

MARYLAND PESTICIDE SURVEY STATISTICS

2024 REPORT



INTRODUCTION

This publication contains estimates for specific pesticides used in Maryland during calendar year 2024. Published estimates include the combined pesticide usage of farm operators, certified private pesticide applicators, and commercially licensed businesses and public agencies.

All data were compiled by the Maryland Field Office of the National Agricultural Statistics Service (NASS) in cooperation with the Pesticide Regulation Section of the Maryland Department of Agriculture. Staff of the Pesticide Regulation Section provided technical assistance in survey planning and analysis of final summary tabulations. NASS completed data collection and summarization, with access to record level data limited to NASS office personnel. All record-level data collected by NASS are confidential and protected by Title 7 of the U.S. Code.

Methodology

A survey was conducted in 2024 to estimate the amounts and types of pesticides applied in the calendar year by Maryland farm operators, certified private pesticide applicators, commercially licensed businesses, and public agencies. The survey consisted of a sample of 1,500 farmers, 2,562 certified private applicators, 1,758 commercially licensed businesses, and 299 public agencies permitted to apply pesticides. Lists of certified applicators, businesses, and public agencies were provided by the Pesticide Regulation Section of the Maryland Department of Agriculture. The farm operator sample was selected from a comprehensive list of farm operators maintained by NASS.

Questionnaires were mailed to all sampled operations, businesses, and agencies, followed by a reminder postcard mailing and second questionnaire mailing to non-respondents at the beginning of 2025. Responses were received from 691 (46.1%) of the sampled farmers, 810 (31.6 %) certified private applicators, 371 (21.1%) commercially licensed businesses, and 104 (34.7%) public agencies. Response was voluntary and not required by law.

Data were reviewed for completeness and accuracy and all amounts reported were converted to pounds of active ingredient. Following questionnaire review, data were keyed and summarized utilizing SAS statistical software and data analysis was conducted by NASS statisticians. Active ingredients were totaled and expanded to the State level based solely on the population of each sector, final sample sizes and survey response. The population assumed to represent total usage of the target populations.

Results

Pesticide active ingredient estimates are published only when there were a sufficient number of reports and/or amounts applied. Active ingredients reported without sufficient number of reports or amounts less than one pound is listed on a separate table with a total amount estimated. Published data are listed in descending order by pounds of active ingredient and in alphabetical order. The top 20 pesticides (in terms of total pounds), the top 10 pesticides by county, the top 10 pesticides by season, the top 10 pesticides for certain targeted crops, the top 10 by class (insecticides, herbicides, fungicides, and other) are provided in separate tables. Common formulation and type for pesticides published comparisons tables are also provided.

STATE PESTICIDE USAGE PUBLISHABLE ESTIMATES - ALPHABETICAL					
Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
1	All Glyphosate	923,976	44	Azoxystrobin	8,297
2	Atrazine	321,480	45	Oxyfluorfen	7,730
3	S-Metolachlor	237,182	46	Pydiflumetofen	7,375
4	All 2;4-D	219,544	47	Lambda-cyhalothrin	6,735
5	Chlorothalonil	120,761	48	Sulfur	6,434
6	Paraquat	96,463	49	Indaziflam	6,399
7	Imidacloprid	88,167	50	Fosetyl-al	6,048
8	Simazine	55,825	51	Pyroxasulfone	6,032
9	Pendimethalin	39,671	52	Dithiopyr	5,819
10	Mineral oil	34,403	53	Dimethoate	5,170
11	Captan	33,010	54	MCP-P; DMA Salt	3,535
12	Cyfluthrin	31,160	55	Fomesafen Sodium	3,346
13	Glufosinate-ammonium	25,892	56	Sulfentrazone	3,341
14	Mesotrione	24,928	57	Copper hydroxide	3,008
15	Prothioconazole	24,903	58	Pyraclostrobin	2,988
16	Metolachlor	23,209	59	Cyprodinil	2,978
17	Diphacinone	22,347	60	Permethrin	2,908
18	MCPA; 2-ethylhexyl	20,489	61	Mandipropamide Techn	2,711
19	MCPA; dimethyl. salt	19,771	62	Flumioxazin	2,495
20	Clopyralid	19,384	63	Ziram	2,340
21	Thiophanate-methyl	19,253	64	Diquat dibromide	2,262
22	Propiconazole	19,029	65	Trifluralin	2,181
23	Mancozeb	17,410	66	Carbaryl	2,098
24	Prodiamine	16,751	67	Ethephon	2,042
25	Acetochlor	16,580	67	Thiram	2,042
26	Dicamba; digly. salt	16,319	68	Fludioxonil	1,846
27	Metribuzin	15,323	69	Novaluron	1,770
28	Metconazole	14,661	70	Isoxaflutole	1,690
29	Mono-potassium salt	14,591	71	Bensulide	1,688
30	Chlorantraniliprole	13,804	72	Quinclorac	1,620
31	Fluazinam	12,872	73	Piperonyl butoxide	1,535
32	Iprodione	12,342	74	Thiamethoxam	1,520
33	Tebuconazole	12,247	75	Propamocarb hydroch.	1,507
34	Bifenthrin	11,891	76	Dimethenamid-P	1,452
35	Isoxaben	11,679	77	Basic copper sulfate	1,433
36	Fipronil	11,608	78	Dicamba; sodium salt	1,347
37	Clethodim	11,243	79	Trinexapac-ethyl	1,329
38	Copper ethanolamine	9,737	80	Bicyclopyrone	1,212
39	Butoxyethyl triclopy	9,612	81	Acetamiprid	1,145
40	Flutolanil	9,405	82	Prohexadione calcium	1,051
41	Triethylamine triclo	8,962	83	Mefenoxam	973
42	Dicamba; dimet. salt	8,833	84	Imazethapyr	972
43	Fluroxypyr 1-MHE	8,696	85	Thifensulfuron	935

