

- a) be in the Department's standardized format;
- b) contain data in each column; and
- c) have the name and certification number of at least one certified commercial applicator or valid commercial permit number.

If a report did not meet these criteria, Department staff sought to correct the report, if possible, through telephone discussion or by mail with the person filing the report. This approach minimized the number of rejected reports.

The above procedures helped to eliminate several of the constraints on data quality identified in last year's annual report; however, some constraints remain. The Department intends to eventually eliminate them by expanding the list of acceptance criteria each year. In this way, the acceptance threshold will rise continuously but gradually, paralleling the learning curve for the regulated community, the Department and Cornell. The goal is to maximize the quantity and quality of data available to health researchers and other users of the data.

2. Electronic Reporting

The regulated community submitted 226 reports electronically, predominantly on computer diskette, for calendar year 1998 sales and applications. The diskettes contained data for 436 certified commercial applicators and 90 commercial permit holders. This year, the Department conducted the initial phase of logging in diskettes and checking for proper reporting format.

In April 1999, the Department entered into a contract with a private computer contractor to format the data from the electronic media and transmit the 1998 data to Cornell University. The contractor will develop electronic filing guidelines for distribution to regulated entities, for use in reporting 1999 data. The goal is to establish the most user-friendly and streamlined approach to electronic data submission possible. The Department will strongly encourage the regulated community to file electronically and will work one-on-one with large companies to establish a system for doing so.

3. Scannable Reports

Scannable report forms were a new reporting option for commercial applicators in 1998. "Scannable" means the data on the forms can be optically scanned into the computer data base, thereby minimizing manual entry of the data. This is potentially a very cost-effective reporting method for New York State because it improves readability and accuracy, and provides a higher level of automation for data processing.

The acceptance and use of these forms has been very favorable. Approximately 3,600, or 23 percent, of all certified commercial applicators reported their activities by using this scannable form in 1998. It is hoped that the number of entities using the scannable version of the Commercial Applicator Pesticide Use Annual Report will continue to increase throughout 1999 and subsequent reporting years.

C. Data Base Refinement

The Department, in conjunction with Cornell University and a private contractor, made several improvements to optimize management of the 1998 Pesticide Reporting Law data.

1. The 1998 reports were optically imaged and stored on CD ROM. The maintenance of annual report images on CD ROM is a large improvement over the microfilming that was used for the 1997 reports because it allows for computer indexing and quick access of individual reports by the Department.

2. Cornell University developed and provided to the Department a data base for tracking the pesticide reports received by the Department. By automating the report tracking process, the Department has been able to manage the pesticide reports more effectively and maintain more accurate records of the reporting entities. This has eliminated one of the 1997 sources of duplicate data being introduced into the data base.

3. Cornell also developed a process for creating data reports based on specific criteria requested by the Department. For example, this process can identify all certified applicators who reported making no applications, or how many applications each applicator made. The ability to sort information in a range of combinations is a valuable tool for administration and research purposes.

4. Cornell has completed processing all the data submitted for 1997. Because many reports were submitted late and there was a very short turn-around time for managing the data received, the first annual report to the Governor did not include all the data. In addition, time had not allowed a thorough quality check on the data that were presented in the report. These constraints were acknowledged in the report to the Governor. Subsequent to the report issuance, Cornell “cleaned up” the data (e.g., removed much of the duplicate data) and added thousands of pages of data from late submittals. These improved data have been incorporated into the master data base. This data base will be the information source for health researchers or other users of the data.

The final data show that there were greater than five million records of applications and sales reported for 1997. The improved data are available at <http://pmep.cce.cornell.edu/regulation/psur/annualreport1997/index.html> (Cornell’s Website).

D. Cornell University

The following objectives, via a Memorandum of Agreement (MOA) with the New York State Department of Environmental Conservation and mandated by the 1996 Pesticide Reporting Law, were established for the design, development, implementation and maintenance of a data base by the Pesticide Management Education Program (PMEP) at Cornell University:

1. Work closely with the Department on the design and implementation of a pesticide sales and use computerized data base system for pesticide use information submitted on reporting forms. This system will utilize a data entry firm contracted by the Department.

2. Work closely with the Department on the design and implementation of a pesticide sales and use computerized data base system for pesticide use information submitted electronically. Develop data entry and electronic file specifications for those contracted firms selected by the Department that will be processing pesticide application and sales reporting forms, including scannable forms.

3. Provide technical expertise to the Department and act in an advisory capacity relating to the development and implementation of the data base. Assist the Department in reviewing contracts, requests for proposals, etc., relating to the development of the data base.

4. The pesticide sales and use computerized data base system is dependent on related pesticide information from other satellite computer systems. Cornell will work closely with the Department in designing/redesigning, developing and implementing these satellite data bases (business registration, certification, commercial permits, product registration/labels, etc.) as a function of the data base. Initially this will include the design/redesign and development functions and incorporating existing data that relate to the Data Base. Access will include internal Department and Cornell use and management of the information/data so that confidentiality is maintained.

5. For first-year reporting, Cornell provided a website link for accessibility to the pesticide application/sales summaries per the statute. Through a data warehouse server, Cornell will design and begin implementation of an interactive mechanism for querying/displaying pesticide use information for the Department, New York State Department of Health (NYSDOH), Cornell, qualified researchers and for members of the public as mandated by the pesticide reporting legislation. Any confidential information provided by Cornell from the data base will only be as directed by the Department in conjunction with the Health Research Science Board.

6. Provide and assist the Department with data report requests from the Health Research Science Board, the Department internal personnel, the NYSDOH, the New York State Legislature, other state agencies and the public.

The Pesticide Sales and Use Reporting (PSUR) Data base Group at Cornell is in an on-going phase of refining and consolidating the data base developed to process the Pesticide Reporting Law data. The data for the 1997 Annual Report had to be generated under the pressure of a very short deadline. Since that time the PSUR team has had the opportunity to begin developing a full-fledged pesticide reporting information system. This effort has involved a number of different aspects of the system.

PSUR has worked with the data entry contractor to refine the data editing and file transfer processes they perform. PSUR now delivers edit reports to the data entry contractor on all records received in a file. By these actions PSUR hopes to avoid lengthy reprocessing of unreadable files and to improve the tracking of the files transferred to PSUR.

PSUR undertook extensive system modifications to the application programs and data base that process the pesticide data. After the modifications were complete, the data validation programs had a run time of one to two days as compared to an eight to ten day run time before the changes were made. Such a time savings is extremely valuable in meeting the tight schedule imposed by the July 1 reporting deadline.

The PSUR team has written and continues to write reporting applications that address the data needs of the Department and other system users. These include reports containing statistical analysis of the pesticide reporting data, reports used to verify compliance by the reporting businesses and applicators, and ad hoc views of the sales and use data.

