NEW YORK STATE | Department of Environmental Conservation

Summary Report For New York State Pesticide Sales and Applications 2016

ACKNOWLEDGMENTS

The Department wishes to acknowledge the cooperation and assistance of Cornell University, and specifically the Pesticide Sales and Use Reporting unit within the Pesticide Management Education Program in the College of Agriculture and Life Sciences, in the preparation and development of this annual report.

TABLE OF CONTENTS

List of Figures

List of Tables

Executive Summary

The New York State Department of Environmental Conservation (Department), in conjunction with Cornell University, presents this summary report to the Governor and Legislature under Environmental Conservation Law Article 33, Title 12, known as the Pesticide Reporting Law (PRL). This report summarizes the pesticide sales and application data submitted to the Department for the calendar year 2016. The finalized data have been incorporated into a master database maintained by Cornell University. This database is accessible by the public and is an information source for health researchers or other users of the data.

The department received reports from 16,099 certified applicators and technicians, which is 95% of the 16,928 applicators and technicians required to submit a report for 2016.

The following is the total amount of pesticide products applied in New York State by certified commercial applicators and technicians in 2016:

- 3,206,821 Gallons of liquid formulation products
- 24,326,383 Pounds of solid formulation products
- Number of Products: 3,650

A summary of the quantity of pesticide products applied for each county can be found in Table 2 on pages 4 – 5 and in Figures 1 and 2 on pages 6 – 7.

The following is the total amount of pesticide products sold to private applicators for agricultural use in New York State in 2016:

- 867,832 Gallons
- 3,457,178 Pounds
- Number of Products: 1,340

The total quantity of pesticide products sold to private applicators reflects the sales of restricted use and general use pesticide products by commercial permit holders to private applicators to use for the purposes of producing an agricultural commodity. A summary of the quantity of pesticide products sold to private applicators by county can be found in Table 3 on pages 8 - 9 and in Figures 3 and 4 on pages 10 – 11.

The following is the total amount of restricted use pesticide products sold to commercial applicators for end use in New York State:

- 988,947 Gallons
- 13,669,712 Pounds

- Number of Products: 714

These numbers reflect sales by commercial permit holders to certified commercial applicators that intend to apply the pesticides.

The following is the total amount of restricted use pesticide products sold to distributors for resale in New York State:

- 522,059 Gallons
- 4,487,269 Pounds
- Number of Products: 578

These numbers reflect sales to commercial permit holders that intend to resell the pesticide product. Some or all of these quantities are also reflected in the quantities of products mentioned above that are sold to private or commercial applicators or used by commercial applicators and technicians.

Also provided in this report are summaries of the top ten pesticide products used and sold in New York State during 2016. See pages 12 – 16 for these summaries which include information such as the amount of the product used or sold, the product's active ingredients and the type of product.

Please note: Although the Department and Cornell University have gone to great lengths to assure the quality of the data, there are still significant concerns regarding potential inaccuracies in the data received from the regulated community. Users of this data are strongly cautioned about limitations of the data and are advised to go to the PRL Annual Reports page https://www.dec.ny.gov/chemical/96898.html to review information regarding data quality. The Department continues to reach out to regulated entities and provide information and technical assistance to them, and many times even works one on one with them to ensure they are accurately complying with the reporting requirements of the PRL. The Department also takes actions to hold entities accountable for any identifiable inaccuracies in reports provided and requires correction and re-submission where necessary.

For more information about the 2016 data and to use the searchable database, users can access this information at Cornell's Pesticide Sales and Use Reporting website: https://psur.cce.cornell.edu/.

I. INTRODUCTION

The New York State Department of Environmental Conservation (Department), in conjunction with work conducted by Cornell University, presents this summary report of the final pesticide sales and application data for calendar year 2016 submitted under Environmental Conservation Law Article 33, Title 12, known as the Pesticide Reporting Law (PRL). This report summarizes the data as submitted to the Department, with some corrections as noted below. The finalized data have been incorporated into a master database maintained by Cornell University. This database is accessible to the public and is an information source for health researchers and other users of the data.

II. 2016 Pesticide Reporting Program

A. Reports Received

As of May 11, 2017, the Department received reports from 16,099 of the 16,928 commercial applicators and technicians required to report for the calendar year 2016. The Department also received reports from 284 of the 291 commercial permittees required to report for 2016. These figures indicate that 95% of commercial applicators and technicians and 98% of commercial permittees were in compliance with the PRL. The Department will continue to provide outreach and education to the regulated community to achieve maximum compliance with the reporting requirement.

