

**MARYLAND PESTICIDE STATISTICS
for 2014**

Issued cooperatively by

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Introduction

This publication contains estimates for specific pesticides used in Maryland during calendar year 2014. 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. Data collection and summarization were completed by NASS, 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 2015 to estimate the amounts and types of pesticides applied in calendar year 2014 by Maryland farm operators, certified private pesticide applicators, commercially licensed businesses, and public agencies. The survey consisted of a sample of 1,500 farmers, 2,597 certified private applicators, 1,697 commercially licensed businesses, and 310 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.

In June 2015, questionnaires were mailed to all sampled operations, businesses, and agencies, with a reminder postcard mailing and second questionnaire mailing to non-respondents occurring in July 2015. Responses were received from 821 (55%) of the sampled farmers, 1053 (41 %) certified private applicators, 573 (34%) commercially licensed businesses, and 163 (53%) 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 a 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 are 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 - Ranked According to Pounds Used

Rank	Pesticide Common Name	lbs		Rank	Pesticide Common Name	lbs
1	Glyphosate	634,954		47	Acephate	6,743
2	Atrazine	256,548		48	Thiophanate-methyl	6,726
3	Simazine	229,855		49	Copper sulfate	6,716
4	Prodiamine	218,432		50	Carbaryl	6,500
5	Fipronil	216,180		51	Dicamba; dimet. salt	6,401
6	2;4-D	171,077		52	MCPA; 2-ethylhexyl	6,325
7	Pendimethalin	154,511		53	Triethylamine triclo	6,273
8	Imidacloprid	150,286		54	Metribuzin	6,027
9	S-Metolachlor	144,532		55	Propamocarb hydroch.	5,132
10	Chlorothalonil	119,158		56	Acetochlor	5,033
11	Paraquat Dichloride	103,654		57	Azoxystrobin	4,480
12	Mineral oil	60,981		58	Quinclorac	4,428
13	Thiabendazole (TBZ)	48,549		59	Sulfuryl fluoride	4,378
14	Thifensulfuron	44,943		60	Silicon dioxide	3,947
15	Metolachlor	40,030		61	Methomyl	3,906
16	Dithiopyr	34,946		62	Chlorpyrifos	3,904
17	Clopyralid mono salt	32,029		63	Dimethenamid-P	3,894
18	Beta-cyfluthrin	29,863		64	All 2;4-DP	3,828
19	Tribenuron-methyl	22,283		65	Dicamba; digly. salt	3,753
20	Clethodim	20,907		66	Fenoxaprop-p-ethyl	3,719
21	Cyfluthrin	20,727		67	Pyroxasulfone	3,480
22	Bifenthrin	20,355		68	Fluroxypyr 1-MHE	3,155
23	Pyriproxyfen	19,737		69	Isopropyl alcohol	3,101
24	Mesotrione	14,606		70	Ziram	3,064
25	Mancozeb	14,300		71	Fomesafen Sodium	3,053
26	Captan	13,481		72	Triadimefon	2,955
27	MCPP-P; DMA Salt	12,251		73	Deltamethrin	2,901
28	Iprodione	12,157		74	Picloram; K salt	2,834
29	Disod. Octa. tetra.	12,142		75	Indoxacarb	2,631
30	Cypermethrin	11,191		76	Tebuconazole	2,537
31	Mono-potassium salt	11,116		77	Chlorantraniliprole	2,399
32	Fosetyl-al	10,726		78	Petroleum distillate	2,378
33	Diquat dibromide	10,599		79	Kaolin	2,273
34	Butoxyethyl triclopy	10,015		80	Dimethoate	2,186
35	MCPA; dimethyl. salt	9,398		81	Chlorfenapyr	2,181
36	Propiconazole	9,193		82	Ametoctradin	2,121
37	Lambda-cyhalothrin	8,750		83	Isoxaben	2,042
38	Sulfentrazone	8,589		84	Acetamiprid	2,030
39	Oryzalin	8,581		85	Trifluralin	1,964
40	Boric acid	8,441		86	Flumioxazin	1,954
41	Piperonyl butoxide	8,351		87	Copper triethanolamine comp.	1,879
42	Sethoxydim	7,948		88	Ethofenprox	1,845
43	Trichlorfon	7,554		89	Difenoconazole	1,800
44	Cyazofamid	7,435		90	Vinclozolin	1,792
45	Permethrin	7,328		91	Methyl bromide	1,757
46	Sulfur	7,105		92	Phosmet	1,646