STATE PESTICIDE USAGE PUBLISHABLE ESTIMATES - ALPHABETICAL					
Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
86	Dicamba	887	126	Fluopyram	217
87	Cyazofamid	873	127	Methomyl	212
88	Mefentrifluconazole	818	128	Spinosad	204
89	Streptomycin sulfate	812	129	Imazosulfuron	199
90	Thiencarbazone-methy	794	130	Prosulfuron	196
91	Calcium polysulfide	722	131	Acibenzolar-S-Methyl	189
92	Saflufenacil	721	132	Napropamide	171
93	Pyriproxyfen	691	133	Clopyralid; triethanolamine	161
94	Clopyralid mono salt	689	134	Ametoctradin	159
95	Tembotrione	679	135	Fenoxaprop-p-ethyl	154
96	Dinotefuran	657	136	Deltamethrin	152
97	Myclobutanil	655	137	Benzovindiflupyr	151
98	Fluxapyroxad	643	138	Copper sulfate	150
99	DCPA	623	139	Paclobutrazol	142
100	Flutriafol	591	140	Triisopropanolamine	141
101	Imazapyr; iso. salt	576	141	S-Methoprene	140
102	Boscalid	563	142	Ethalfuralin	137
103	Phosmet	553	143	Metrafenone	132
104	Diuron	551	144	Dimethomorph	127
105	Potassium salts	547	145	Bromoxynil octanoate	123
106	Hydrogen peroxide	544	146	Prallethrin	120
107	Difenoconazole	533	147	Cymoxanil	119
107	Clomazone	533	147	Clothianidin	119
108	Diflufenzopyr-sodium	529	148	Petroleum distillate	118
109	Malathion	500	149	Azadirachtin	116
110	Esfenvalerate	476	150	Famoxadone	109
111	Copper chloride hyd.	401	151	Cloransulam-methyl	104
112	Acephate	392	152	Imazethapyr; ammon.	100
113	Trifloxystrobin	388	153	Methoxyfenozide	97
114	Chlorimuron-ethyl	385	154	(7S)-Hydroprene	93
115	Bentazon	366	155	Fenhexamid	87
116	Indoxacarb	327	156	Pelargonic acid	83
116	Topramezone	327	157	Peroxyacetic acid	77
117	Zeta-cypermethrin	319	157	Fenbuconazole	77
118	Tribenuron-methyl	289	158	Reynoutria sachaline	72
119	Rimsulfuron	262	159	Fenpropathrin	69
119	Polyoxin D zinc salt	262	160	Prometon	63
120	Penthiopyrad	258	160	Cyantraniliprole	63
121	Fluazifop-P-butyl	256	161	Abamectin	60
122	Propanoic acid	254	162	Metsulfuron-methyl	54
123	Beta-cyfluthrin	247	163	Boric acid	47
124	Carfentrazone-ethyl	246	164	Spinetoram	46
125	Halosulfuron	232	164	Fluthiacet-methyl	46

[illegible]