B. Quality Control

The Department continues to enhance and streamline the process for reporting, as well as the system for managing the 16,000 reports that are received annually.

Department staff continue to use a system of front-line quality control procedures to evaluate incoming reports to ensure basic criteria are met, regardless of whether the report was submitted on paper or electronically. Paper reports are checked for certain criteria to maximize the volume of data that will be transferrable into Cornell's master database. If a report did not meet these criteria, Department staff sought to correct the report with the person filing the report. If the errors were too numerous, the report was rejected and returned to the business or applicator to be corrected and resubmitted. Electronic reports are subjected to several validation processes including validating file format and certain data values. This process enables staff to contact report submitters for corrections in a timely manner.

As part of our standard quality assurance processes, the Department and Cornell identified reports that contained quantities that appeared to fall outside of accepted parameters. Staff reviewed reports containing these “out-of-range” quantities and the responsible applicators and businesses were contacted. Reporting errors were corrected by staff with the approval of the applicator or business. These corrected data were forwarded to Cornell to replace the original reports in the database.

C. Data Qualifications

The reporting community, the Department and Cornell University work together to provide the best information possible for health researchers. However, the data is neither perfectly accurate nor complete. Although the Department and Cornell have gone to great lengths to assure the quality of the data, there are still significant concerns regarding potential inaccuracies in the data received from the regulated community. Users of this data are advised to go to the PRL Annual Reports page (http://dec.ny.gov/chemical/96898.html) to review information regarding data quality.

The Department continues to reach out to regulated entities and provide information and technical assistance to them, and many times even works one on one with them to ensure they are accurately complying with the reporting requirements of the PRL. The Department also takes actions to hold entities accountable for any identifiable inaccuracies in reports provided and requires correction and re-submission where necessary.

III. 2016 Reporting Data

A. General Synopsis of Data

The following table provides a summary of pesticide sales and use reported by commercial applicators and technicians and commercial permit holders:

Table 1
Calendar Year 2016
Summary of Total Quantities Statewide

Category	Number of Pesticide Products	Quantity (Gallons)**	Quantity (Pounds)**
Applied by Commercial Applicators and Technicians	3,650	3,206,821	24,326,838
Sold to Private Applicators	1,340	867,832	3,457,178
Sold for End Use*	714	988,947	13,669,712
Sold for Resale*	578	522,059	4,487,269

* Restricted use pesticides only

** The total quantity of pesticides commercially applied and sold is a combination of the amount expressed in gallons and the amount expressed in pounds reported above. In other words, the quantity in gallons is separate from the quantity in pounds.

B. County Data Summary Tables and Maps

The following tables and maps summarize commercial pesticide applications and sales for 2016 by county:

Table 2
Calendar Year 2016
Summary of Commercial Pesticide Applications by County*

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Albany	618	40,990	1,073,739
Allegany	207	11,153	32,465
Bronx	653	30,147	165,666
Broome	375	10,479	119,164
Cattaraugus	312	9,625	88,009
Cayuga	461	156,625	52,678
Chautauqua	385	13,637	149,930
Chemung	296	5,372	52,049
Chenango	253	8,916	27,420
Clinton	213	18,196	32,200
Columbia	417	11,225	91,600
Cortland	262	6,341	928,058
Delaware	263	1,641	33,002
Dutchess	779	28,221	1,066,716
Erie	818	83,700	1,715,433
Essex	241	160,859	144,384
Franklin	145	2,718	9,047
Fulton	242	2,019	28,883
Genesee	392	21,459	43,313
Greene	292	309,300	421,044
Hamilton	117	431	13,500
Herkimer	293	6,785	45,749
Jefferson	358	61,229	96,966
Kings	631	21,467	224,789
Lewis	170	13,424	33,085
Livingston	427	19,831	45,952
Madison	366	9,781	90,590
Monroe	841	33,894	2,343,179
Montgomery	274	7,397	69,194
Nassau	1,059	285,395	1,267,101
New York	707	200,000	232,345
Niagara	556	57,535	1,701,865