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93	Diuron	1,627	140	Indaziflam	589
94	Aminocyclopyrachlor	1,619	141	Fosamine	532
95	Dimethomorph	1,595	142	Myclobutanil	500
96	Dipot. endothall	1,528	143	Zeta-cypermethrin	497
97	Copper ethanolamine	1,490	144	Maleic hydrazide	496
98	Imazapyr; iso. salt	1,469	145	Diflufenzopyr-sodium	458
99	Sodium Percarbonate	1,457	146	Glufosinate-ammonium	455
100	Imazethapyr	1,450	147	All 2;4-DB	444
101	Copper chloride hyd.	1,360	148	Cyprodinil	411
102	Pyraclostrobin	1,315	149	Pyrimethanil	392
103	Clomazone	1,240	150	Flurprimidol	356
104	Trifloxystrobin	1,227	151	Isoxaflutole	354
105	Spiromesifen	1,208	152	Diazinon	353
106	Paclbutrazol	1,158	153	Propanoic acid	342
107	Dicamba; sodium salt	1,155	154	Hydrogen peroxide	334
108	Clopyralid	1,146	155	Aminopyralid potassium salt	330
109	Copper hydroxide	1,129	156	Endosulfan	330
110	Chlorimuron-ethyl	1,075	157	Ethalfuralin	329
111	Bensulide	1,057	158	Bifenazate	321
112	Oxyfluorfen	1,042	159	Tetraconazole	317
113	Saflufenacil	1,015	160	Silica gel	316
114	Carbon dioxide	988	161	Fluazifop-P-butyl	315
115	Prothioconazole	988	162	Fluxapyroxad	314
116	Sulfometuron methyl	987	163	Rimsulfuron	312
117	Boscalid	976	164	Chlorsulfuron	303
118	Etridiazole	955	165	Alkyl. dim. benz. am	297
119	Fluridone	916	166	Polyoxin D zinc salt	292
120	(7S)-Hydroprene	911	167	Tritconazole	290
121	Alpha cypermethrin	905	168	Sedaxane	288
122	Mefenoxam	893	169	Flumetsulam	281
123	DCPA	831	170	Spinosad	262
124	Metconazole	822	171	Pyrethrins	254
125	Calcium polysulfide	809	172	Bentazon	254
126	Basic copper sulfate	797	173	Streptomycin sulfate	248
127	Fluazinam	795	174	Alk. dim. benzyl 60%	240
128	Trinexapac-ethyl	764	175	Thiencarbazone-methy	231
129	Penthiopyrad	760	176	Dichlobenil	228
130	Oxadiazon	739	177	Cloransulam-methyl	228
131	Malathion	737	178	Dimethyldioctyl	226
132	Prometon	723	179	Prosulfuron	225
133	Dicamba	705	180	Fluopyram	221
134	Metsulfuron-methyl	674	181	Neem oil; clar. hyd.	220
135	EPTC	663	182	Alk. dim. ethbz. am.	215
136	Triclopyr	656	183	Imazethapyr; ammon.	204
137	Ethephon	648	184	Fenhexamid	203
138	Octacide-264	619	185	Esfenvalerate	199
139	Fludioxonil	616	186	Triisopropanolamine	193