STATE PESTICIDE USAGE PUBLISHABLE ESTIMATES - ALPHABETICAL

Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
154	(7S)-Hydroprene	93	57	Copper hydroxide	3,008
161	Abamectin	60	173	Copper octanoate	21
112	Acephate	392	138	Copper sulfate	150
81	Acetamiprid	1,145	160	Cyantraniliprole	63
25	Acetochlor	16,580	87	Cyazofamid	873
131	Acibenzolar-S-Methyl	189	171	Cyflumetofen	25
4	All 2;4-D	219,544	12	Cyfluthrin	31,160
1	All Glyphosate	923,976	147	Cymoxanil	119
134	Ametoctradin	159	59	Cyprodinil	2,978
2	Atrazine	321,480	178	Cytokinins	5
149	Azadirachtin	116	99	DCPA	623
44	Azoxystrobin	8,297	136	Deltamethrin	152
77	Basic copper sulfate	1,433	86	Dicamba	887
173	Benefin	21	26	Dicamba; digly. salt	16,319
71	Bensulide	1,688	42	Dicamba; dimet. salt	8,833
115	Bentazon	366	78	Dicamba; sodium salt	1,347
137	Benzovindiflupyr	151	107	Difenoconazole	533
123	Beta-cyfluthrin	247	108	Diflufenzopyr-sodium	529
80	Bicycloporyne	1,212	76	Dimethenamid-P	1,452
166	Bifenazate	39	53	Dimethoate	5,170
34	Bifenthrin	11,891	144	Dimethomorph	127
163	Boric acid	47	96	Dinotefuran	657
102	Boscalid	563	17	Diphacinone	22,347
180	Bromadiolone	1	64	Diquat dibromide	2,262
145	Bromoxynil octanoate	123	52	Dithiopyr	5,819
39	Butoxyethyl triclopy	9,612	104	Diuron	551
91	Calcium polysulfide	722	179	Emamectin benzoate	3
11	Captan	33,010	110	Esfenvalerate	476
66	Carbaryl	2,098	142	Ethalfuralin	137
124	Carfentrazone-ethyl	246	67	Ethephon	2,042
30	Chlorantraniliprole	13,804	170	Ethofenprox	27
172	Chlorfenapyr	24	150	Famoxadone	109
114	Chlorimuron-ethyl	385	157	Fenbuconazole	77
5	Chlorothalonil	120,761	155	Fenhexamid	87
37	Clethodim	11,243	135	Fenoxaprop-p-ethyl	154
107	Clomazone	533	159	Fenpropathrin	69
20	Clopyralid	19,384	36	Fipronil	11,608
94	Clopyralid mono salt	689	121	Fluazifop-P-butyl	256
133	Clopyralid; triethanolamine	161	31	Fluazinam	12,872
151	Cloransulam-methyl	104	68	Fludioxonil	1,846
147	Clothianidin	119	62	Flumioxazin	2,495
111	Copper chloride hyd.	401	126	Fluopyram	217
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164	Fluthiacet-methyl	46	132	Napropamide	171
40	Flutolanil	9,405	69	Novaluron	1,770
100	Flutriafol	591	174	Octacide-264	18
98	Fluxapyroxad	643	175	Oxathiapiprolin	14
55	Fomesafen Sodium	3,346	45	Oxyfluorfen	7,730
50	Fosetyl-al	6,048	139	Paclobutrazol	142
13	Glufosinate-ammonium	25,892	6	Paraquat	96,463
169	Halauxifen-methyl	33	156	Pelargonic acid	83
125	Halosulfuron	232	9	Pendimethalin	39,671
106	Hydrogen peroxide	544	120	Penthiopyrad	258
176	Imazamox	12	60	Permethrin	2,908
101	Imazapyr; iso. salt	576	157	Peroxyacetic acid	77
84	Imazethapyr	972	148	Petroleum distillate	118
152	Imazethapyr; ammon.	100	177	Phenothrin	7
129	Imazosulfuron	199	103	Phosmet	553
7	Imidacloprid	88,167	73	Piperonyl butoxide	1,535
49	Indaziflam	6,399	119	Polyoxin D zinc salt	262
170	Indolebutyric acid	27	105	Potassium salts	547
116	Indoxacarb	327	146	Prallethrin	120
32	Iprodione	12,342	24	Prodiamine	16,751
35	Isoxaben	11,679	82	Prohexadione calcium	1,051
70	Isoxaflutole	1,690	160	Prometon	63
167	Kantor	35	75	Propamocarb hydroch.	1,507
47	Lambda-cyhalothrin	6,735	122	Propanoic acid	254
18	MCPA; 2-ethylhexyl	20,489	22	Propiconazole	19,029
19	MCPA; dimethyl. salt	19,771	130	Prosulfuron	196
54	MCPP-P; DMA Salt	3,535	15	Prothioconazole	24,903
109	Malathion	500	46	Pydiflumetofen	7,375
23	Mancozeb	17,410	58	Pyraclostrobin	2,988
61	Mandipropamide Techn	2,711	168	Pyrethrins	34
83	Mefenoxam	973	93	Pyriproxyfen	691
88	Mefentrifluconazole	818	51	Pyroxasulfone	6,032
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28	Metconazole	14,661	165	Quinoline	44
127	Methomyl	212	158	Reynoutria sachaline	72
153	Methoxyfenozide	97	119	Rimsulfuron	262
16	Metolachlor	23,209	141	S-Methoprene	140
143	Metrafenone	132	3	S-Metolachlor	237,182
27	Metribuzin	15,323	92	Saflufenacil	721
162	Metsulfuron-methyl	54	174	Sethoxydim	18
10	Mineral oil	34,403	8	Simazine	55,825
29	Mono-potassium salt	14,591	164	Spinetoram	46
97	Myclobutanil	655	128	Spinosad	204

STATE PESTICIDE USAGE PUBLISHABLE ESTIMATES - ALPHABETICAL

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PESTICIDES REPORTED BUT NOT PUBLISHABLE 1	
Name	Type
1-Octanol	O
2-Phenylethyl propionate	O
Acequinocyl	I
Alk. dim. benzyl 60%	O
Alk. dim. ethbz. am.	O
Alkyl. dim. benz. am	O
Alpha cypermethrin	I
Aluminum phosphide	I
Ametryn	H
Aminopyralid potassium salt	H
Amitraz	I
Ammonium pelargonate	H
Ancymidol	O
Arsenic pentoxide	I
Azadirachtin	I
BLAD	F
Bacillus amyloliquefac F727	F
Bacillus amyloliquefaciens strain D747	F
Bacillus mycoides Isolate J	I
Bacillus subtilis	F
Bacillus subtilis MBI 600	F
Bacillus thuringiensis CryIA(b)	I
Beauveria bassiana	I
Benefin	H
Bensulide	H
Benzyladenine	O
Bifenazate	I
Bispyribac-sodium	H
Borax decahydrate	F
Boric acid	I
Brodifacoum	O
Bromacil	H
Bromethalin	O
Bromoxynil heptan.	H
Bromoxynil octanoate	H
Bt israelen BMP 144; sol;spor;insect tox	O
Bt israelensis AM 65-52	O
Bt kurstaki ABTS-351	I
Bt kurstaki SA-12; sol;spor;insect tox	O
Bt tenebrionis NB-176	O
Buprofezin	I
Burkholderia A396 cells & media	I