In order to assist the Department to more effectively track the pesticide reports they receive, PSUR developed a data base that automates many of the steps that were performed manually for the 1997 reporting year. This data base was used to process all the 1998 pesticide reports.

Pesticide reports received by the Department that replace a previously submitted report can now be substituted in the data base for the originals using a new process developed by the PSUR team. This process will help prevent duplicate pesticide reports from being entered into the system.

Another enhancement contributing to the development of a pesticide reporting information system is the acceptance of files from a second data provider, the electronic media service bureau. Since the data in these files differ from the paper reports data, programs were written to convert the files into a format that could be processed into the data base.

Work commenced on the effort to replace the existing Department pesticide data bases (certification, commercial business, commercial permittee, and product registration) that provide the lookup data to the PSUR data base. These systems provide data crucial to the PSUR data base and their replacement will enhance the type of information that can be provided in the future. Currently some requests for information have to be denied because the lookup data to produce these reports are not available.

The Pesticide Management Education Program (PMEP) Director is the New York State liaison representative for United States Department of Agriculture's Pesticide Impact Assessment Program (PIAP). Through this program, PMEP has the responsibility for obtaining pesticide use information and developing commodity profiles that assess chemical and nonchemical control of pests. The program has developed several pesticide use assessments for many of the crops grown in New York.

The experience that the program has gained in collecting pesticide use information

through the previously mentioned PIAP program and working with other states (California) and federal agencies (United States Department of Agriculture, National Agricultural Statistics Services, etc.) provides PSUR with considerable background for making recommendations for the development of a pesticide use and sales reporting data base. PSUR has provided observations and suggestions to the Department and the Health Research Science Board relative to: pesticide applications and site summarization, reporting forms/submission, reporting entities, private applicator reporting, crop/site reporting, and chemical active ingredient reporting.

E. NYSDOH and Health Research Science Board

The Department of Health attended meetings of the Health Research Science Board (Board) and has made numerous presentations to update the Board on pesticide reporting activities of the Department in 1998.

The Department reviewed a draft of the Board's Biennial Report for 1997-1998 and provided comments. The Board's final report can be obtained by contacting NYSDOH at (518) 486-6886.

One of the Board's responsibilities is to survey State governmental entities to assess whether relevant data sets are available that may be of use in breast, prostate or testicular cancer research and compile a list of the data. In 1998 the Board mailed a survey to 117 State entities. The Board received surveys from 17 governmental entities describing 94 available data sets, and letters from 98 governmental entities stating they had no relevant data sets.

Breast cancer research and education grant awards are supported by a voluntary checkoff on a New York State income tax form. Through the end of 1997, a total of \$686,304 was donated and through October 30, 1998, \$523,802 was donated. The combined total amount of donations was \$1,210,106. The Board reviewed 83 proposals for grant monies. Twenty-eight proposals were awarded funds.

Another of the Board's responsibilities is to review requests by researchers engaged in human health-related research projects for access to confidential Pesticides Sales and Use Data Base information maintained by Cornell and the Department. The Board established guidelines to maintain the confidentiality of the information. The Board also prepared documents to be used by those seeking access to the data base information and a model agreement requiring the recipient of the information to maintain its confidentiality. No requests for confidential information were received by the Board as of May 31, 1999.

F. Breast Cancer Environmental Risk Factors (BCERF)

The Cornell University Program on Breast Cancer and Environmental Risk Factors

(BCERF) was created in 1995 to respond to growing public concern regarding elevated breast cancer rates in certain counties in New York State. From its inception, BCERF has addressed the relationship between environmental risk factors and breast cancer through a variety of research and education strategies. BCERF translates scientific findings and data into understandable and accessible information. In addition, it has initiated local efforts to use what is known about breast cancer risk factors to create risk reduction strategies.

BCERF is part of Cornell's Institute for Comparative and Environmental Toxicology (ICET), a program of the Center for the Environment. The program calls on the collective expertise and efforts of Cornell faculty and staff from the Colleges of Agriculture and Life Sciences, Arts and Sciences, Human Ecology, Medical College, Veterinary Medicine, the Divisions of Biological Sciences, Nutritional Sciences, the Office of Government Affairs and Cornell Cooperative Extension. This program is based on Cornell's strengths in toxicology (immunological, molecular, biomarker, nutritional, chemical, ecological), environmental studies, nutrition, food safety and health, risk communication, risk management, pesticide research, integrated pest management, community-based education and the development of public policy.

BCERF is critically evaluating the scientific information on pesticides, other chemicals, diet, and the relationship of these factors to breast cancer risk. This translational research allows for the synthesis and interpretation of a wide range of research on these environmental factors, and whether they may affect breast cancer risk. The pesticides being evaluated include those used in agriculture, home, lawn and garden pest control, and on recreational sites. These critical evaluations also identify existing knowledge gaps which are the basis of recommendations to state and federal agencies for needed research.

BCERF has established a World Wide Web site <http://www.cfe.cornell.edu/bcerf/> with this science-based information and links to other information sources. The BCERF website also includes a searchable bibliography with over 3,300 references on breast cancer and environmental risk factors. The website provides critical links to information needed by researchers and health professionals (nutritionists, toxicologists, clinicians, physicians, educators, and public health professionals). BCERF may be contacted by e-mail at breastcancer@cornell.edu or by telephone at (607) 254-2893. The BCERF Program Office is located at 110 Rice Hall, Cornell University, Ithaca, New York 14853.

G. Enforcement Activities

1997 Reporting Year Enforcement

To increase compliance with the reporting requirements of the Pesticide Reporting Law during 1997, a series of letters was sent to those who failed to report. Ultimately, the Department sent uniformed Environmental Conservation Officers to approximately 250 non-reporting applicators and sellers, who were given tickets and fined up to \$250 per applicator or seller. This helped increase the final compliance rate for the 1997 report year.

1998 Reporting Year Enforcement

The Department implemented a series of methods to bring regulated entities into compliance with reporting as required under the Pesticide Reporting Law in 1998. Reporting forms and information on requirements were made more readily available through the Internet and e-mail. A series of reminder notices was issued to maximize the number of reports submitted. In addition, a newly instituted tracking program assisted the Department in overseeing compliance by identifying applicators who have failed to report. An Order on Consent was sent to every Certified Commercial Pesticide Applicator and Commercial Permit Holder who did not report for 1998. Those entities were subsequently fined an appropriate penalty and/or had their certification, business registration, or commercial permit revoked.

The Department also addressed other areas of concern regarding pesticide activities that were discovered while reviewing annual reports.

III. REPORTING DATA

A. Reports Received

For the 1998 report year, the total final number of applicators and permittees reporting were:

15,001 Commercial Applicators
428 Commercial Permittees (Sales)

These figures indicate that 96 percent of the 15,674 certified applicators and 97 percent of the 439 commercial permittees reported for 1998. This is a significant improvement in the reporting rates, compared to 1997 when reporting totals were 85 percent for commercial applicators and 93 percent for commercial permittees. The Department is pleased with the compliance rates, commends the reporting community on their success, and pledges to work with industry to further encourage reporting and data quality.

