



**Department of
Environmental
Conservation**

**Summary Report
For
New York State
Pesticide Sales and
Applications
2019**

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.

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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 2019. 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 15,982 certified applicators and technicians, which is 94% of the 17,022 applicators and technicians required to submit a report for 2019.

The following is the total amount of pesticide products applied in New York State by certified commercial applicators and technicians in 2019:

- 3,829,936 Gallons of liquid formulation products
- 28,794,138 Pounds of solid formulation products
- Number of Products: 4,654

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 2019:

- 935,777 Gallons
- 3,372,407 Pounds
- Number of Products: 1,321

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:

- 203,183 Gallons
- 12,396,670 Pounds

- Number of Products: 749

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:

- 2,385,316 Gallons
- 9,403,088 Pounds
- Number of Products: 558

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 2019. 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 2019 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 2019 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. 2019 Pesticide Reporting Program

A. Reports Received

As of July 29, 2020, the Department received reports from 15,982 of the 17,022 commercial applicators and technicians required to report for the calendar year 2019. The Department also received reports from 268 of the 287 commercial permittees required to report for 2019. These figures indicate that 94% of commercial applicators and technicians and 93% 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. 2019 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 2019
Summary of Total Quantities Statewide

Category	Number of Pesticide Products	Quantity (Gallons)**	Quantity (Pounds)**
Applied by Commercial Applicators and Technicians	4,654	3,829,936	28,794,138
Sold to Private Applicators	1,321	935,777	3,372,407
Sold for End Use*	749	203,183	12,396,670
Sold for Resale*	558	2,385,316	9,403,088

* 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 2019 by county:

Table 2
Calendar Year 2019
Summary of Commercial Pesticide Applications by County*

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Albany	788	128,465	953,060
Allegany	275	4,974	34,505
Bronx	805	37,460	154,098
Broome	463	9,399	189,510
Cattaraugus	370	18,256	83,881
Cayuga	557	62,288	76,054
Chautauqua	486	14,207	209,997
Chemung	361	4,635	84,337
Chenango	288	9,909	28,429
Clinton	258	15,765	51,029
Columbia	535	10,337	133,768
Cortland	335	106,788	61,349
Delaware	320	6,874	29,033
Dutchess	855	20,910	1,576,751
Erie	934	72,495	1,908,488
Essex	327	174,166	57,464
Franklin	229	8,792	27,314
Fulton	297	2,103	49,332
Genesee	539	43,175	104,556
Greene	303	11,020	437,452
Hamilton	135	349	8,103
Herkimer	337	12,174	48,476
Jefferson	432	86,577	83,996
Kings	746	72,815	164,788
Lewis	225	15,839	23,479
Livingston	578	56,861	81,849
Madison	433	12,108	95,314
Monroe	1,040	56,604	2,090,549
Montgomery	319	7,431	77,393
Nassau	1,273	156,770	1,833,245
New York	804	366,684	279,988
Niagara	601	314,514	411,120

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Oneida	586	29,228	483,604
Onondaga	862	109,227	944,697
Ontario	918	22,708	349,849
Orange	781	20,755	718,784
Orleans	469	17,696	60,178
Oswego	428	201,433	63,215
Otsego	305	4,782	31,743
Putnam	531	12,595	435,650
Queens	871	62,379	340,521
Rensselaer	565	151,538	269,263
Richmond	485	28,589	122,887
Rockland	715	55,368	987,088
Saratoga	687	82,117	1,770,770
Schenectady	540	10,715	558,125
Schoharie	324	4,656	12,409
Schuyler	203	2,237	5,780
Seneca	354	6,317	15,415
St Lawrence	305	56,358	47,276
Steuben	456	10,995	100,279
Suffolk	1,704	288,547	5,951,578
Sullivan	348	2,804	56,509
Tioga	319	3,123	27,010
Tompkins	643	11,054	123,103
Ulster	620	8,729	227,012
Warren	436	22,215	445,739
Washington	357	52,898	99,526
Wayne	553	104,024	232,462
Westchester	1,342	466,264	2,779,704
Wyoming	451	56,975	45,155
Yates	317	2,314	22,343

* 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.