Name	Type
Butenoic Acid Hydro.	O
Canola oil	I
Capric acid	O
Caprylic acid	O
Capsaicin	O
Carbon dioxide	O
Chlorethoxyfos	I
Chlormequat chloride	O
Chlorsulfuron	H
Cholecalciferol	O
Chromic acid	I
Chromobac subtsugae PRAA4-1 cells and spent me	I
Cinnamaldehyde	I
Clopyralid; triethanolamine	O
Cloransulam-methyl	H
Clothianidin	I
Copper (metallic)	F
Copper amm. complex	F
Copper carbonate	F
Copper ethanolamine	H
Copper octanoate	F
Copper oxide	F
Copper triethanolamine complex	O
Cresol	F
Cupric oxide	I
Cyclaniliprole	I
Cycloate	H
Cyflufenamid	F
Cypermethrin	I
Cyproconazole	F
Cyromazine	I
DCPA	H
Daminozide	O
Decanol	O
Decyldimethyloctyl	O
Diazinon	I
Dicamba; BAPMA salt	H
Dicamba; Pot. salt	H
Dicamba; iso salt	H
Dichlobenil	H
Dichloropropene	O
Didecyl dim. ammon.	O

Name	Type
Difethialone	O
Diflubenzuron	I
Dimethyldioctyl	O
Diphacinone sodium salt	O
Disod. Octa. tetra.	I
Diuron	H
Dodecadien-1-ol	O
Dodecanol	O
Egg solids	O
Emamectin benzoate	I
Endothall; mono(N;N-dimethylcocoam) salt	O
Erioglaucine	H
Ethofumesate	H
Etridiazole	F
Fenamidone	F
Fenpropathrin	I
Fenpyroximate	I
Flzasulfuron	H
Flonicamid	I
Flucarbazone-sodium	H
Fluensulfone	O
Flufenacet	H
Flumetsulam	H
Fluopicolide	F
Fluoxastrobin	F
Flupyradifurone	I
Fluridone	H
Flurprimidol	O
Fluthiacet-methyl	H
Flutolanil	F
Flutriafol	O
Fluvalinate	I
Foramsulfuron	H
Formaldehyde	O
Fosamine	H
GABA	O
Garlic oil	O
Gibberellic acid	O
Gibberellins A4A7	O
Hexythiazox	I
Hydramethylnon	I
Imazamox	H

Name	Type
Imazapic-ammonium	H
Imazapyr	H
Imazethapyr; ammon.	H
Imazosulfuron	H
Iron phosphate	O
Isofetamid	F
Isopropyl alcohol	O
Kaolin	I
Kasugamycin	F
Kresoxim-methyl	F
Lavandulyl senecioat	O
Linuron	H
MCPA; dimethyl. salt	H
MSMA	H
Mandestrobin	F
Mefluidide; diet.	O
Mepiquat chloride	O
Mesosulfuron-Methyl	H
Metaldehyde	O
Metam-sodium	O
Metconazole	F
Methyl anthranilate	O
Methyl bromide	O
Metrafenone	O
Monocarbamide dihyd.	O
NAA; Sodium	O
Naphthalene	O
Napropamide	H
Neem oil	I
Neem oil; clar. hyd.	I
Nicosulfuron	H
Nitrapyrin	O
Norflurazon	H
Noviflumuron	O
Oryzalin	H
Oxadiazon	H
Oxamyl	I
Oxytetracycline calc	F
Oxytetracycline hydrochloride	O
Paclobutrazol	O
Pelargonic acid	O
Penoxsulam	H

Name	Type
Petroleum distillate	I
Phenothrin	I
Phosphorous acid	F
Picloram; K salt	H
Picloram; triisoprop	H
Picoxystrobin	F
Pinoxaden	H
Piperalin	F
Polyoxin D zinc salt	F
Potassium Phosphate	F
Potassium bicarbon.	F
Prometon	H
Pymetrozine	I
Pyraflufen-ethyl	H
Pyridaben	I
Pyrifluquinazon	I
Pyrimethanil	F
Pyriofenone	F
Quillaja saponins	O
Quizalofop-P-ethyl	H
S-Methoprene	I
Sethoxydim	H
Silicon dioxide	I
Sodium Percarbonate	F
Sodium chlorate	O
Sodium hypochlorite	O
Sodium metaborate	H
Spirodiclofen	O
Spiromesifen	I
Spirotetramat	I
Sulfometuron methyl	H
Sulfosulfuron	H
Sulfoxaflor	I
Sulfuric Acid	O
Sulfuryl fluoride	O
Swinglea glutinosa	F
Tartrazine	H
Tefluthrin	I
Terbacil	H
Tetraconazole	F
Tetradecanol	O
Tetramethrin	I

