



**Department of
Environmental
Conservation**

**Summary Report
For
New York State
Pesticide Sales and
Applications
2022**

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 2022. 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.

In response to recommendations and to make the information presented in this summary report more easily understood, the Department, with the assistance of Cornell University, presents the PRL data for 2022 expressed in a single unit of measurement. All data in this summary report are now expressed in pounds only. Quantities of liquid formulation products have been converted from gallons to pounds.

Also new for the 2022 summary report, the Department presents the quantities of active ingredient commercially applied and sold in addition to the product quantities that have been presented in previous years' summary reports. In this summary report, the amount of product reported is the weight of all ingredients, not the weight of the chemical that controls the pests alone. The active ingredient quantity is the amount of the chemical(s) in the pesticide product that acts to control pests.

The Department received reports from 15,596 applicators and technicians. Approximately 40% of these reports indicated that the individual did not make pesticide applications during 2022.

The following is the reported total amount of pesticide products and active ingredients applied in New York State by certified commercial applicators and technicians in 2022:

- 70,192,403 pounds of product
- 4,181 products
- 10,233,452 pounds of active ingredient
- 600 active ingredients

A summary of the quantity of pesticide products and active ingredients applied for each county can be found in Table 3 on pages 4 – 5 and in Figures 1 and 2 on pages 6 – 7.

The following is the reported total amount of pesticide products and active ingredients sold to private applicators for agricultural use in New York State in 2022:

- 13,478,940 pounds of product
- 1,430 products
- 6,362,728 pounds of active ingredient
- 414 active ingredients

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 4 on pages 8 - 9 and in Figures 3 and 4 on pages 10 – 11.

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

- 18,389,597 pounds of product
- 780 products
- 2,621,042 pounds of active ingredient
- 322 active ingredients

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

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

- 9,302,755 pounds of product
- 555 products
- 3,335,598 pounds of active ingredient
- 253 active ingredients

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 and active ingredients used and sold in New York State during 2022. 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 or active ingredient.

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 [Pesticide Annual Report Data - NYDEC](#) 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 2022 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 2022 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. 2022 Pesticide Reporting Program

A. Reports Received

As of August 4, 2023, the number of commercial applicators, technicians and commercial permit holders reporting for the calendar year 2022 was:

15,596 Commercial Applicators and Technicians
265 Commercial Permit Holders (Sales)

Approximately 40% of the reports submitted by commercial applicators and technicians indicated that they did not apply pesticides during 2022 and approximately 25% of the reports submitted by commercial permittees indicated that they did not make sales during 2022. The Department will continue to provide outreach and education to the regulated community to achieve maximum compliance from the individuals and commercial permittees who are required to report under the PRL.

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. 2022 is the last reporting year that paper submissions were allowed by the PRL.

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 ([Pesticide Annual Report Data - NYDEC](#)) 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. 2022 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 2022
Total Quantities Reported Statewide
Summarized by Product (in pounds)

Category	Number of Pesticide Products	Quantity (pounds)
Applied by Commercial Applicators and Technicians	4,181	70,192,403
Sold to Private Applicators	1,430	13,478,940
Sold for End Use*	780	18,389,597
Sold for Resale*	555	9,302,755

* Restricted use pesticides only

Table 2
Calendar Year 2022
Total Quantities Reported Statewide
Summarized by Active Ingredient (in pounds)

Category	Number of Active Ingredients	Quantity (pounds)
Applied by Commercial Applicators and Technicians	600	10,233,452
Sold to Private Applicators	414	6,362,728
Sold for End Use*	322	2,621,042
Sold for Resale*	253	3,335,598

* Restricted use pesticides only

B. County Data Summary Tables and Maps

The following tables and maps summarize commercial pesticide applications and sales for 2022 by county:

Table 3
Calendar Year 2022
Commercial Pesticide Applications by County*
Product and Active Ingredient Totals (in pounds)