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Oneida	512	11,815	470,672
Onondaga	705	73,598	871,205
Ontario	792	29,307	299,336
Orange	675	13,528	867,961
Orleans	329	8,747	29,173
Oswego	371	114,152	35,703
Otsego	253	5,462	12,076
Putnam	474	4,347	250,428
Queens	689	40,438	187,491
Rensselaer	459	198,171	262,125
Richmond	462	24,719	107,055
Rockland	613	16,312	697,285
Saratoga	565	58,270	1,376,692
Schenectady	454	6,834	392,147
Schoharie	188	6,185	6,417
Schuyler	164	4,350	7,705
Seneca	291	9,175	13,881
St Lawrence	203	21,087	38,767
Steuben	381	11,974	64,280
Suffolk	1,312	210,213	3,815,598
Sullivan	290	1,833	88,190
Tioga	231	2,337	20,942
Tompkins	561	10,925	89,592
Ulster	515	5,706	304,424
Warren	377	24,295	328,431
Washington	343	28,770	88,363
Wayne	483	100,143	143,518
Westchester	1,131	384,284	1,950,779
Wyoming	374	38,288	28,783
Yates	236	12,480	23,447

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

** The total quantity of pesticides sold in a county is a combination of the gallons and pounds reported above. In other words, the quantity in gallons is separate from the quantity in pounds.