Name	Type
Thiabendazole (TBZ)	F
Thiram	F
Tolfenpyrad	I
Triadimefon	F
Trichoderma harz.	F
Triclopyr	H
Tricosene	I
Triflumizole	F
Tritconazole	F
Xylenol	F
Zinc phosphide	O
Zoxamide	F
1 Not publishable due to disclosure or less than 1 pound reported.	
	F = Fungicide
	H = Herbicide
	I = Insecticide
	O = Other

TOP 20 PUBLISHABLE PESTICIDES IN 2022 COMPARED TO 2020, AND 2014					
			2024	2022	2020
Rank	Pesticide Common Name	Type	Total Amount Applied (lbs)	Total Amount Applied (lbs)	Total Amount Applied (lbs)
1	All Glyphosate	H	923,976	896,040	565,481
2	Atrazine	H	321,480	231,956	270,656
3	S-Metolachlor	H	237,182	134,481	186,824
4	All 2;4-D	H	219,544	244,985	121,509
5	Chlorothalonil	F	120,761	60,292	77,692
6	Paraquat	H	96,463	58,310	83,095
7	Imidacloprid	I	88,167	12,185	30,338
8	Simazine	H	55,825	20,225	76,660
9	Pendimethalin	H	39,671	23,015	25,659
10	Mineral oil	I	34,403	53,672	33,140
11	Captan	F	33,010	17,636	5,296
12	Cyfluthrin	I	31,160	4,022	600
13	Glufosinate-ammonium	H	25,892	20,646	5,496
14	Mesotrione	H	24,928	60,799	17,611
15	Prothioconazole	F	24,903	6,821	645
16	Metolachlor	H	23,209	66,529	21,767
17	Diphacinone	O	22,347	684	22
18	MCPA; 2-ethylhexyl	H	20,489	7,832	6,369
19	MCPA; dimethyl. salt	H	19,771	13,241	567
20	Clopyralid	H	19,384	108	282

F = Fungicide
H = Herbicide
I = Insecticide
O = Other

TOP 10 PUBLISHABLE PESTICIDE USAGE BY COUNTY IN 2024			
County	Pesticide Common Name	Type	Pounds of Active Ingredient
<u>ALLEGANY</u>	All Glyphosate	H	1,623
	All 2;4-D	H	1,293
	S-Metolachlor	H	279
<u>ANNE ARUNDEL</u>	All Glyphosate	H	5,567
	All 2;4-D	H	1,277
	Captan	F	512
	Bifenthrin	I	329
	Lambda-cyhalothrin	I	211
<u>BALTIMORE</u>	Chlorothalonil	F	19,676
	All Glyphosate	H	12,579
	Thiophanate-methyl	F	8,758
	Propiconazole	F	6,365
	Fipronil	I	5,914
	S-Metolachlor	H	3,826
	Azoxystrobin	F	3,660
	All 2;4-D	H	3,577
	Tebuconazole	F	2,848
	Atrazine	H	2,587
<u>CALVERT</u>	All Glyphosate	H	5,965
	All 2;4-D	H	490
<u>CAROLINE</u>	All Glyphosate	H	14,146
	Atrazine	H	6,881
	All 2;4-D	H	5,520
	S-Metolachlor	H	1,852
	Bifenthrin	I	431
<u>CARROLL</u>	All Glyphosate	H	85,540
	Atrazine	H	68,449
	S-Metolachlor	H	65,225
	Paraquat	H	37,316
	All 2;4-D	H	18,300
	Simazine	H	9,855
	Mesotrione	H	6,580
	Metribuzin	H	6,208
	Dicamba; dimet. salt	H	3,693
	Sulfentrazone	H	817
<u>CECIL</u>	All Glyphosate	H	19,346
	Chlorothalonil	F	16,315
	All 2;4-D	H	5,366
	Atrazine	H	5,097
	S-Metolachlor	H	4,471
	Butoxyethyl triclopy	H	3,550
	Bifenthrin	I	378
	Imidacloprid	I	347

TOP 10 PUBLISHABLE PESTICIDE USAGE BY COUNTY IN 2022			
County	Pesticide Common Name	Type	Pounds of Active Ingredient
<u>CECIL</u>	Carbaryl	I	185
	Lambda-cyhalothrin	I	87
<u>CHARLES</u>	All Glyphosate	H	9,477
<u>DORCHESTER</u>	All Glyphosate	H	24,826
	All 2;4-D	H	2,601
<u>FREDERICK</u>	All Glyphosate	H	103,606
	All 2;4-D	H	68,740
	Atrazine	H	44,549
	S-Metolachlor	H	39,886
	Chlorothalonil	F	33,862
	Paraquat	H	28,096
	Imidacloprid	I	11,426
	Mesotrione	H	4,572
	Metribuzin	H	2,896
	Triethylamine triclo	H	2,792
<u>GARRETT</u>	All Glyphosate	H	37,522
	All 2;4-D	H	5,929
	Atrazine	H	4,708
	Rimsulfuron	H	32
<u>HARFORD</u>	All Glyphosate	H	16,823
	All 2;4-D	H	7,753
	S-Metolachlor	H	4,759
	Atrazine	H	3,490
	Dicamba; dimet. salt	H	326
<u>HOWARD</u>	All Glyphosate	H	41,112
	Chlorothalonil	F	3,154
	All 2;4-D	H	2,357
	Bifenthrin	I	325
	Imidacloprid	I	158
<u>KENT</u>	All Glyphosate	H	63,467
	Atrazine	H	57,572
	All 2;4-D	H	10,309
	Mesotrione	H	2,486
	Imidacloprid	I	1,915
	Bifenthrin	I	380
<u>MONTGOMERY</u>	Chlorothalonil	F	31,799
	Mineral oil	I	12,021
	All Glyphosate	H	7,161
	Triethylamine triclo	H	3,148
	Dithiopyr	H	2,331
	All 2;4-D	H	2,128
	Thiophanate-methyl	F	1,708
	Pendimethalin	H	1,433