B. General Synopsis of Data

The following tables provide an overview of major data categories:

Table 1

Calendar Year 1998
Final Summary of Total Quantities Statewide

Category	Number of Pesticide Products	Amount	
Applied by Commercial Applicators	3,050	3,608,305 gal.	23,551,785 lbs.
Sold for Resale**	318	395,838 gal.	6,083,437 lbs.
Sold for End Use**	446	173,265 gal.	963,789 lbs.
Sold to Private Applicators	971	915,725 gal.	5,818,360 lbs.

**Note: Restricted use pesticide only

Table 2
Calendar Year 1998
Final Summary Quantity by County
(Applications by Commercial Applicators Only)

County	Amount**	
Albany	59,312.11 gal.	435,203.84 lbs.
Allegany	1,899.85 gal.	13,219.69 lbs.
Bronx	267,622.09 gal.	579,586.01 lbs.
Broome	7,304.95 gal.	195,875.70 lbs.
Cattaraugus	2,782.34 gal.	50,457.65 lbs.
Cayuga	2,890.75 gal.	52,668.21 lbs.
Chautauqua	8,735.13 gal.	801,807.24 lbs.
Chemung	7,749.85 gal.	80,903.85 lbs.
Chenango	35,895.87 gal.	79,021.19 lbs.
Clinton	4,473.79 gal.	30,691.42 lbs.
Columbia	19,176.53 gal.	114,182.65 lbs.
Cortland	4,434.42 gal.	30,139.12 lbs.
Delaware	6,857.50 gal.	16,126.93 lbs.
Dutchess	15,595.31 gal.	166,928.44 lbs.
Erie	170,788.90 gal.	768,349.25 lbs.
Essex	2,023.08 gal.	456,112.96 lbs.
Franklin	5,150.92 gal.	40,570.62 lbs.
Fulton	1,365.87 gal.	35,054.36 lbs.
Genesee	16,569.24 gal.	36,048.23 lbs.
Greene	766.56 gal.	749,089.31 lbs.
Hamilton	379.33 gal.	27,244.77 lbs.
Herkimer	28,289.85 gal.	61,464.57 lbs.
Jefferson	7,002.04 gal.	42,830.54 lbs.
Kings	692,231.72 gal.	3,446,075.69 lbs.
Lewis	7,616.37 gal.	56,982.69 lbs.
Livingston	4,928.44 gal.	31,557.47 lbs.
Madison	5,623.87 gal.	58,638.03 lbs.
Monroe	90,840.86 gal.	786,553.68 lbs.
Montgomery	3,958.84 gal.	26,723.63 lbs.
Nassau	363,601.37 gal.	2,530,034.41 lbs.
New York	280,812.85 gal.	270,632.45 lbs.
Niagara	26,775.91 gal.	228,674.76 lbs.
Oneida	10,110.87 gal.	250,758.93 lbs.
Onondaga	23,662.72 gal.	487,744.52 lbs.
Ontario	21,292.09 gal.	86,156.78 lbs.

County	Amount**	
Orange	43,916.29 gal.	276,627.90 lbs.
Orleans	3,505.86 gal.	14,966.67 lbs.
Oswego	33,760.71 gal.	304,479.07 lbs.
Otsego	9,513.27 gal.	19,918.18 lbs.
Putnam	4,124.53 gal.	71,071.62 lbs.
Queens	297,611.34 gal.	3,475,773.92 lbs.
Rensselaer	15,625.08 gal.	120,299.30 lbs.
Richmond	93,881.30 gal.	40,942.42 lbs.
Rockland	20,897.54 gal.	438,858.70 lbs.
Saratoga	22,545.88 gal.	366,792.74 lbs.
Schenectady	20,443.91 gal.	172,258.47 lbs.
Schoharie	5,787.88 gal.	8,135.87 lbs.
Schuyler	1,441.67 gal.	6,678.60 lbs.
Seneca	5,753.19 gal.	14,197.08 lbs.
St. Lawrence	14,859.88 gal.	811,982.82 lbs.
Steuben	6,206.73 gal.	69,599.43 lbs.
Suffolk	440,246.18 gal.	2,142,781.83 lbs.
Sullivan	15,161.15 gal.	111,326.45 lbs.
Tioga	1,795.02 gal.	34,513.11 lbs.
Tompkins	4,501.14 gal.	48,131.75 lbs.
Ulster	7,454.34 gal.	80,340.18 lbs.
Warren	14,206.72 gal.	108,201.87 lbs.
Washington	17,265.91 gal.	27,175.78 lbs.
Wayne	14,375.92 gal.	75,040.44 lbs.
Westchester	197,047.05 gal.	1,163,426.83 lbs.
Wyoming	11,696.01 gal.	26,754.90 lbs.
Yates	3,728.75 gal.	30,739.81 lbs.

**Note: The quantity of pesticides commercially applied in a county is the sum of the gallons and pounds reported above. In other words, the gallons and pounds in the chart do not reflect two ways of speaking about a single volume of pesticides.

The above table does not include quantities which were reported where the county information was either missing, irregular, invalid or illegible.

C. Data Summaries Overview

In conjunction with Cornell University, the Department has summarized final data for calendar year 1998 pesticide sales, the quantity of pesticides used, the category of applicator and region of application. Detailed information are provided in eight data summaries. These final summaries can be found at the end of this report.

- < Data Summary 1 provides the final data for 1998 Commercial Applicator pesticide applications in New York State (summarized by product).
- < Data Summary 2 provides the final data for 1998 Commercial Applicator pesticide applications in New York State (summarized by county).
- < Data Summary 3 provides the final data for 1998 Commercial Applicator pesticide applications in New York State (summarized by zip code).
- < Data Summary 4 provides the final data for 1998 Commercial Permittees (Including Importers, Manufacturers and Compounders) Restricted Use Pesticide Sales to Commercial Permit Holders for Resale (summarized by product). These are data summaries of sales made by pesticide sales distributors that are licensed to sell restricted use pesticides, to other pesticide sales distributors who are also licensed to sell restricted use pesticides. The data are summarized by pesticide product.
- < Data Summary 5 provides the final data for 1998 Commercial Permittees (Including Importers, Manufacturers and Compounders) Restricted Use Pesticide Sales to Commercial Applicators for End Use (summarized by product). These are data summaries of sales made by pesticide sales distributors that are licensed to sell restricted use pesticides, to commercial pesticide applicators who are licensed to purchase and apply restricted use pesticides. The data are summarized by pesticide product.
- < Data Summary 6 provides the final data for 1998 Commercial Permittees Sales of Restricted Use Pesticides and General Use Agricultural Pesticides to Private Applicators (summarized by product). These are data summaries of sales, to certified private applicators, of restricted use pesticides and general use pesticides used in agricultural crop production. These sales were made by pesticide sales distributors that are licensed to sell both restricted use pesticides and general use pesticides identified as being used in agricultural crop production. The data are summarized by pesticide product.
- < Data Summary 7 provides the final data for 1998 Commercial Permittees Sales of Restricted Use Pesticides and General Use Agricultural Pesticides to Private Applicators (summarized by county).
- < Data Summary 8 provides the final data for 1998 Commercial Permittees Sales of Restricted Use Pesticides and General Use Agricultural Pesticides to Private Applicators (summarized by zip code).