Figure 1
Commercial Pesticide Applications by Volume (Gallons) in 2016

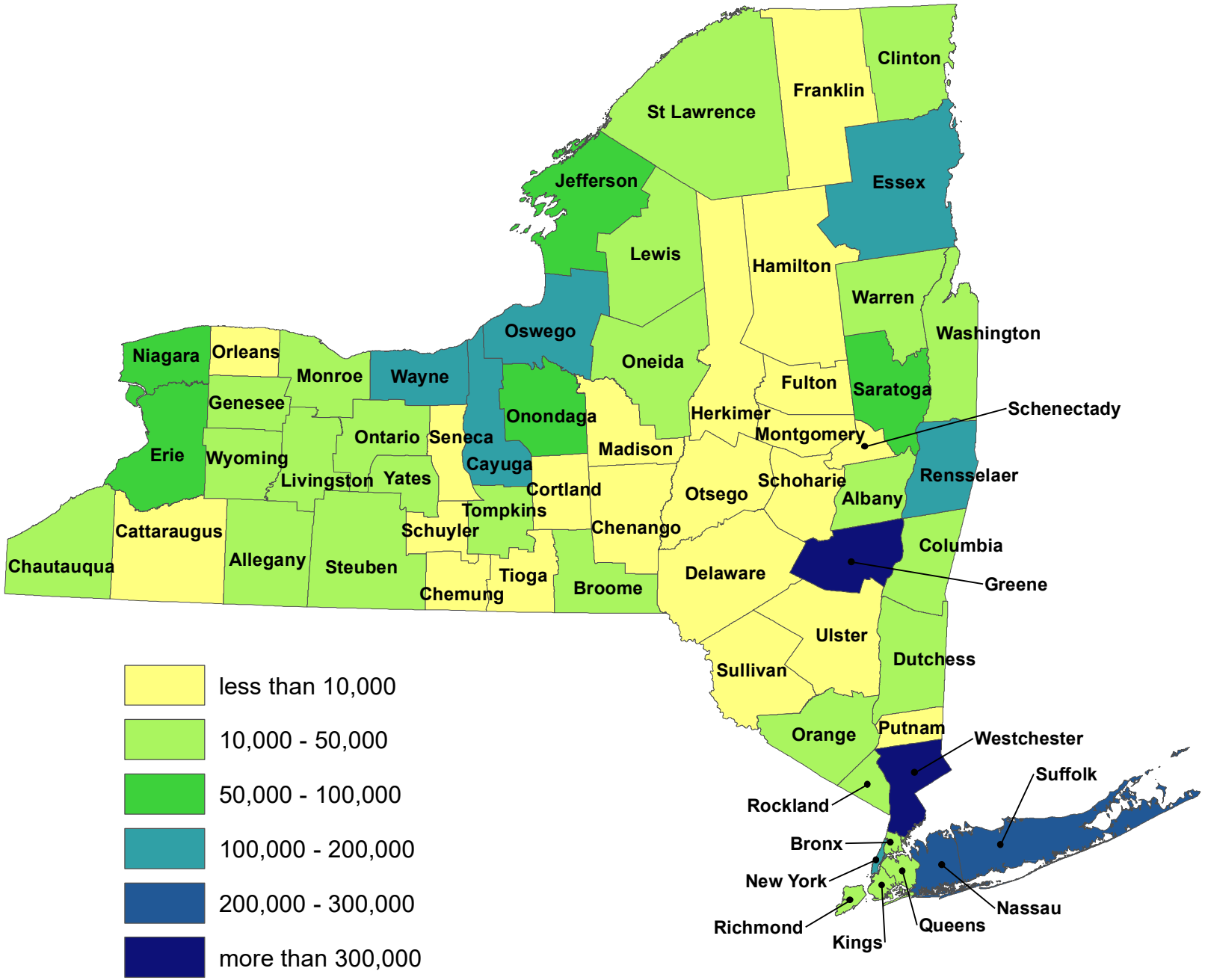


Figure 2
Commercial Pesticide Applications by Weight (Pounds) in 2016

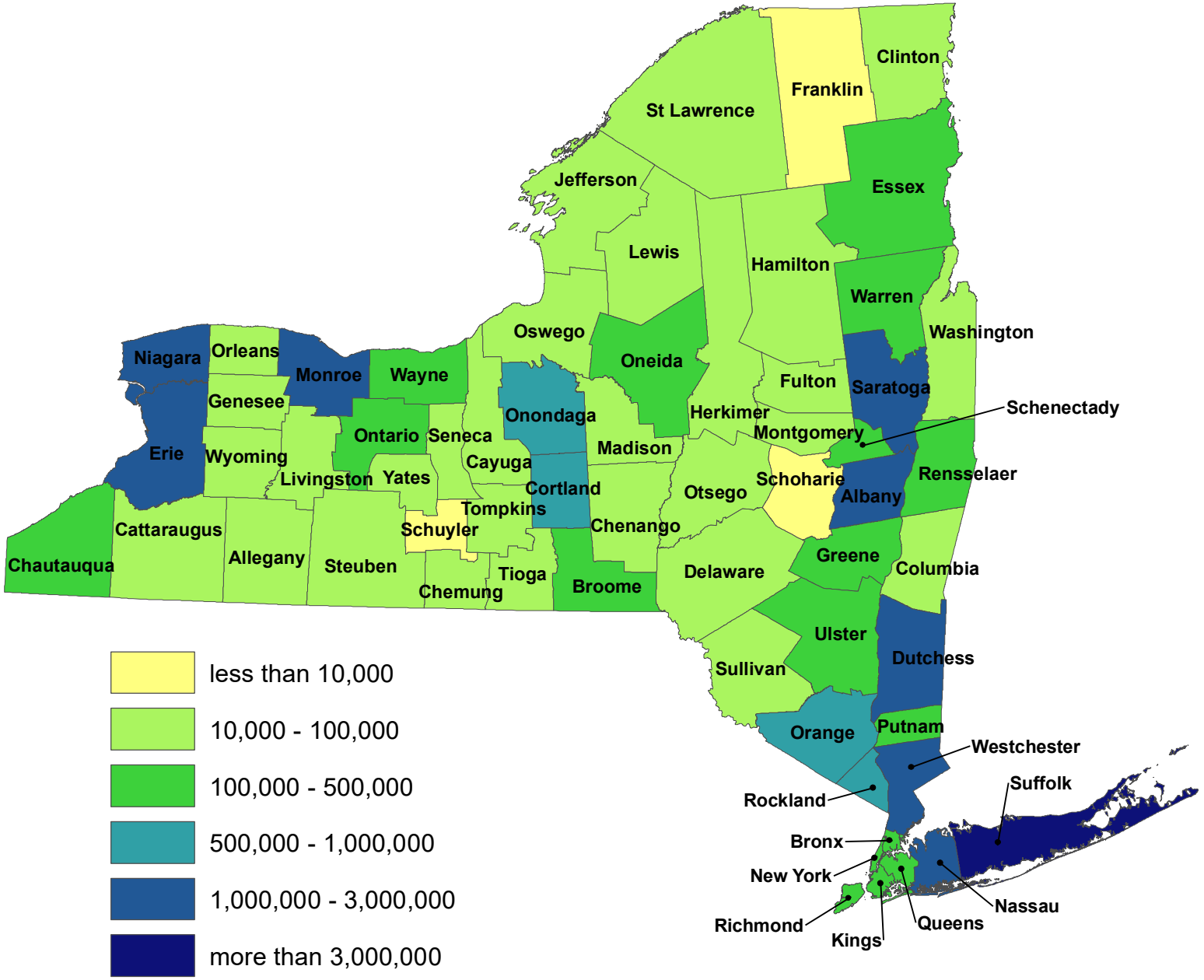


Table 3
Calendar Year 2016
Summary of Pesticide Sales to Private Applicators by County