County	Number of Pesticide Products	Product Quantity	Number of Active Ingredients	Active Ingredient Quantity
Albany	756	2,237,745	238	266,151
Allegany	304	108,304	146	29,960
Bronx	696	488,191	212	58,901
Broome	434	251,168	176	25,054
Cattaraugus	398	276,944	177	72,266
Cayuga	544	879,365	221	269,941
Chautauqua	454	284,616	180	39,837
Chemung	330	234,236	159	37,014
Chenango	277	108,918	141	44,851
Clinton	286	283,992	146	59,252
Columbia	519	262,617	213	57,059
Cortland	293	814,588	146	341,740
Delaware	302	37,233	141	9,741
Dutchess	882	1,551,480	261	88,725
Erie	938	2,823,412	259	173,614
Essex	291	3,144,004	142	459,159
Franklin	219	144,464	135	69,258
Fulton	290	60,621	148	5,303
Genesee	574	451,822	228	123,542
Greene	331	287,852	165	151,814
Hamilton	119	8,732	83	1,141
Herkimer	320	165,624	155	42,609
Jefferson	412	619,265	184	150,431
Kings	706	523,676	206	88,305
Lewis	209	202,113	124	56,661
Livingston	572	457,066	217	160,301
Madison	417	172,564	180	43,117

County	Number of Pesticide Products	Product Quantity	Number of Active Ingredients	Active Ingredient Quantity
Monroe	972	2,595,802	272	192,063
Montgomery	323	175,081	154	36,472
Nassau	1,239	3,189,340	288	693,622
New York	725	3,294,734	185	499,773
Niagara	624	3,961,041	220	320,895
Oneida	569	765,075	220	80,887
Onondaga	807	2,254,245	273	249,947
Ontario	983	676,725	337	137,549
Orange	766	1,092,912	231	75,300
Orleans	438	160,373	201	43,995
Oswego	432	1,204,570	192	196,620
Otsego	264	60,763	143	17,900
Putnam	556	453,390	191	34,373
Queens	739	828,477	208	173,009
Rensselaer	529	1,615,234	207	204,443
Richmond	498	9,802,812	168	1,492,618
Rockland	691	1,246,129	215	97,168
Saratoga	632	2,642,255	212	203,232
Schenectady	492	519,606	186	28,420
Schoharie	254	59,532	135	21,100
Schuyler	269	86,195	158	22,949
Seneca	372	102,517	163	38,231
St Lawrence	274	526,092	144	162,316
Steuben	456	228,047	212	49,648
Suffolk	1,637	8,319,038	358	985,926
Sullivan	365	107,905	159	16,218
Tioga	298	47,774	146	12,237
Tompkins	600	207,551	254	31,562
Ulster	601	415,394	218	51,174
Warren	414	730,520	169	196,258
Washington	369	700,179	181	140,179
Wayne	565	1,448,182	217	260,936
Westchester	1,252	3,270,088	284	350,435
Wyoming	455	443,138	192	171,454
Yates	316	73,145	164	18,361

* The above table does not include quantities that were reported with invalid county information.

Figure 1
2022 Commercial Pesticide Applications - Amount of Product (in pounds)