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187	Pelargonic acid	189	234	Canola oil	22
188	Dodine	186	235	Acibenzolar-S-Methyl	22
189	Sodium metaborate	167	236	Diflubenzuron	20
190	Sodium chlorate	166	237	Spinetoram	20
191	Fluthiacet-methyl	154	238	Thidiazuron	20
192	Mefluidide; diet.	154	239	Oxytetracycline hydrochloride	19
193	Napropamide	145	240	Phenothrin	16
194	Halosulfuron-methyl	142	241	Triflumizole	16
195	Clothianidin	140	242	Fenpyroximate	15
196	Nicosulfuron	134	243	Spirotetramat	15
197	Daminozide	132	244	Quinoline	14
198	Fenbuconazole	130	245	Foramsulfuron	14
199	Neem oil	122	246	Borax decahydrate	12
200	Famoxadone	120	247	Dichlorvos	12
201	Cymoxanil	120	248	Imazapic-ammonium	12
202	Pinoxaden	113	249	Cytokinins	11
203	Bromoxynil octanoate	92	250	Carfentrazone-ethyl	10
204	Methyl anthranilate	91	251	Potassium bicarbon.	9
205	Cyproconazole	91	252	Methiocarb	9
206	Buprofezin	90	253	Noviflumuron	9
207	Dinotefuran	89	254	Prallethrin	9
208	Thiamethoxam	78	255	Hexythiazox	9
209	Fenpropathrin	76	256	Kantor	9
210	Potassium salts	74	257	Chlormequat chloride	7
211	Flumiclorac-pentyl	73	258	Thiabendazole hypophosphite	7
212	Topramezone	71	259	Indolebutyric acid	6
213	Methoxyfenozide	69	260	Peroxyacetic acid	6
214	Novaluron	69	261	Diphacinone	6
215	Capsaicin	68	262	Etoxazole	6
216	Kresoxim-methyl	64	263	Benzyladenine	5
217	Propetamphos	60	264	Gibberellins A4A7	5
218	Metrafenone	59	265	Bromacil	4
219	Fluopicolide	57	266	Fenamidone	4
220	Aluminum phosphide	52	267	Aprocarb	4
221	Zinc phosphide	49	268	Hydramethylnon	4
222	Fluvalinate	49	269	Copper octanoate	3
223	Clopyralid; triethanolamine	49	270	Reynoutria sachaline	3
224	Bt kurstaki ABTS-351	47	271	Tricosene	3
225	Pymetrozine	47	272	Azadirachtin	3
226	Naphthalene	40	273	Emamectin benzoate	3
227	S-Methoprene	38	274	Tetramethrin	2
228	Abamectin	38	275	2-Phenylethyl propionate	2
229	Oxytetracycline calc	37	276	S-Kinoprene	2
230	Imazamox	36	277	Bromadiolone	2
231	Spirodiclofen	35	278	Flonicamid	2
232	Spinetoram-J	32	279	Imazapyr	2
233	Spinetoram-L	32	280	Pyridalyl	2

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281	Penoxsulam	1				
282	Cyromazine	1				
283	Clofentezine	1				
284	Difethialone	1				
285	Pyridaben	1				
286	Cholecalciferol	1				
Total Active Ingredients Publishable		3,257,692				
Total Active Ingredients Non-Publishable		1,704,369				
Total Active Ingredients Reported		4,962,061				