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Albany	169	2,579	4,586
Allegany	70	2,371	2,591
Bronx	0	0	0
Broome	106	804	4,578
Cattaraugus	155	6,158	9,396
Cayuga	349	30,023	18,331
Chautauqua	269	25,101	114,627
Chemung	47	747	632
Chenango	83	1,703	1,310
Clinton	164	18,452	188,454
Columbia	282	10,493	105,399
Cortland	57	1,612	1,196
Delaware	31	327	118
Dutchess	262	7,554	18,065
Erie	393	19,874	31,330
Essex	65	1,079	8,097
Franklin	77	4,117	10,413
Fulton	72	849	581
Genesee	264	74,467	64,176
Greene	119	729	2,396
Hamilton	2	30	10
Herkimer	86	4,216	1,095
Jefferson	107	7,010	5,873
Kings	8	2	32
Lewis	60	4,416	6,338
Livingston	220	38,681	21,742
Madison	163	8,408	7,086
Monroe	455	27,894	130,835
Montgomery	171	11,274	3,861
Nassau	23	165	474
New York	0	0	0
Niagara	330	27,301	847,278

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Oneida	241	13,629	12,357
Onondaga	358	22,979	42,269
Ontario	392	31,673	47,539
Orange	352	43,904	123,237
Orleans	308	47,248	74,873
Oswego	253	22,059	24,716
Otsego	87	1,577	809
Putnam	39	98	313
Queens	3	1	16
Rensselaer	186	6,160	15,070
Richmond	1	540	0
Rockland	63	1,203	3,067
Saratoga	151	2,673	7,373
Schenectady	75	280	304
Schoharie	173	1,726	4,089
Schuyler	145	3,819	17,409
Seneca	236	22,240	51,985
St Lawrence	88	9,895	6,858
Steuben	253	33,044	115,297
Suffolk	468	58,240	166,980
Sullivan	29	82	2,728
Tioga	95	4,079	4,788
Tompkins	158	5,934	3,619
Ulster	342	30,107	267,421
Warren	21	15	92
Washington	154	2,522	14,025
Wayne	452	92,419	676,935
Westchester	91	485	11,746
Wyoming	182	46,746	44,113
Yates	375	20,719	105,903

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

** The total quantity of pesticides sold in a county is a combination of the gallons and pounds reported above. In other words, the quantity in gallons is separate from the quantity in pounds.