less than 10,000

10,000 - 50,000

50,000 - 100,000

100,000 - 200,000

200,000 - 400,000

more than 400,000

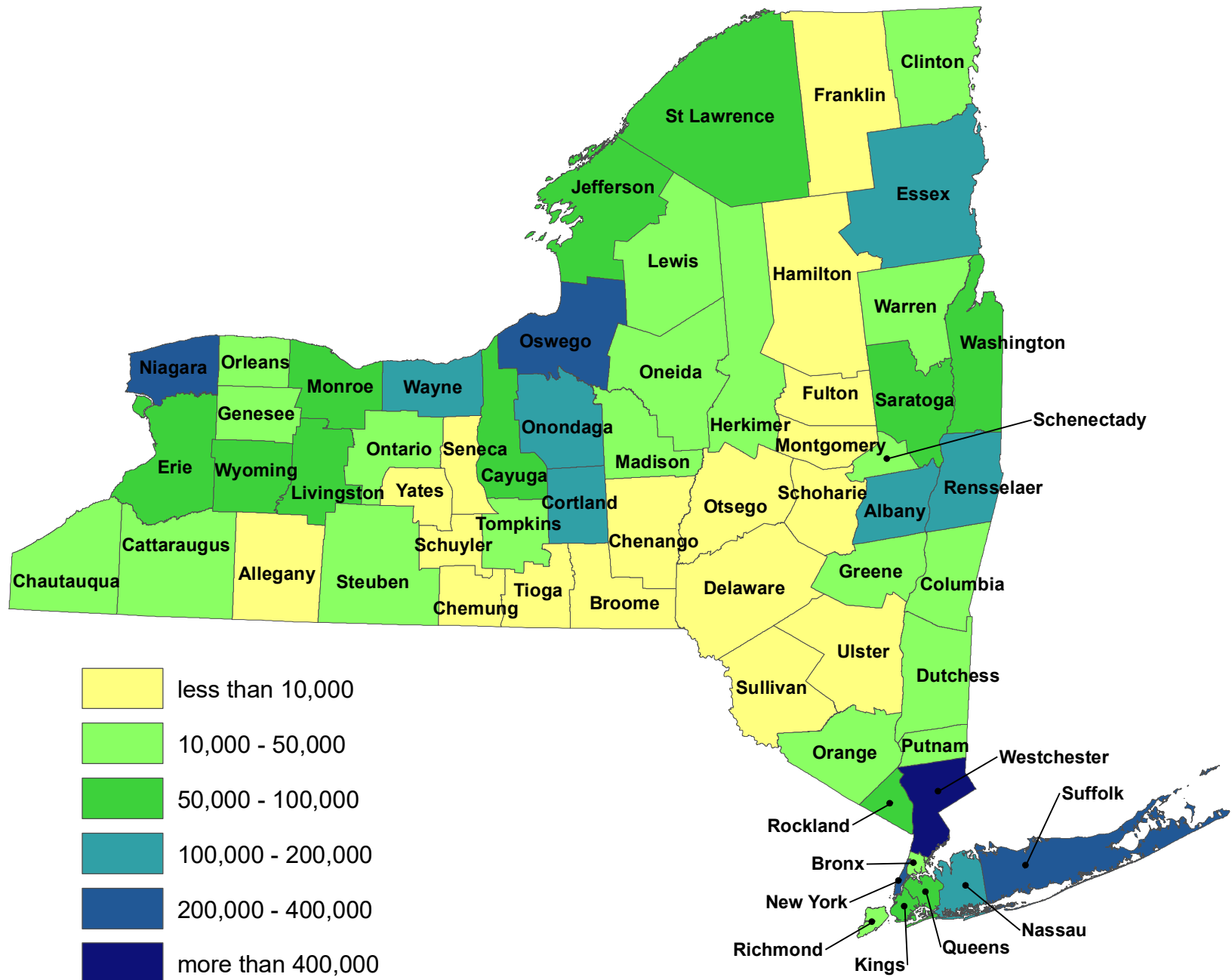


Figure 2
Commercial Pesticide Applications by Weight (Pounds) in 2019

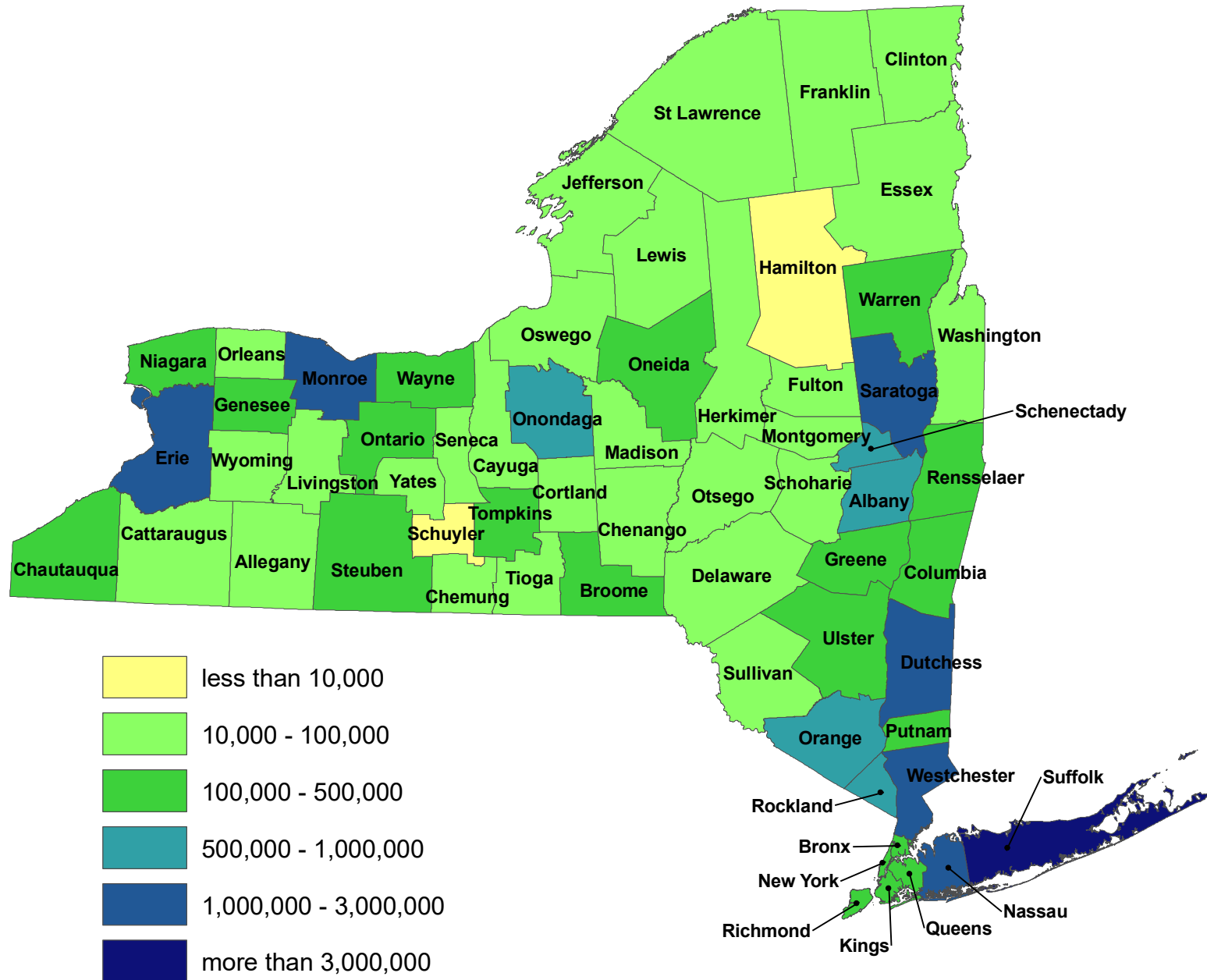


Table 3
Calendar Year 2019
Summary of Pesticide Sales to Private Applicators by County

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Albany	157	4,298	11,331
Allegany	72	2,903	1,646
Bronx	3	3	30
Broome	102	1,483	1,997
Cattaraugus	131	5,116	4,268
Cayuga	373	33,520	50,454
Chautauqua	207	21,587	106,844
Chemung	46	1,029	533
Chenango	78	1,356	1,013
Clinton	158	29,682	143,631
Columbia	209	41,879	151,169
Cortland	40	1,790	1,743
Delaware	40	299	14,412
Dutchess	262	8,763	31,907
Erie	346	15,192	20,129
Essex	39	1,509	4,068
Franklin	64	4,787	3,931
Fulton	79	806	869
Genesee	312	76,119	31,778
Greene	93	1,518	1,991
Hamilton	0	0	0
Herkimer	117	5,129	1,502
Jefferson	115	7,194	3,921
Kings	6	69	4
Lewis	73	7,125	3,814
Livingston	230	34,770	24,293