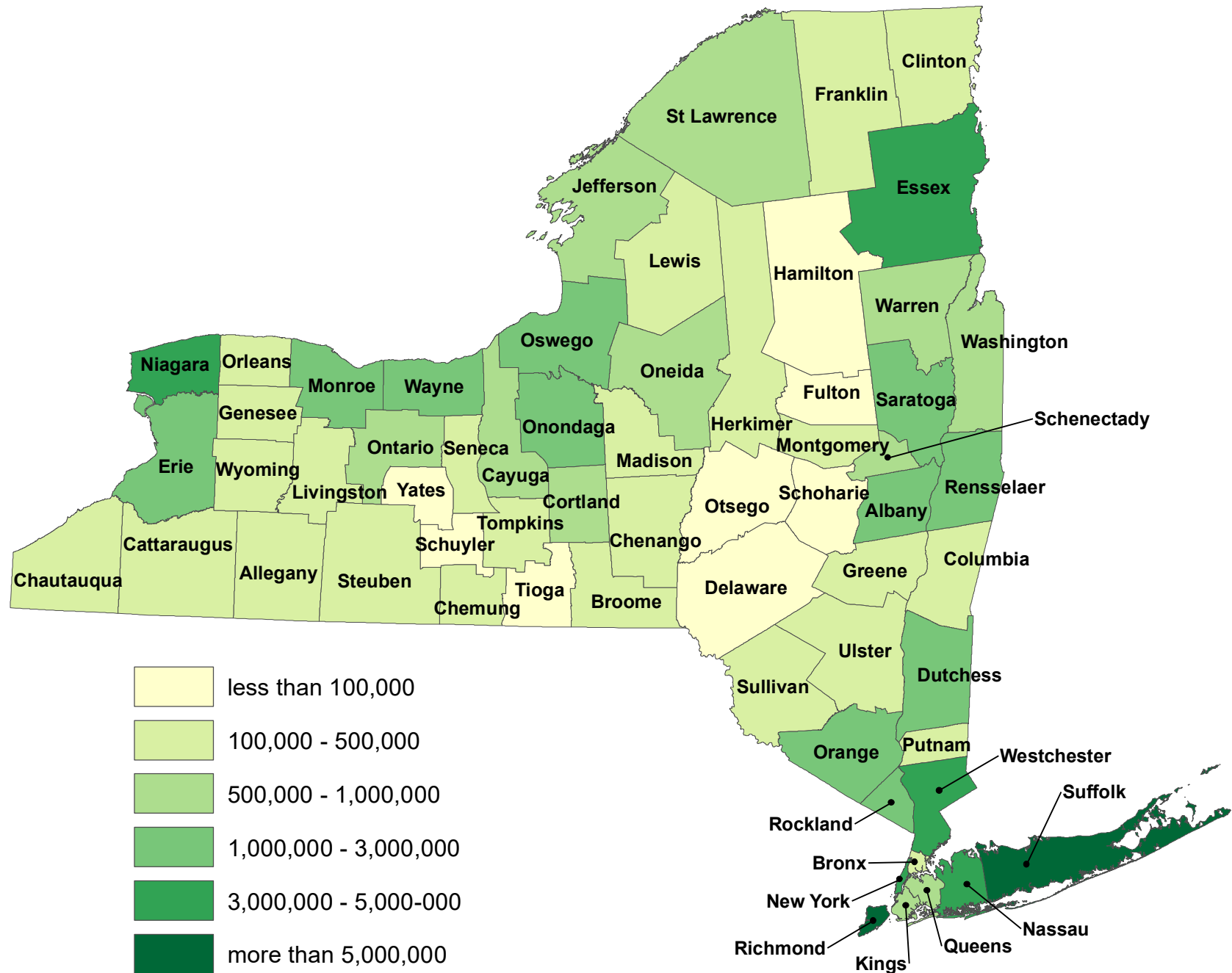


Figure 2
2022 Commercial Pesticide Applications - Amount of Active Ingredient (in pounds)