Figure 3
Pesticide Sales to Private Applicators by Volume (Gallons) in 2016

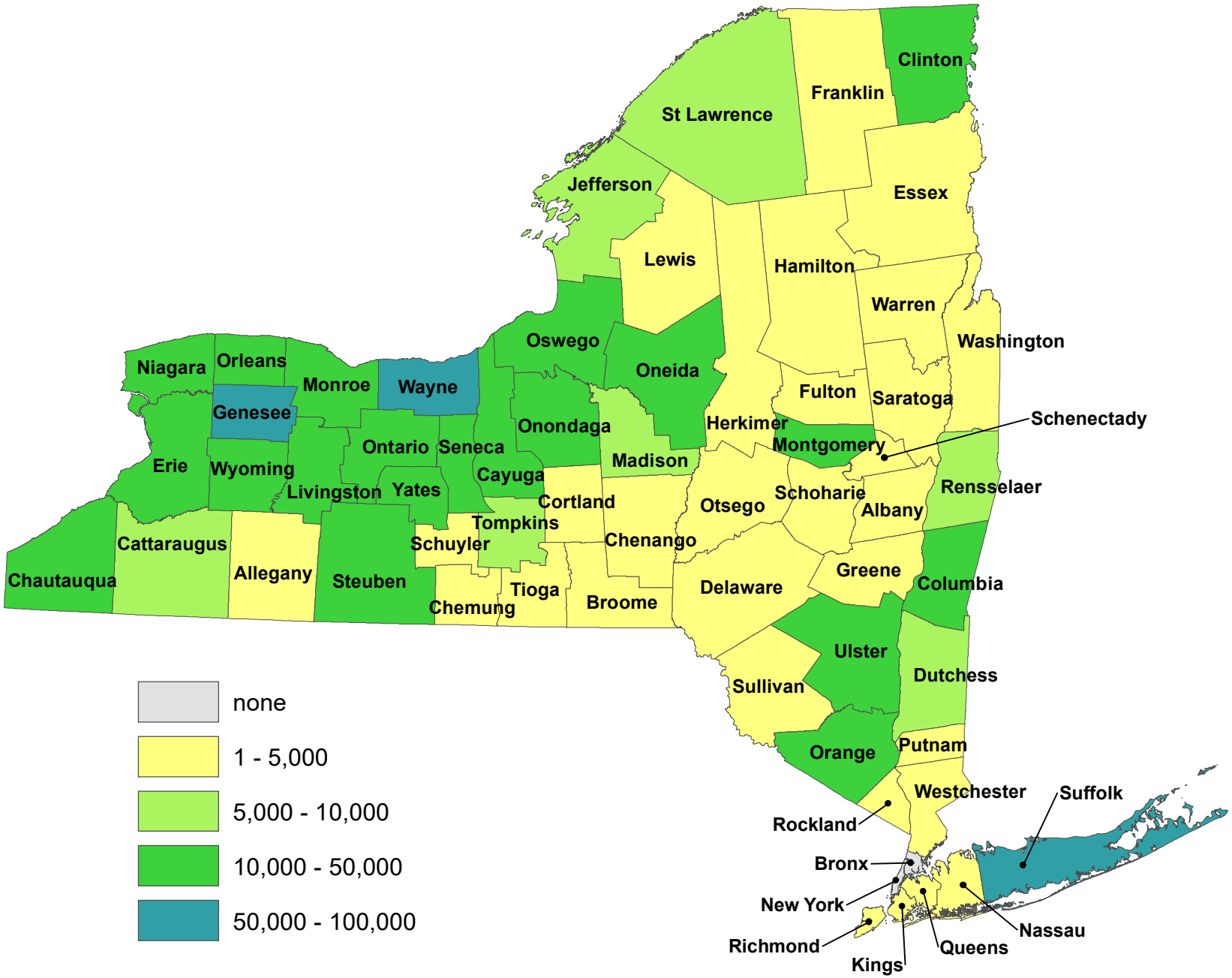
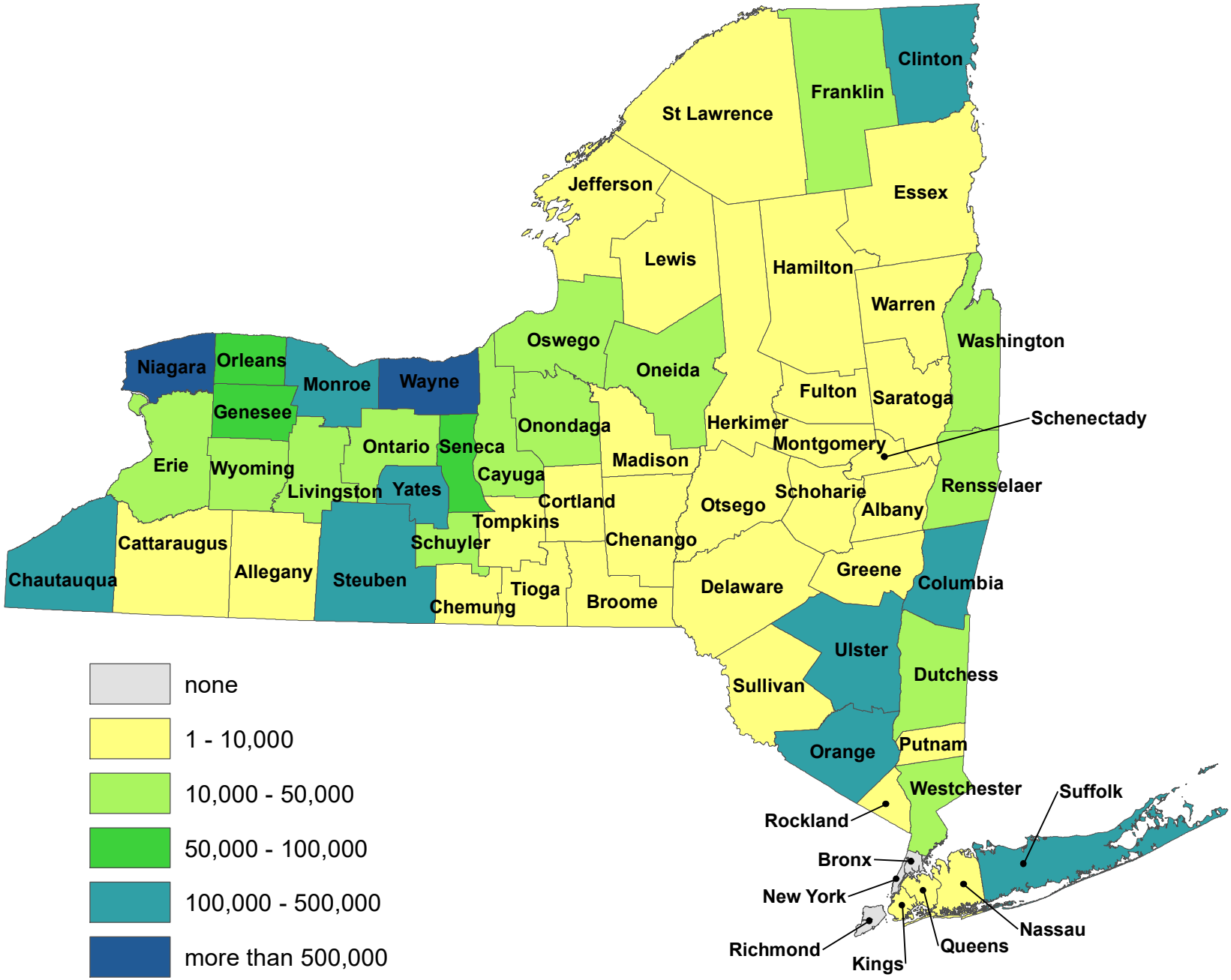