- < Supplement to Data Summaries provides a list of Pesticide Products by Name and EPA Registration Number.

As required by law, these final summaries exclude the name, address or any other information that would otherwise identify a commercial or private applicator, any person who sells or offers for sale restricted use or general use pesticides to a private applicator, or any person who received the services of a commercial applicator.

D. Data Qualifications

The reporting community, the Department, its computer consultants, and Cornell University work together to provide the best information possible for the health researchers. However, the data is neither perfect nor complete. Users of the data are cautioned about limitations of the data, including the following:

- 1) The information, as reported by the applicators and distributors, is accepted. Neither the Department nor Cornell can attest to the accuracy of the data provided. However, the data are reviewed for obvious or likely errors and follow up with the applicators and distributors is conducted and corrections are made where possible.
- 2) The Department is aware that duplicate data were introduced into the data base. However, an improved process for tracking pesticide reports has reduced the problem since 1997. Any pesticide reports identified by the reporting entities as duplicates were removed. However, duplicate reports that were submitted without notifying the Department that it was a duplicate report, could enter the data base undetected. The incidence of this is probably quite low. This is because the Department has improved its report tracking system and is better able to target its requests to resubmit reports to entities that have had their reports returned for clarification or completion. Duplicates would lead to an overestimate of pesticide use or sales.
- 3) The Pesticide Reporting Law requires the Department to accept data from the regulated community on handwritten forms. Some of the data on these forms were difficult for the data entry operators to decipher. The quality of these data are not as reliable as data submitted on typed or computer-generated forms. Data that are unreadable go into the data base as a blank field.

- 4) Use of zip code to define application and sales locations created a number of problems. Zip codes are postal delivery locations. Large wilderness areas or farmland may have few if any delivery points. Since mail is not delivered to these locations, they are technically not located in a zip code. Determination of what zip code to report for an application or intended application in one of these locations was problematic for the businesses and applicators.
- 5) Some zip codes contain more than one contiguous location. Without more accurate address data than are currently collected, there is no way to divide application or intended application quantities between the separate locations included in these zip codes.
- 6) Data reported for selected zip codes have not been reported under that zip code. These selected zip codes are unique to a location and could be used to identify where an application or intended application occurred. Identification of the specific location of a pesticide application is not allowed by the Pesticide Reporting Law. In these instances, these data have been reported by county; however, if the zip code was located entirely within a single enclosing zip code, the data were reported under that enclosing zip code.
- 7) Quantities for some pesticides were reported using both weight- and volume-based units of measure. The information to determine which type of measurement unit should be used to report that particular pesticide are not currently available. Therefore, the reports list both measurements, as it was reported to the Department. The Department is working toward consolidating this information into a common unit of measurement.
- 8) Products with a quantity of zero reflect that applications or intended applications of the product were made, but that the quantity was indecipherable on the report form.
- 9) The data base may contain an overestimate of the volume of pesticides actually used or sold. Several factors contribute to this potential overestimate. Data are not available to indicate the quantity of pesticides that may be involved in the factors identified below.
 - It is fairly common for private applicators to return unused pesticides. They may even do so in a different year than the one in which they made the initial purchase. The current reporting system does not account for returns. Only the original sale is reported.
 - Commercial permittees report sales of restricted pesticides to other

distributors. These distributors sell the same pesticide a second time, possibly to another distributor, who may sell it yet a third time. Each sale is reported. There is no way of identifying reports of multiple sales of a single volume of pesticide.

- Many products are routinely diluted with an inert material prior to application. Some applicators report the diluted amount of material applied, not the undiluted amount as required by the Department. This error can inflate the estimates of total pesticides applied in a given year.
- 10) Data are not reported by active ingredient. This makes the data base different from most other pesticide use tracking data bases, which may cause difficulties in comparing these data with data from other states. The Department is working toward reporting by active ingredient.
 - 11) Commercial Permit Holders (sellers of restricted pesticides), under the Pesticide Reporting Law, must record and report sales of general use agricultural pesticides to certified private applicators. However, certified private applicators can purchase general use agricultural pesticides from non-commercial permit holders. Those sales and the associated use information would not be captured by the Pesticide Reporting Law in those situations.
 - 12) The finalized 1998 reporting year data cannot be used for statistically valid comparisons with the 1997 reporting year data. The primary reason is the volume of acceptable data (correctly formatted, legible, all fields completed) was much greater for 1998. This is a function of the reporting community's increasing understanding of what and how to report and the Department's quality control procedures. Cross-year comparisons should be possible in the future as the learning curve tapers off and report processing is further refined.

E. Data Management Methodology

The following statements summarize the methodology that was used to produce the Pesticide Annual Report data for 1998:

- < Pesticide products were summarized using the EPA registration number, not the product name.

- < It is not uncommon for a pesticide product to be registered with one EPA number, but multiple product names. All registered product names are listed in a separate report. (Supplement to Data Summaries - Pesticide Products by Name and EPA Registration Number).
- < Reported EPA registration numbers that contained alphabetic characters were processed as California EPA registration numbers. This was done by removing the revision code that California incorporates in the number, and then processing the EPA company, product, and distributor (if present) numbers in the same manner as the federal EPA registration number.
- < All quantities are rounded to two decimal positions before the values are used for the Annual Report.
- < The Data Summaries include data that were reported incompletely or incorrectly. These data have been identified by using a set of standard descriptions. The reason for including the data is that partial data may still have some informational value. The descriptions used are:
 - “Unreported” – no value reported for this field
 - “Illegible” – unreadable value reported for this field
 - “Invalid” – value not found in a lookup table
 - “Irregular” – two values reported for one field on the report form or a value that could not be mapped to the report form field for any reason
 - “Unformatted” – reported value did not adhere to a standard format such as the formats for dates or EPA registration numbers

Identification of the specific location of a pesticide application is not allowed by the Pesticide Reporting Law. In these instances, these data have been reported by county; however, if the zip code was located entirely within a single enclosing zip code, the data were reported under that enclosing zip code.