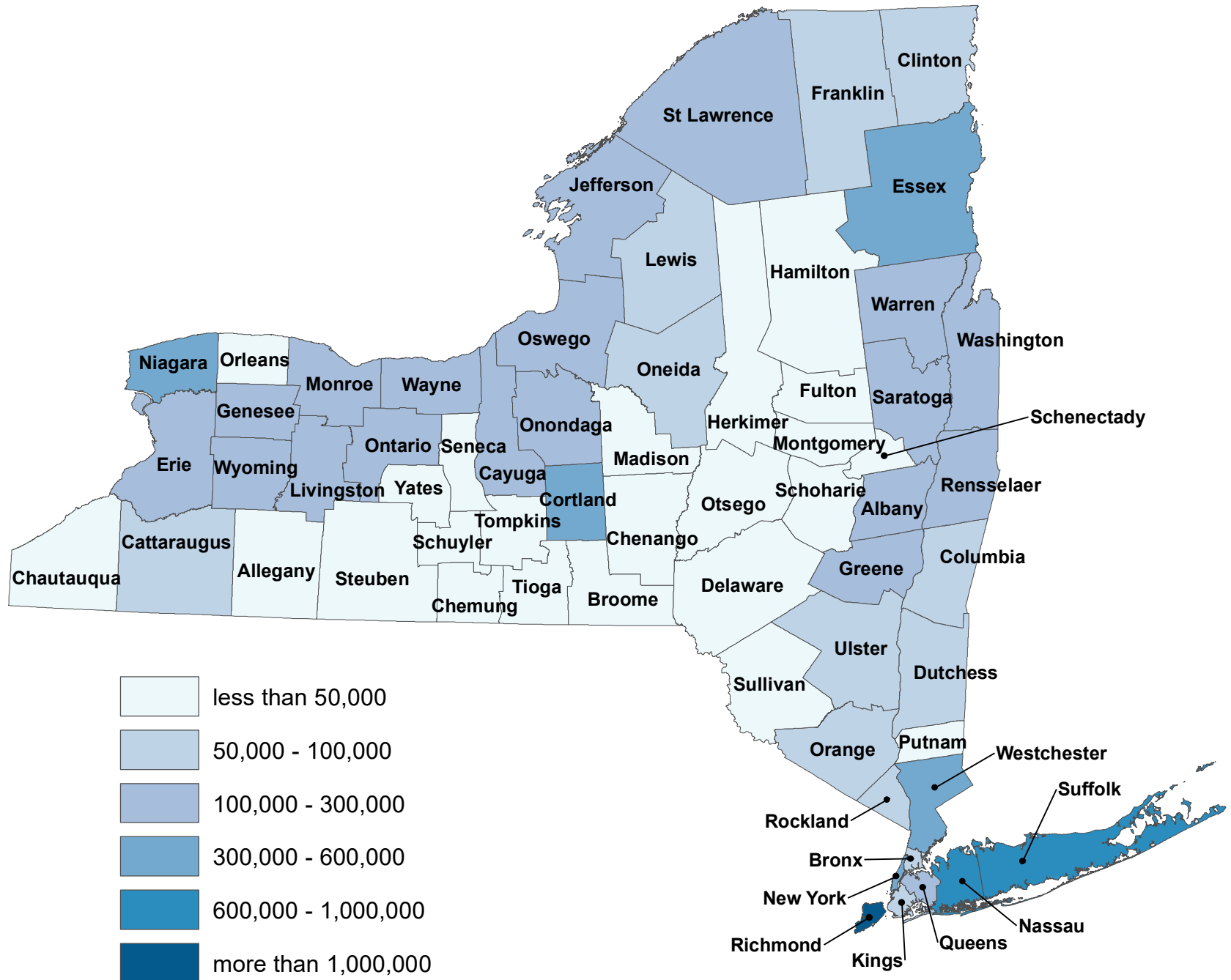


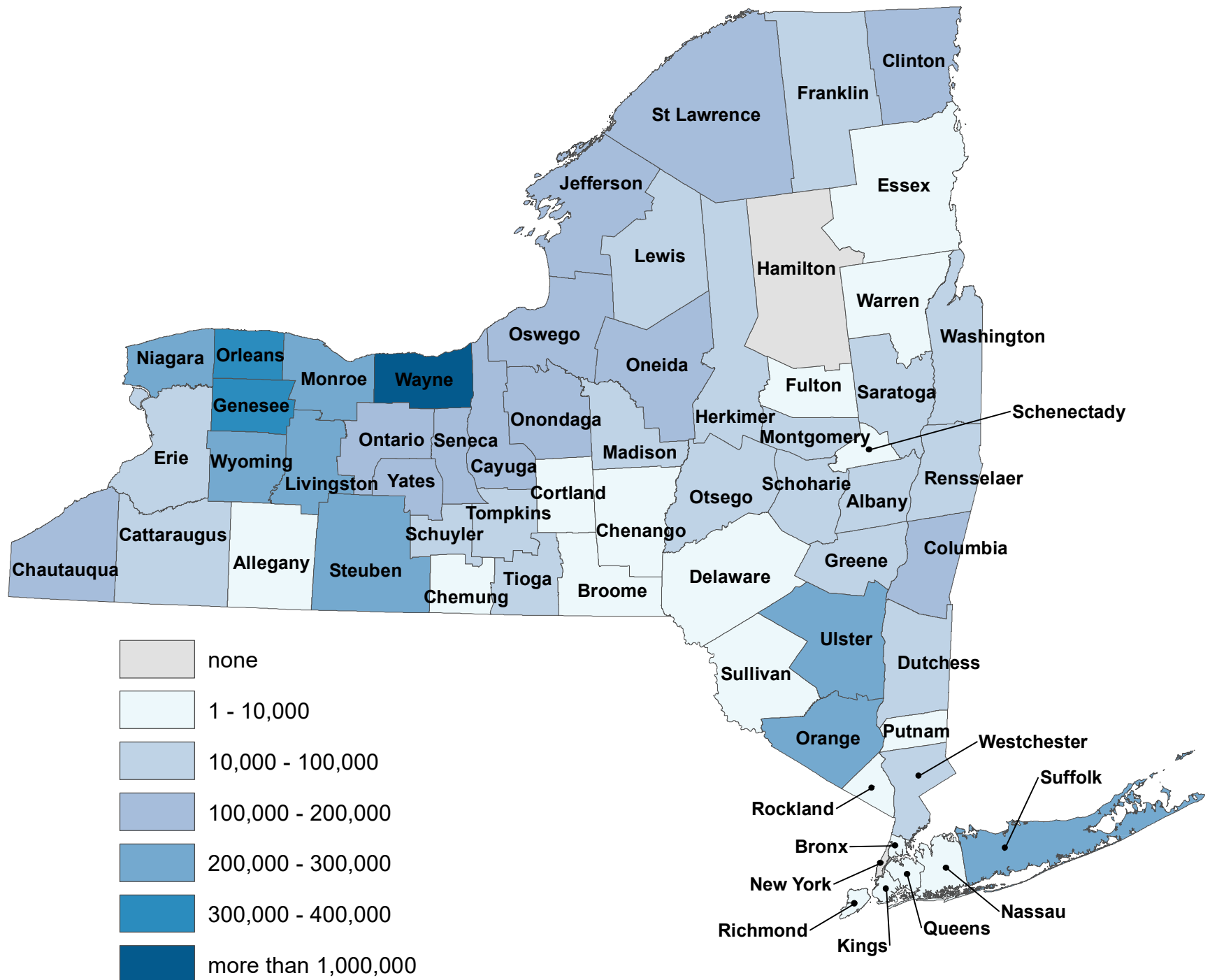
Table 4
Calendar Year 2022
Pesticide Sales to Private Applicators by County*
Product and Active Ingredient Totals (in pounds)