Figure 4
Pesticide Sales to Private Applicators by Weight (Pounds) in 2016



C. Summary of Top Ten Pesticide Products Applied and Sold

The following tables summarize the top ten pesticide products applied by certified commercial applicators or technicians and the top ten pesticide products sold by commercial permit holders to certified private applicators. Each table presents information about each top ten product including the EPA registration number for each product, the quantity sold or the quantity applied, the percentage that the product quantity represents compared with the total quantities all products sold or all products applied, the active ingredients in each product, the percentage of that active ingredient in the product as well as the product's main type of use.

These summaries are product based. The amount of product applied or sold is the quantity reported for the product(s) with the corresponding EPA registration number. These products contain different amounts of active ingredients. The weight or volume reported here is the amount of all ingredients, not the amount of active ingredients alone.

Table 4

Calendar Year 2016

Top Ten Pesticide Products by Volume (Gallons)

Applied by Commercial Applicators or Technicians

EPA Registration Number	Quantity (GL)	Percentage of All Products	Active Ingredients	Percentage of Active Ingredient	Product Type
59074-20001	637,166	19.9%	sodium hypochlorite	12.50%	antimicrobial
5905-368	188,300	5.9%	mineral oil	98.00%	insecticide, nematicide
9359-2	173,227	5.4%	sodium hypochlorite	12.50%	antimicrobial
6836-304	147,956	4.6%	didecyl dimethyl ammonium carbonate and didecyl dimethyl ammonium bicarbonate	50.00%	wood preservative
100-1466	120,796	3.8%	bicyclopyrone atrazine s-metolachlor mesotrione	0.65% 10.93% 23.40% 2.60%	herbicide
62190-32	87,719	2.7%	2-Methyl-3-isothiazolone 5-Chloro-2-methylisothiazol-3-one	3.80% 10.40%	antimicrobial
75506-12	78,870	2.5%	copper carbonate, basic propiconazole tebuconazole	43.40% 0.50% 0.50%	wood preservative
1706-240	78,449	2.5%	ammonium sulfate	20.00%	antimicrobial
279-3206	76,446	2.4%	bifenthrin	7.90%	insecticide
67071-6-75506	72,035	2.3%	octhilinone	46.50%	wood preservative fungicide
Top 10 Products	**1,660,965**	**51.8%**			
All Products	**3,206,821**				

Table 5

Calendar Year 2016

Top Ten Pesticide Products by Weight (Pounds)