IV. APPENDICES

Glossary
Contact List

Appendix A

Glossary

(From ECL and 6NYCRR Parts 325 and 326)

“Business registration” means the requirement of each person or business providing services of commercial application of pesticides, either entirely or as a part of the business, to register with the Department.

“Commercial application” means any application of any pesticide except as defined in private or residential application of pesticides.

“Commercial applicator” means a certified applicator (whether or not a private applicator with respect to some uses) who uses or supervises the use of any pesticide for any purpose on any property other than as provided by the definition of “private applicator”.

“Commercial permit” means the permit issued by the commissioner, pursuant to Environmental Conservation Law, section 33-0901, for the distribution, sale, offer for sale, purchase for the purpose of resale, or possession for the purpose of resale, of a restricted pesticide.

“General use pesticide” means a pesticide which does not meet the State criteria for a restricted pesticide as established under authority of section 33-0303 of this article.

“Pesticide” means:

- a. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; and
- b. Any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

“Pesticide metabolite”: breakdown product as a pesticide degrades in the environment.

“Private application” means any application of any pesticide for the purpose of producing an agricultural commodity

- a. On property owned or rented by the applicator or the applicator’s employer, or
- b. If applied without compensation other than the barter of personal services between producers of agricultural commodities, on property owned or rented by a party to such a barter transaction.

“Restricted use pesticide” means a pesticide, as defined in this article and determined as provided in Section 33-0303:

- a. Which (1) either (a) persists in the environment, or (b) accumulates as either the pesticide per se, a pesticide metabolite, or a pesticide degradation product in plant or animal tissue or product and is not excreted or eliminated within a reasonable period of time and which may be transferred to the forms of life; and (2) which by virtue of such persistence or accumulation creates a present or future risk of harmful effects on any organism other than the target organisms: or
- b. Which the commissioner finds is so hazardous to man or other forms of life that restrictions on its sale, purchase, use or possession are in the public interest.

Appendix B
Contact List
for More
Information on Pesticides

New York State Department of Environmental Conservation

- Pesticide Certification, Registration, Permits Al Muench - (518) 457-7482
- Pesticide Annual Reporting Robert Haggerty - 1-888-457-0110
- Pesticide Product Registration Frank Hegener - (518) 457-7446
- Pesticide Compliance and
Integrated Pest Management Thomas Lynch - (518) 457-0917

New York State Department of Health

- Pesticides Hotline 1-800-458-1158
- Health Research Science Board (518) 402-7511

- Breast Cancer Research and Education Fund (607) 254-2893

Pesticide Management Education Program (Cornell University)

- Pesticide Management Education George Good, Director - (607) 255-1866
- Pesticide Reporting Law Data Base . . . William Smith, Project Leader - (607) 255-1865

Figure 1 - Volume (Gallons) of Pesticide Product Applications by County During 1998

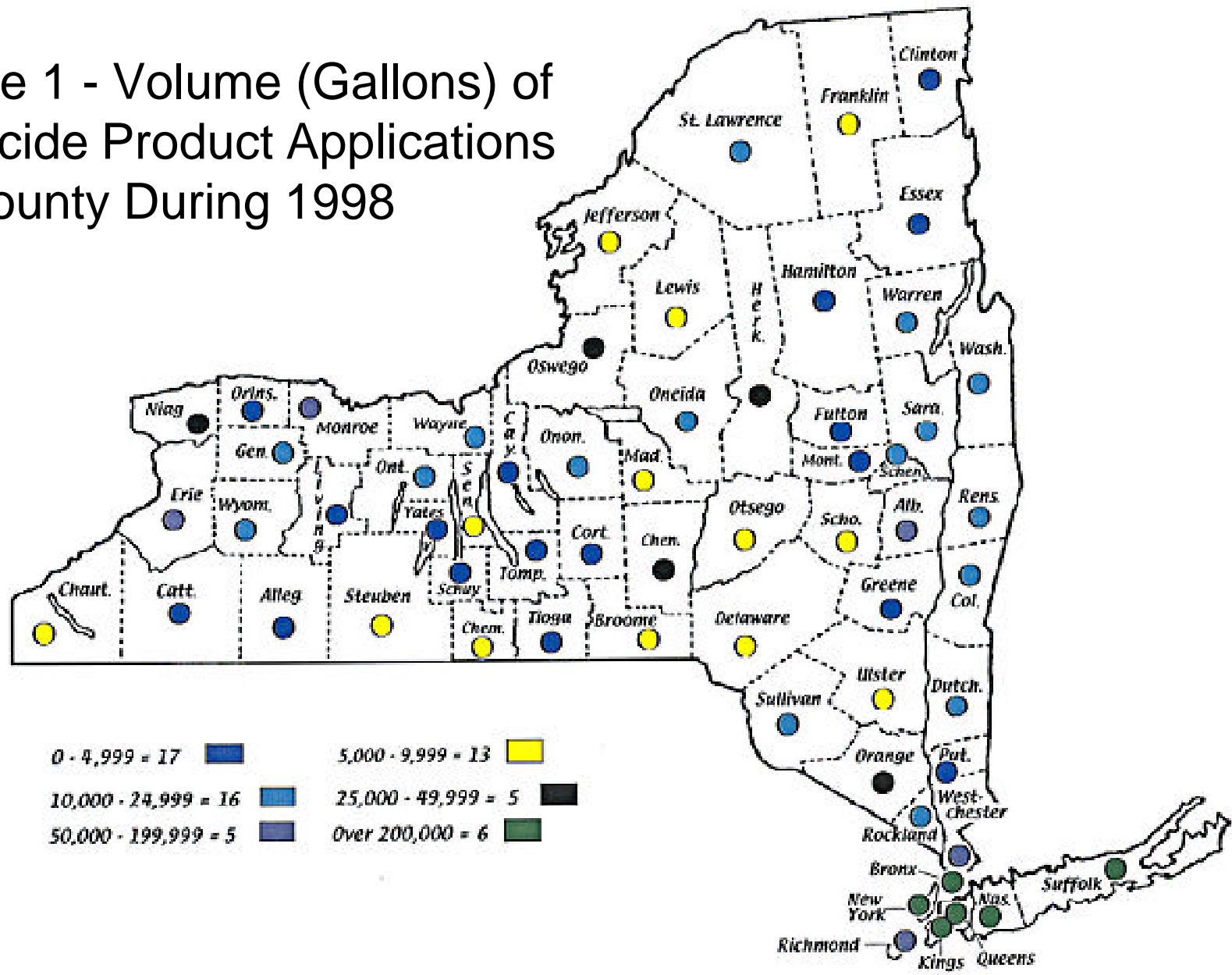


Figure 2 - Weight (Pounds) of Pesticide Product Applications by County During 1998