TOP 10 PUBLISHABLE PESTICIDE USAGE BY COUNTY IN 2022			
County	Pesticide Common Name	Type	Pounds of Active Ingredient
<u>MONTGOMERY</u>	Propiconazole	F	1,156
	Imidacloprid	I	293
<u>PRINCE GEORGE'S</u>	All Glyphosate	H	4,723
	All 2;4-D	H	1,119
	Bifenthrin	I	63
<u>QUEEN ANNE'S</u>	All Glyphosate	H	224,093
	All 2;4-D	H	16,552
	Captan	F	13,961
	Atrazine	H	13,200
	Mancozeb	F	5,063
	Bifenthrin	I	1,225
	Mesotrione	H	910
	Lambda-cyhalothrin	I	664
<u>SOMERSET</u>	All Glyphosate	H	16,423
	Atrazine	H	6,945
	All 2;4-D	H	1,382
<u>ST. MARY'S</u>	Imidacloprid	I	68,128
	All Glyphosate	H	24,025
	All 2;4-D	H	7,299
	Bifenthrin	I	6,810
	S-Metolachlor	H	6,498
	Atrazine	H	5,642
	Paraquat	H	3,023
	Pendimethalin	H	928
	Glufosinate-ammonium	H	583
	Mesotrione	H	296
<u>TALBOT</u>	All Glyphosate	H	15,061
	Atrazine	H	7,348
	S-Metolachlor	H	4,259
	All 2;4-D	H	1,135
	Mesotrione	H	345
	Bifenthrin	I	14
<u>WASHINGTON</u>	All Glyphosate	H	113,271
	Atrazine	H	58,444
	S-Metolachlor	H	54,080
	All 2;4-D	H	16,373
	Paraquat	H	14,048
	Chlorothalonil	F	7,897
	Chlorantraniliprole	I	7,162
	Mancozeb	F	6,271
	Mesotrione	H	4,790
	Captan	F	3,932
<u>WICOMICO</u>	All Glyphosate	H	26,617

TOP 10 PUBLISHABLE PESTICIDE USAGE BY COUNTY IN 2022			
County	Pesticide Common Name	Type	Pounds of Active Ingredient
<u>WICOMICO</u>	All 2;4-D	H	3,498
	Atrazine	H	3,472
	S-Metolachlor	H	2,188
	Paraquat	H	1,598
	Mesotrione	H	328
	Bifenthrin	I	213
	Lambda-cyhalothrin	I	150
<u>WORCESTER</u>	All Glyphosate	H	50,990
	All 2;4-D	H	34,435
	Atrazine	H	13,889
	S-Metolachlor	H	6,725
	Mesotrione	H	2,223
	Pyroxasulfone	H	207

F = Fungicide

H = Herbicide

I = Insecticide

O = Other

TOP 10 PUBLISHABLE PESTICIDES BY SEASONS IN 2024 ²			
Season	Active Ingredient	Class	Total Amount Applied (lbs)
All Four Seasons	Imidacloprid	I	81,788
	All Glyphosate	H	41,428
	Cyfluthrin	I	26,105
	Chlorothalonil	F	24,803
	All 2;4-D	H	14,936
	Bifenthrin	I	6,733
	Triethylamine triclo	H	2,299
	Lambda-cyhalothrin	I	658
	Piperonyl butoxide	I	576
	Esfenvalerate	I	372
Fall	All Glyphosate	H	7,819
	Thiophanate-methyl	F	3,561
	All 2;4-D	H	2,419
	Prosulfuron	H	183
	Bifenthrin	I	57
	Myclobutanil	F	18
Spring	All Glyphosate	H	269,267
	Atrazine	H	240,629
	S-Metolachlor	H	164,209
	All 2;4-D	H	96,874
	Simazine	H	51,134
	Paraquat	H	24,029
	Prothioconazole	F	23,432
	Metolachlor	H	18,662
	Acetochlor	H	15,450
	Mesotrione	H	14,509
Spring and Fall	All 2;4-D	H	11,524
	All Glyphosate	H	4,061
	Dicamba; dimet. salt	H	1,103
	Butoxyethyl triclopy	H	578
	Fluroxypyr 1-MHE	H	76
	Dicamba	H	73
Spring, Summer, and Fall	All Glyphosate	H	465,051
	Atrazine	H	69,834
	Chlorothalonil	F	67,707
	All 2;4-D	H	63,019
	S-Metolachlor	H	62,612
	Paraquat	H	53,522
	Fipronil	I	10,712
	Mesotrione	H	8,795
	Thiophanate-methyl	F	8,028
	Fluazinam	F	7,829
Summer	All Glyphosate	H	128,858