Applied by Commercial Applicators and Technicians

EPA Registration Number	Quantity (LB)	Percentage of All Products	Active Ingredients	Percentage of Active Ingredient	Product Type
9386-49	1,445,794	5.9%	ammonium sulfate	7.59%	algaecide, antimicrobial
100-1456-82757	1,191,284	4.9%	prodiamine	0.29%	herbicide
432-1349-82757	984,030	4.1%	imidacloprid	0.20%	insecticide
10404-89	935,766	3.9%	prodiamine	0.43%	herbicide
432-1349-9198	890,823	3.7%	imidacloprid	0.20%	insecticide
34704-776	792,622	3.3%	prodiamine	0.375%	herbicide
9198-120	768,172	3.2%	dithiopyr	0.103%	herbicide
432-1417-34704	707,996	2.9%	bifenthrin imidacloprid	0.10% 0.125%	insecticide
432-1349-34704	653,356	2.7%	imidacloprid	0.20%	herbicide
432-1417-10404	591,720	2.4%	bifenthrin imidacloprid	0.10% 0.125%	insecticide
Top 10 Products	**8,961,562**	**36.8%**			
All Products	**24,326,383**				

Table 6

Calendar Year 2016

Top Ten Pesticide Products by Volume (Gallons)

Sold by Commercial Permit Holders to Certified Private Applicators

EPA Registration Number	Quantity (GL)	Percentage of All Products	Active Ingredients	Percentage of Active Ingredient	Product Type
524-549	61,645	7.1%	potassium salt of glyphosate	48.70%	herbicide
100-1466	57,706	6.7%	bicyclopyrone atrazine s-metolachlor mesotrione	0.65% 10.93% 23.40% 2.60%	herbicide
34704-890	54,745	6.3%	isopropylamine salt of glyphosate	41.00%	herbicide
71368-20	50,222	5.8%	isopropylamine salt of glyphosate	41.00%	herbicide
34704-805	22,930	2.4%	mineral oil	98.00%	insecticide, miticide, fungicide
62719-556	22,865	2.6%	dimethylammonium salt of glyphosate	50.20%	herbicide
5481-468	18,507	2.1%	metam-sodium	42.00%	herbicide, nematicide, fungicide
74530-43	16,657	1.9%	isopropylamine salt of glyphosate	41.00%	herbicide
70506-194	16,002	1.8%	mancozeb	37.00%	fungicide
5481-483	15,573	1.85%	meta potassium salt	54.00%	fungicide, herbicide, nematicide
Top 10 Products	**336,852**	**38.8%**			
All Products	**867,832**				

Table 7

Calendar Year 2016

Top Ten Pesticide Products by Weight (Pounds)

Sold by Commercial Permit Holders to Certified Private Applicators

EPA Registration Number	Quantity (LB)	Percentage of All Products	Active Ingredients	Percentage of Active Ingredient	Product Type
352-597	611,816	17.7%	indoxacarb	30.00%	insecticide
66222-58	388,097	11.2%	captan	78.20%	fungicide
34704-1063	210,250	6.1%	mancozeb	75.00%	fungicide
70506-185	154,150	4.5%	mancozeb	75.00%	fungicide
61282-49	140,861	4.1%	zinc phosphide (ZN3P2)	2.00%	rodenticide
70506-234	131,740	3.8%	mancozeb	75.00%	fungicide
74267-1	119,135	3.5%	Bacillus subtilis MBI 600	0.001%	fungicide
89333-1	98,280	2.8%	mancozeb	75.00%	fungicide
70506-201	95,386	2.8%	basic copper sulfate	71.10%	fungicide
60063-40-82757	91,897	2.7%	prodiamine	00.37%	herbicide
Top 10 Products	**2,041,611**	**59.1%**			
All Products	**3,457,178**				

D. The Pesticide Sales and Use Reporting Website

The summarized data from the 2016 reporting year, as well as previous years dating back to 1997, can be accessed using the Pesticide Sales and Use Reporting Program's website provided by Cornell University. Users of this website can generate summarized data by performing searches of the pesticide sales and use database. Users can generate reports by product or active ingredient and can filter their searches by county, zip code, sales, or applications. Results of these searches can be viewed online or downloaded to a computer. Cornell's Pesticide Sales and Use Reporting Website can be accessed at this link: https://psur.cce.cornell.edu/