Madison	160	7,556	6,766
Monroe	400	27,639	148,216
Montgomery	167	14,571	8,473
Nassau	11	111	35,457
New York	4	40	50
Niagara	337	30,269	141,284

County	Number of Pesticide Products	Amount (Gallons)**	Amount (Pounds)**
Oneida	210	17,231	19,333
Onondaga	321	21,185	78,375
Ontario	396	32,035	41,602
Orange	351	49,051	132,832
Orleans	386	61,763	340,104
Oswego	232	18,462	52,778
Otsego	87	2,726	2,533
Putnam	27	1,127	221
Queens	12	53	20
Rensselaer	163	5,462	7,780
Richmond	2	335	0
Rockland	26	1,021	815
Saratoga	136	2,441	7,120
Schenectady	58	272	429
Schoharie	101	2,444	1,824
Schuyler	184	6,846	35,000
Seneca	279	23,306	58,609
St Lawrence	73	10,279	60,480
Steuben	305	36,241	91,220
Suffolk	468	41,197	200,935
Sullivan	37	225	2,159
Tioga	96	4,932	3,542
Tompkins	175	4,656	9,720
Ulster	278	23,699	232,335
Warren	8	25	63
Washington	121	3,968	12,785
Wayne	415	95,029	836,606
Westchester	53	390	1,093
Wyoming	196	54,977	44,975
Yates	405	26,253	139,557

* 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.