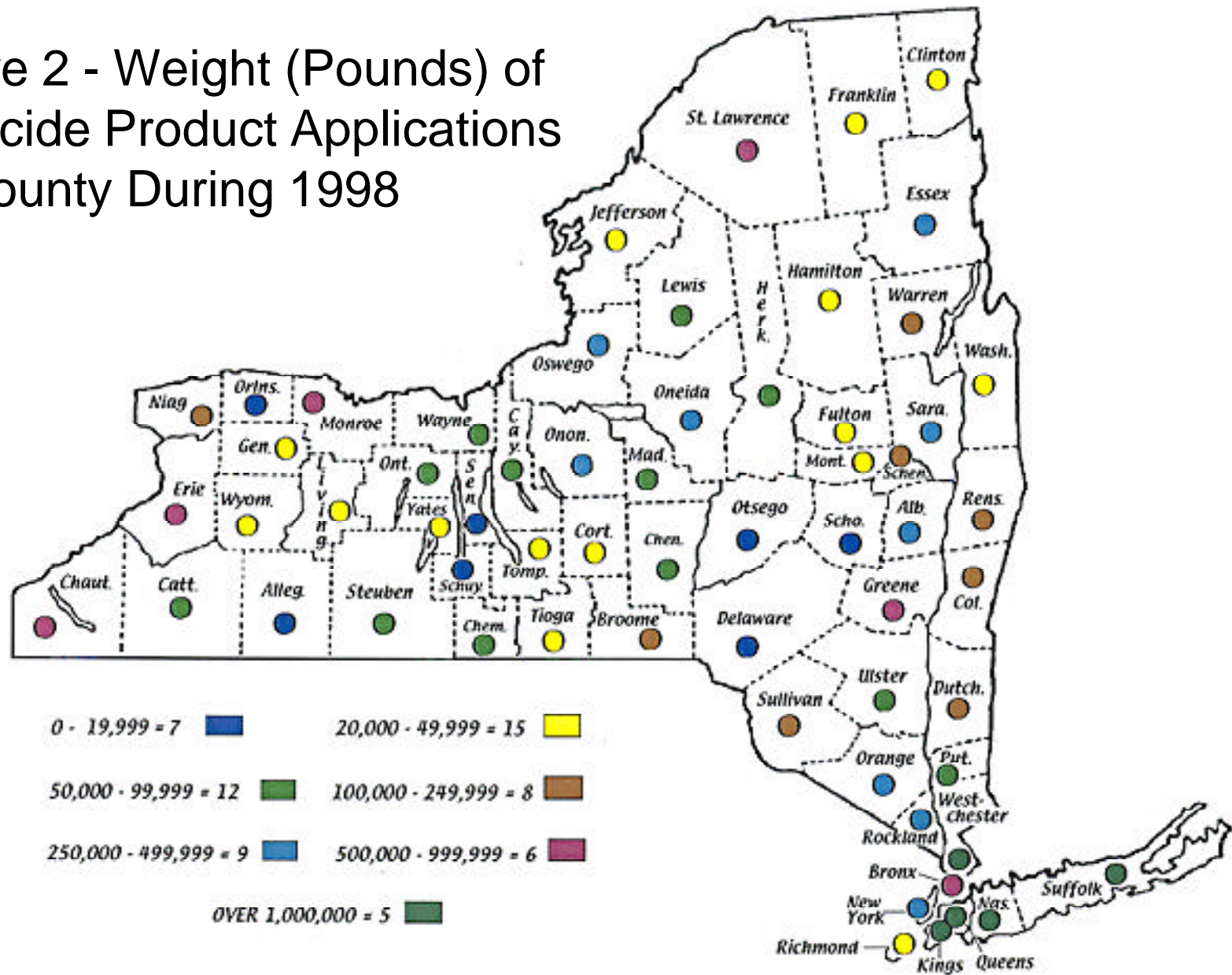
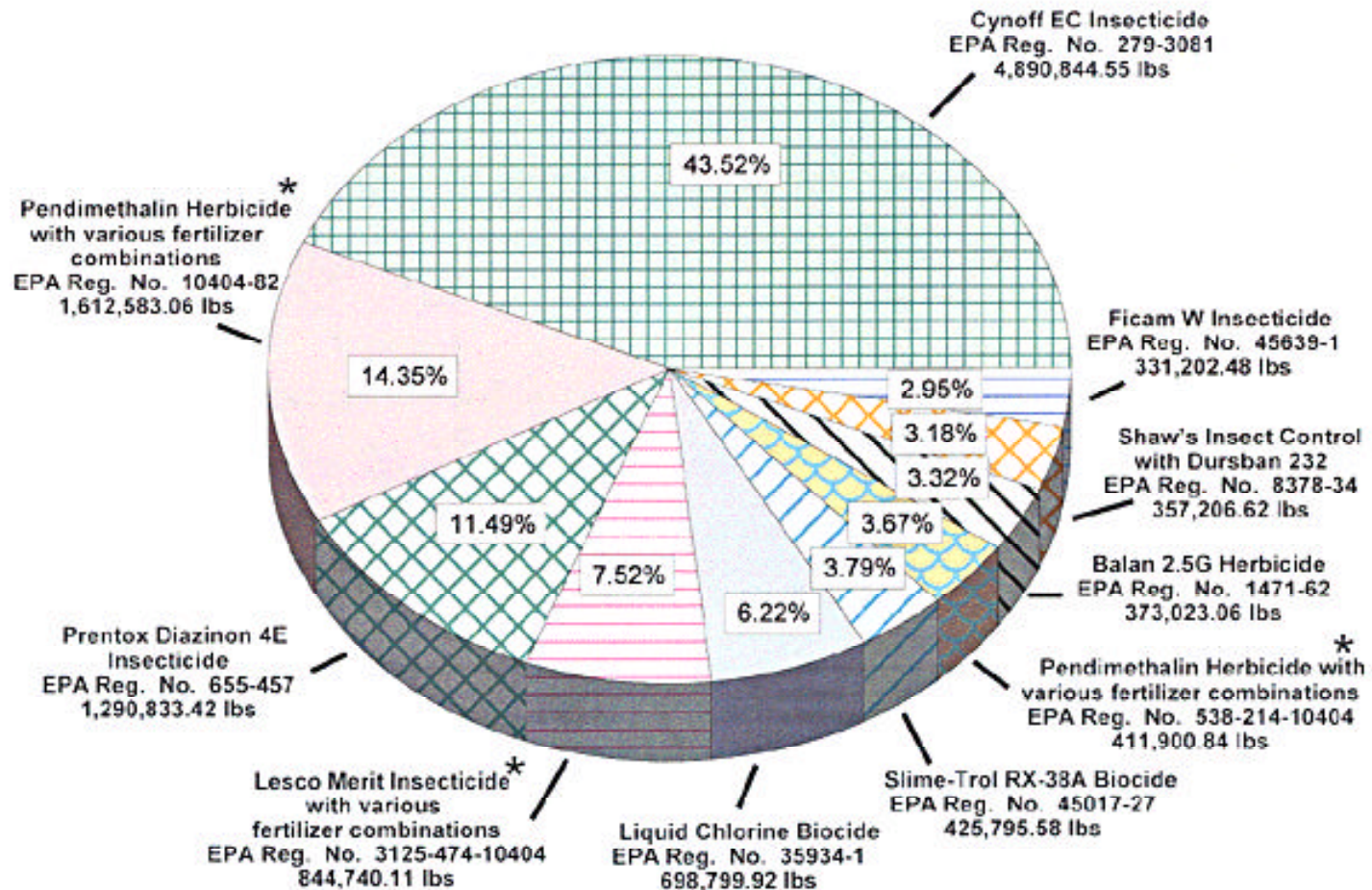