County	Number of Pesticide Products	Product Quantity	Number of Active Ingredients	Active Ingredient Quantity
Albany	194	28,181	135	11,126
Allegany	49	10,780	48	4,641
Bronx	22	189	22	86
Broome	70	22,756	59	9,562
Cattaraugus	142	76,444	97	35,756
Cayuga	349	378,743	192	183,370
Chautauqua	240	202,906	138	119,681
Chemung	36	11,040	34	4,078
Chenango	50	5,485	46	2,704
Clinton	138	301,992	104	166,253
Columbia	301	231,330	188	139,732
Cortland	35	15,231	29	6,877
Delaware	32	3,609	31	1,441
Dutchess	282	100,412	197	47,628
Erie	407	184,241	215	83,133
Essex	62	16,436	62	8,825
Franklin	77	75,730	59	37,361
Fulton	88	9,085	74	3,945
Genesee	354	798,621	182	347,541
Greene	147	39,305	110	20,368
Hamilton	0	0	0	0
Herkimer	116	57,038	83	28,166
Jefferson	121	248,360	95	111,957
Kings	13	864	15	83
Lewis	66	47,708	49	23,683
Livingston	265	582,163	131	256,929
Madison	155	86,014	91	39,535
Monroe	497	492,875	244	230,636
Montgomery	196	106,064	124	47,086
Nassau	24	1,058	27	483
New York	0	0	0	0
Niagara	385	477,268	230	234,878

County	Number of Pesticide Products	Product Quantity	Number of Active Ingredients	Active Ingredient Quantity
Oneida	227	287,752	137	144,199
Onondaga	330	295,337	197	149,079
Ontario	434	450,332	217	185,650
Orange	340	536,245	213	225,090
Orleans	418	840,828	225	394,802
Oswego	230	254,628	143	113,110
Otsego	146	43,725	98	19,267
Putnam	21	2,527	23	1,244
Queens	8	247	6	108
Rensselaer	187	61,507	124	30,322
Richmond	2	1,635	2	785
Rockland	53	5,438	51	3,213
Saratoga	167	34,905	123	15,860
Schenectady	52	2,010	52	710
Schoharie	152	28,708	114	12,429
Schuyler	164	81,079	119	43,617
Seneca	288	260,805	155	137,889
St Lawrence	84	234,266	58	105,913
Steuben	279	421,332	145	204,048
Suffolk	458	516,673	237	232,384
Sullivan	35	4,414	37	1,422
Tioga	92	25,760	72	11,379
Tompkins	173	35,781	123	15,767
Ulster	363	437,808	202	236,055
Warren	7	159	8	62
Washington	149	45,938	112	21,520
Wayne	505	3,091,358	247	1,441,169
Westchester	129	16,715	98	11,749
Wyoming	232	593,852	127	261,344
Yates	402	254,948	210	134,876

* The above table does not include quantities that were reported with invalid county information.

Figure 4
2022 Pesticide Sales to Private Applicators - Amount of Active Ingredient (in Pounds)



C. Summary of Top Ten Pesticides Applied and Sold

The following tables summarize the top ten pesticide products and active ingredients applied by certified commercial applicators or technicians as well as the top ten pesticide products and active ingredients sold by commercial permit holders to certified private applicators.

The product tables present information about each top ten product including the EPA registration number for each product, the quantity applied or the quantity sold (in pounds), 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 quantity reported in the product tables is the amount of all ingredients, not the amount of active ingredients alone.