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 2019
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	809,062	21.1%	sodium hypochlorite	12.50%	antimicrobial
9359-2	281,701	7.4%	sodium hypochlorite	12.50%	antimicrobial
1448-433	254,234	6.6%	ammonia	7.59%	antimicrobial
1706-179	102,810	2.7%	sodium bromide sodium hypochlorite	9.23% 6.36%	antimicrobial, fungicide
75506-12	92,376	2.4%	copper carbonate, basic propiconazole tebuconazole	43.40% 0.50% 0.50%	wood preservative
1706-240	81,187	2.1%	ammonium sulfate	20.00%	antimicrobial
524-549	73,291	1.9%	potassium salt of glyphosate	48.70%	herbicide
69526-5	68,174	1.8%	mineral oil	98.00%	insecticide, miticide, fungicide
63838-5	56,543	1.5%	sodium bromide sodium hypochlorite	10.28% 7.45%	antimicrobial
100-1466	50,130	1.3%	bicyclopyrone atrazine s-metolachlor mesotrione	0.65% 10.93% 23.40% 2.60%	herbicide
Top 10 Products	1,869,508	48.8%			
All Products	3,829,936				

Table 5
Calendar Year 2019
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
100-1456-82757	2,995,556	10.4%	prodiamine	0.29%	herbicide
432-1349-82757	1,634,465	5.7%	imidacloprid	0.20%	insecticide
10404-89	849,533	3.0%	prodiamine	0.43%	herbicide
60063-43-41124	811,298	2.8%	prodiamine	0.42%	herbicide
432-1417-34704	741,991	2.6%	bifenthrin	0.10%	insecticide
432-1349-10404	702,029	2.4%	imidacloprid	0.125%	
34704-776	687,324	2.4%	imidacloprid	0.20%	insecticide
432-1349-34704	686,617	2.4%	prodiamine	0.375%	herbicide
432-1349-34704	686,617	2.4%	imidacloprid	0.20%	insecticide
10404-85	657,692	2.3%	dithiopyr	0.10%	herbicide
62719-504-34704	593,796	2.1%	dithiopyr	0.15%	herbicide
Top 10 Products	10,360,300	36.0%			
All Products	28,794,138				

Table 6
Calendar Year 2019
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	59,817	6.4%	potassium salt of glyphosate	48.70%	herbicide
100-1466	55,921	6.0%	bicyclopyrone atrazine s-metolachlor mesotrione	0.65% 10.93% 23.40% 2.60%	herbicide
34704-890	42,552	4.6%	isopropylamine salt of glyphosate	41.00%	herbicide
62719-556	27,881	3.0%	dimethylammonium salt of glyphosate	50.20%	herbicide
34704-805	26,983	2.9%	mineral oil	98.00%	insecticide, miticide, fungicide
73049-45	26,640	2.9%	aviglycine hydrochloride	15.00%	growth regulator
524-549-352	21,585	2.3%	potassium salt of glyphosate	48.70%	herbicide
74530-43	19,986	2.1%	isopropylamine salt of glyphosate	41.00%	herbicide
42750-61	16,309	1.7%	isopropylamine salt of glyphosate	41.00%	herbicide
71368-20	15,611	1.7%	isopropylamine salt of glyphosate	41.00%	herbicide
Top 10 Products	313,283	33.5%			
All Products	935,777				

Table 7
Calendar Year 2019
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
66222-58	514,820	15.3%	captan	78.20%	fungicide
70506-185	299,900	8.9%	mancozeb	75.00%	fungicide
279-3580	211,680	6.3%	mancozeb	75.00%	fungicide
74267-4	207,043	6.1%	bacillus pumilus, strain GHA 180	0.01%	fungicide
34704-1063	204,930	6.1%	mancozeb	75.00%	fungicide
61282-49	183,000	5.4%	zinc phosphide (ZN3P2)	2.00%	rodenticide
34704-1075	123,120	3.7%	captan	80.00%	fungicide
70506-234	114,316	3.4%	mancozeb	75.00%	fungicide
70506-201	105,150	3.1%	basic copper sulfate	71.10%	fungicide
70506-187	87,761	2.6%	sulfur	80.00%	fungicide
Top 10 Products	2,051,720	60.8%			
All Products	3,372,407				

D. The Pesticide Sales and Use Reporting Website

The summarized data from the 2019 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/>