Figure 3

Relative Use (Pounds) of the Top Ten Pesticide Products Applied By Certified Commercial Applicators- 1998

(Actual Weight of Product Applied Not Active Ingredient)

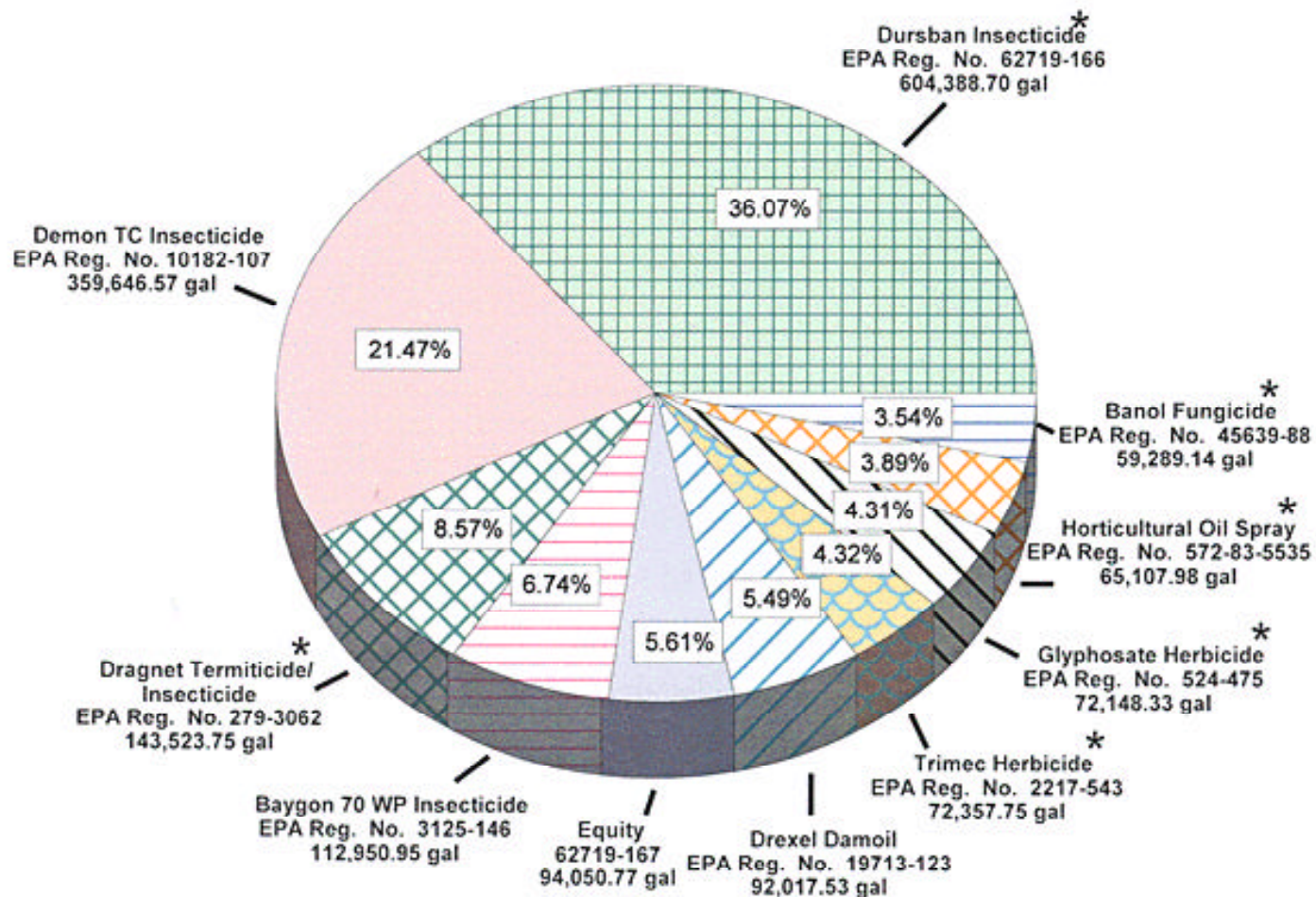


* For a full list of products reported under this EPA Registration Number, please refer to the Supplement to Data Summaries.

Figure 4

Relative Use (Gallons) of the Top Ten Pesticide Products Applied By Certified Commercial Applicators- 1998

(Actual Volume of Product Applied Not Active Ingredient)