The active ingredient tables present information about each top ten active ingredient including the name of the active ingredient, the quantity (in pounds) of that ingredient that was applied or sold, the active ingredient code and the ingredient's main type of use. The quantities in these tables represent the amount of active ingredient alone. These are the chemicals in the pesticide product that act to control pests.

Table 5
Calendar Year 2022
Top Ten Pesticide Products (in pounds)
Applied by Commercial Applicators and Technicians

EPA Registration Number	Quantity	Active Ingredients	Percentage of Active Ingredient	Type/Use
35317-20001	5,493,177	sodium hypochlorite	12.50%	antimicrobial
9359-2	4,192,012	sodium hypochlorite	12.50%	antimicrobial
74655-34	3,920,264	ammonium carbamate	19.50%	antimicrobial
59074-20001	3,552,547	sodium hypochlorite	12.50%	antimicrobial
1448-433	2,949,133	ammonia	7.59%	antimicrobial
100-1456-90561	2,240,267	prodiamine	0.29%	herbicide
60063-43-41124	1,183,728	prodiamine	0.42%	herbicide
432-1349-93243	1,105,722	imidacloprid	0.20%	insecticide
432-1349-10404	1,056,602	imidacloprid	0.20%	insecticide
1706-179	976,071	sodium bromide sodium hypochlorite	9.23% 6.36%	antimicrobial fungicide
Top 10 Products	26,669,524			
All Products	70,192,403			

Table 6
Calendar Year 2022
Top Ten Pesticide Active Ingredients (in pounds)
Applied by Commercial Applicators and Technicians

Active Ingredient Name	Quantity	Active Ingredient Code	Type/Use
Sodium hypochlorite	2,023,323	014703	antimicrobial
Ammonium carbamate	764,451	000374	antimicrobial
Mineral oil (includes paraffin oil from 063503)	745,919	063502	insecticide, fungicide
Sodium bromide	486,783	013907	antimicrobial
Copper carbonate, Basic	448,857	022901	wood preservative
Atrazine	390,712	080803	herbicide
Glyphosate	383,540	417300	herbicide
Metolachlor	327,338	108800	herbicide
Chlorothalonil	241,448	081901	fungicide
Isopropylamine salt of glyphosate	234,453	103601	herbicide
Top 10 Active Ingredients	6,046,824		
All Active Ingredients	10,233,452		

Table 7
Calendar Year 2022
Top Ten Pesticide Products (in pounds)
Sold by Commercial Permit Holders to Certified Private Applicators

EPA Registration Number	Quantity	Active Ingredients	Percentage of Active Ingredient	Type/Use
524-659	792,507	glyphosate	51.20%	herbicide
100-1466	637,609	bicyclopyrone	0.65%	herbicide
		atrazine	10.93%	
		s-metolachlor	23.40%	
		mesotrione	2.60%	
66222-58	580,779	captan	78.20%	fungicide
100-1282	375,604	s-metolachlor	20.50%	herbicide
		mesotrione	2.05%	
		glyphosate	20.50%	
34704-890	343,023	isopropylamine salt of glyphosate	41.00%	herbicide
279-3580	271,230	mancozeb	75.00%	fungicide
94398-1-87659	253,403	glyphosate	53.80%	herbicide
62719-693	232,376	clopyralid	2.70%	herbicide
		acetochlor	31.00%	
		mesotrione	3.30%	
70506-185	229,200	mancozeb	75.00%	fungicide
71368-20	198,936	isopropylamine salt of glyphosate	41.00%	herbicide
Top 10 Products	3,914,667			
All Products	13,478,940			

Table 8
Calendar Year 2022
Top Ten Pesticide Active Ingredients (in pounds)
Sold by Commercial Permit Holders to Certified Private Applicators

Active Ingredient Name	Quantity	Active Ingredient Code	Type/Use
Glyphosate	681,638	417300	herbicide
Mancozeb	619,799	014504	fungicide
Captan	597,809	081301	fungicide
Metolachlor	529,981	108800	herbicide
Isopropylamine salt of glyphosate	469,190	103601	herbicide
Atrazine	453,518	080803	herbicide
Mineral Oil (includes paraffin oil from 063503)	286,615	063502	insecticide, miticide, fungicide
Chlorothalonil	170,903	081901	fungicide
Sulfur	164,704	077501	fungicide
Pendimethalin	146,570	108501	herbicide
Top 10 Active Ingredients	4,120,728		
All Active Ingredients	6,362,728		

D. The Pesticide Sales and Use Reporting Website

The summarized data from the 2022 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/>