TOP 10 PUBLISHABLE PESTICIDES BY SEASONS IN 2024			
Season	Active Ingredient	Class	Total Amount Applied (lbs)
<u>Summer</u>	All 2;4-D	H	30,710
	Glufosinate-ammonium	H	17,131
	Captan	F	15,426
	Chlorothalonil	F	13,685
	Pendimethalin	H	13,552
	Atrazine	H	10,432
	Mono-potassium salt	F	9,561
	Clethodim	H	7,754
	S-Metolachlor	H	7,036
<u>Winter</u>	All Glyphosate	H	668

F = Fungicide
H = Herbicide
I = Insecticide
O = Other

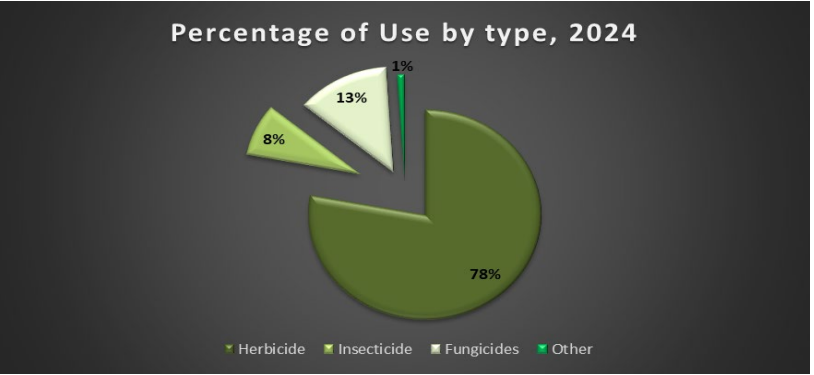
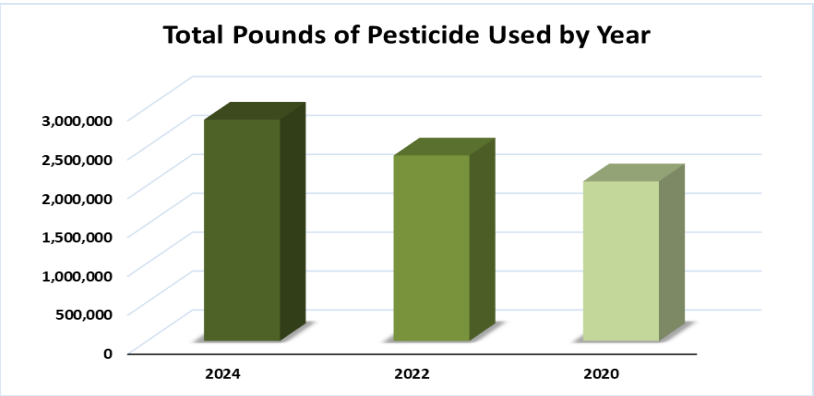
² Chemicals by season may not sum to total due to item non-response.

TOP 10 PUBLISHABLE PESTICIDES USAGE BY CROP/SITE IN 2024 ³			
Aquatic			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	All Glyphosate	H	2,315
Field Crops			
1	All Glyphosate	H	823,621
2	Atrazine	H	317,599
3	S-Metolachlor	H	212,226
4	All 2;4-D	H	167,868
5	Paraquat	H	94,635
6	Simazine	H	51,718
7	Mesotrione	H	24,753
8	Prothioconazole	F	24,566
9	Glufosinate-ammonium	H	24,158
10	Metolachlor	H	22,811
Forest			
1	All Glyphosate	H	3,244
2	Triethylamine triclo	H	2,021
3	All 2;4-D	H	1,377
4	Butoxyethyl triclopy	H	898
Fruit			
1	Captan	F	29,494
2	Mancozeb	F	13,144
3	Mineral oil	I	11,334
4	Sulfur	F	6,324
5	Mono-potassium salt	F	3,570
6	All Glyphosate	H	3,215
7	Mandipropamide Techn	F	2,616
8	Cyprodinil	F	1,769
9	Carbaryl	I	1,567
10	Chlorothalonil	F	1,398
Industrial/Structural			
1	Cyfluthrin	I	26,164
2	Imidacloprid	I	16,430
3	Fipronil	I	11,057
4	Permethrin	I	1,552
5	Bifenthrin	I	1,506
6	Piperonyl butoxide	I	1,201
7	All Glyphosate	H	1,163
8	Lambda-cyhalothrin	I	816
9	Pyriproxyfen	I	575
10	Dinotefuran	I	503
2	Chlorothalonil	F	818
3	Acephate	I	272
4	Imidacloprid	I	241
5	Thiophanate-methyl	F	101
6	Bifenthrin	I	97
7	Boscalid	F	49
8	Pyraclostrobin	F	12