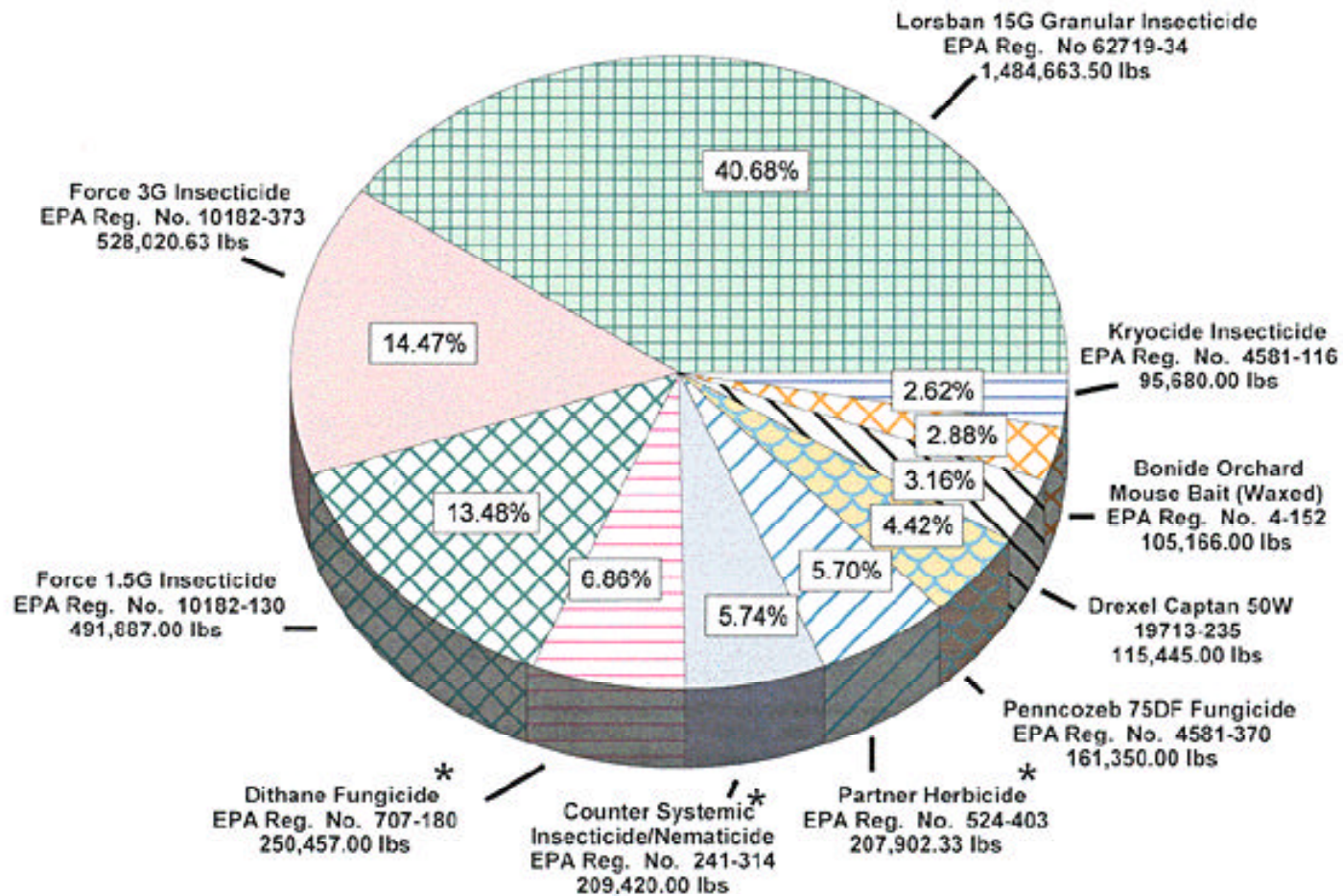


* For a full list of products reported under the EPA Registration Number, please refer to the Supplement to Data Summaries.

Figure 5

Relative Amount (Pounds) of Top Ten Restricted and General Use Agricultural Pesticide Products Sold By Commercial Permit Holders to Certified Private Applicators- 1998

(Actual Volume of Product Applied
Not Active Ingredient)

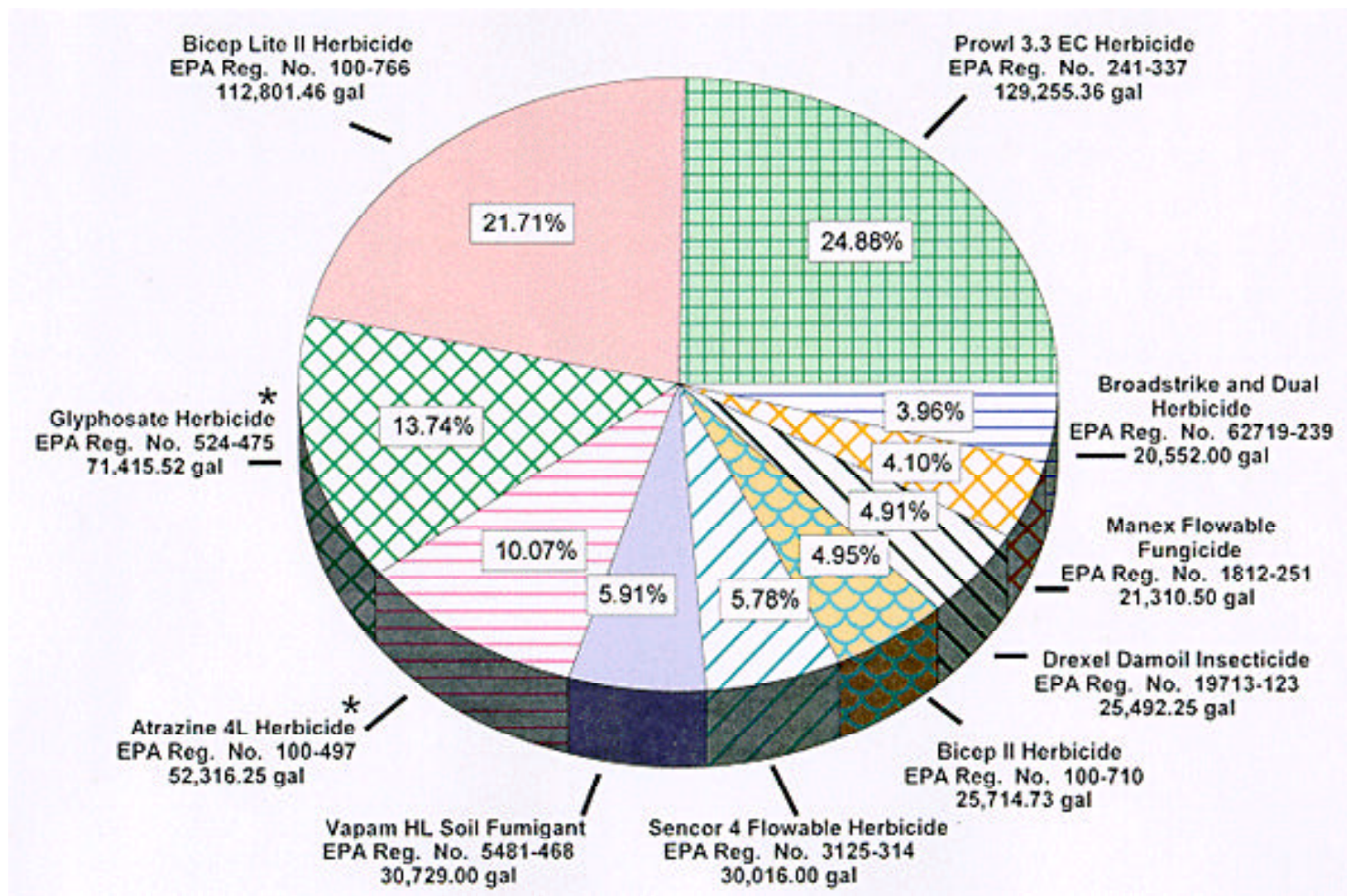


* For a full list of products reported under the EPA Registration Number, please refer to the Supplement to Data Summaries.

Figure 6

Relative Amount (Gallons) of Top Ten Restricted and General Use Agricultural Pesticide Products Sold By Commercial Permit Holders to Certified Private Applicators- 1998

(Actual Volume of Product Sold
Not Active Ingredient)



* For a full list of products reported under this EPA Registration Number, please refer to the Supplement to Data Summaries.