Ornamental and lawns			
1	All Glyphosate	H	58,247
2	All 2;4-D	H	31,026
3	MCPA; 2-ethylhexyl	H	18,990
4	Mineral oil	I	18,838
5	Isoxaben	H	11,245
6	Chlorothalonil	F	7,580
7	Fluroxypyr 1-MHE	H	7,546
8	Prodiamine	H	7,382
9	Captan	F	3,373
10	Dithiopyr	H	3,334
Public Health			
1	Bifenthrin	I	81
2	Permethrin	I	9
Rights of way			
1	All Glyphosate	H	23,754
2	All 2;4-D	H	6,311
3	Triethylamine triclo	H	716
4	Butoxyethyl triclopy	H	375
5	Indaziflam	O	127
Turf			
1	Chlorothalonil	F	106,555
2	Thiophanate-methyl	F	15,243
3	Fluazinam	F	11,929
4	Iprodione	F	11,458
5	All 2;4-D	H	10,840
6	Mono-potassium salt	F	10,289
7	Propiconazole	F	9,495
8	Prodiamine	H	7,959
9	Tebuconazole	F	6,781
10	Chlorantraniliprole	I	6,432
Vegetables			
1	All Glyphosate	H	3,582
2	Chlorothalonil	F	2,712
3	Mancozeb	F	2,456
4	S-Metolachlor	H	1,738
5	Copper hydroxide	F	1,441
6	Atrazine	H	776
7	Thiamethoxam	I	577
8	Lambda-cyhalothrin	I	528
9	Paraquat	H	390
10	Azoxystrobin	F	357

³ Chemicals by crop/site may not sum to total due to item non-response.

COMPARISON OF PESTICIDES USE CLASSES REPORTED IN 2024, 2022 AND 2020				
		2024	2022	2020
Pesticide Class		lbs	lbs	lbs
Herbicides		2,220,012	1,933,974	1,531,812
	%of total lbs	78%	81%	75%
Insecticide		220,250	229,317	266,497
	%of total lbs	8%	10%	13%
Fungicides		368,667	212,779	234,122
	%of total lbs	13%	9%	11%
Other 1		35,405	7,966	18,818
	%of total lbs	1.2%	0.3%	0.9%
Total Usage		2,844,334	2,384,036	2,051,249



Top 10 Publishable Pesticide Usage by Type in 2024

FUNGICIDES

Rank	Pesticide Name	Total Amount Applied (lbs)
1	Chlorothalonil	120,761
2	Captan	33,010
3	Prothioconazole	24,903
4	Thiophanate-methyl	19,253
5	Propiconazole	19,029
6	Mancozeb	17,410
7	Metconazole	14,661
8	Mono-potassium salt	14,591
9	Fluazinam	12,872
10	Iprodione	12,342

Herbicides

Rank	Pesticide Name	Total Amount Applied (lbs)
1	All Glyphosate	923,976
2	Atrazine	321,480
3	S-Metolachlor	237,182
4	All 2,4-D	219,544
5	Paraquat	96,463
6	Simazine	55,825
7	Pendimethalin	39,671
8	Glufosinate-ammonium	25,892
9	Mesotrione	24,928
10	Metolachlor	23,209

Insecticides

Rank	Pesticide Name	Total Amount Applied (lbs)
1	Imidacloprid	88,167
2	Mineral oil	34,403
3	Cyfluthrin	31,160
4	Chlorantraniliprole	13,804
5	Bifenthrin	11,891
6	Fipronil	11,608
7	Lambda-cyhalothrin	6,735
8	Dimethoate	5,170
9	Permethrin	2,908
10	Carbaryl	2,098

Other

Rank	Pesticide Name	Total Amount Applied (lbs)
1	Diphacinone	22,347
2	Indaziflam	6,399
3	Ethephon	2,042
4	Trinexapac-ethyl	1,329
5	Prohexadione calcium	1,051
6	Flutriafol	591
7	Hydrogen peroxide	544
8	Acibenzolar-S-Methyl	189
9	Clopyralid; triethanolamine	161
10	Paclobutrazol	142

MARYLAND PESTICIDE STATISTICS for 2024 Issued

cooperatively by

Maryland Department of Agriculture
Kevin Atticks, Secretary
Steve Connelly, Deputy Secretary

U. S. Department of Agriculture
National Agricultural Statistics Service
Joseph L. Parsons, Administrator

U.S. Department of Agriculture National Agricultural Statistics Service
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Maryland Pesticide Regulation Section

The Pesticide Regulation Section administers Maryland's Pesticide Applicator's Law, approves training courses in the handling, storage, and use of pesticides, conducts examinations to determine that pesticide applicators are competent to follow prescribed pest control practices, enforces federal laws on the sale and use of pesticides, and investigates pesticide accidents or incidents and consumer complaints on pesticide misuse. To find out more, call Pesticide Regulation at (410) 841-5710.

WHY SHOULD I RESPOND TO THIS SURVEY?

The Maryland Pesticide Survey has been conducted since 1985, this survey is the only comprehensive measure of pesticide use in Maryland. The results from the survey helps the Maryland Department of Agriculture (MDA) develop appropriate programs for Maryland farmers and pest control operators. This survey also provides information necessary for rational decisions regarding pesticide usage, laws, and regulations. The survey results provide a reliable, source of public information for all members of our industry, as well as for industry representatives working with policy makers at the State and national levels.

Eligible applicators that completed the 2024 Pesticide Survey obtained full credit towards their pesticide applicator certification. Plans are in place to offer this incentive again for the next survey cycle. The National Agricultural Statistics Service (NASS) is committed to preserving the confidentiality of respondent's identities by protecting information that could be used to identify individual respondents. The results of this survey will be available in aggregate form only, ensuring that no individual operation or producer can be identified, as required by federal law. For more information about NASS's confidentiality Pledge please go to the following website (USDA - National Agricultural Statistics Service - About NASS - Confidentiality Pledge).