State Pesticide Usage Publishable Estimates - Alphabetical

Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
120	(7S)-Hydroprene	911	81	Chlorfenapyr	2,181
6	2,4-D	171,077	110	Chlorimuron-ethyl	1,075
275	2-Phenylethyl propionate	2	257	Chlormequat chloride	7
228	Abamectin	38	10	Chlorothalonil	119,158
47	Acephate	6,743	62	Chlorpyrifos	3,904
84	Acetamiprid	2,030	164	Chlorsulfuron	303
56	Acetochlor	5,033	286	Cholecalciferol	1
235	Acibenzolar-S-Methyl	22	20	Clethodim	20,907
174	Alk. dim. benzyl 60%	240	283	Clofentezine	1
182	Alk. dim. ethbz. am.	215	103	Clomazone	1,240
165	Alkyl. dim. benz. am	297	108	Clopyralid	1,146
147	All 2;4-DB	444	17	Clopyralid mono salt	32,029
64	All 2;4-DP	3,828	223	Clopyralid; triethanolamine	49
121	Alpha cypermethrin	905	177	Cloransulam-methyl	228
220	Aluminum phosphide	52	195	Clothianidin	140
82	Ametoctradin	2,121	101	Copper chloride hyd.	1,360
94	Aminocyclopyrachlor	1,619	97	Copper ethanolamine	1,490
155	Aminopyralid potassium salt	330	109	Copper hydroxide	1,129
267	Aprocarb	4	269	Copper octanoate	3
2	Atrazine	256,548	49	Copper sulfate	6,716
272	Azadirachtin	3	201	Cymoxanil	120
57	Azoxystrobin	4,480	30	Cypermethrin	11,191
126	Basic copper sulfate	797	205	Cyproconazole	91
111	Bensulide	1,057	148	Cyprodinil	411
172	Bentazon	254	282	Cyromazine	1
263	Benzyladenine	5	249	Cytokinins	11
18	Beta-cyfluthrin	29,863	197	Daminozide	132
158	Bifenazate	321	123	DCCA	831
22	Bifenthrin	20,355	73	Deltamethrin	2,901
246	Borax decahydrate	12	152	Diazinon	353
40	Boric acid	8,441	133	Dicamba	705
117	Boscalid	976	65	Dicamba; digly. salt	3,753
265	Bromacil	4	51	Dicamba; dimet. salt	6,401
277	Bromadiolone	2	107	Dicamba; sodium salt	1,155
203	Bromoxynil octanoate	92	176	Dichlobenil	228
224	Bt kurstaki ABTS-351	47	247	Dichlorvos	12
206	Buprofezin	90	89	Difenoconazole	1,800
34	Butoxyethyl triclopy	10,015	284	Difethialone	1
125	Calcium polysulfide	809	236	Diflubenzuron	20
234	Canola oil	22	145	Diflufenzopyr-sodium	458
215	Capsaicin	68	63	Dimethenamid-P	3,894
26	Captan	13,481	80	Dimethoate	2,186
50	Carbaryl	6,500	95	Dimethomorph	1,595
114	Carbon dioxide	988	178	Dimethyldioctyl	226
250	Carfentrazone-ethyl	10	207	Dinotefuran	89
77	Chlorantraniliprole	2,399	261	Diphacinone	6

State Pesticide Usage Publishable Estimates - Alphabetical

Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
96	Dipot. endothall	1,528	255	Hexythiazox	9
33	Diquat dibromide	10,599	268	Hydramethylnon	4
29	Disod. Octa. tetra.	12,142	154	Hydrogen peroxide	334
16	Dithiopyr	34,946	230	Imazamox	36
93	Diuron	1,627	248	Imazapic-ammonium	12
188	Dodine	186	279	Imazapyr	2
273	Emamectin benzoate	3	98	Imazapyr; iso. salt	1,469
156	Endosulfan	330	100	Imazethapyr	1,450
135	EPTC	663	183	Imazethapyr; ammon.	204
185	Esfenvalerate	199	8	Imidacloprid	150,286
157	Ethalfuralin	329	140	Indaziflam	589
137	Ethephon	648	259	Indolebutyric acid	6
88	Ethofenprox	1,845	75	Indoxacarb	2,631
262	Etoxazole	6	28	Iprodione	12,157
118	Etridiazole	955	69	Isopropyl alcohol	3,101
200	Famoxadone	120	83	Isoxaben	2,042
266	Fenamidone	4	151	Isoxaflutole	354
198	Fenbuconazole	130	256	Kantor	9
184	Fenhexamid	203	79	Kaolin	2,273
66	Fenoxaprop-p-ethyl	3,719	216	Kresoxim-methyl	64
209	Fenpropathrin	76	37	Lambda-cyhalothrin	8,750
242	Fenpyroximate	15	131	Malathion	737
5	Fipronil	216,180	144	Maleic hydrazide	496
278	Flonicamid	2	25	Mancozeb	14,300
161	Fluazifop-P-butyl	315	52	MCPA; 2-ethylhexyl	6,325
127	Fluazinam	795	35	MCPA; dimethyl. salt	9,398
139	Fludioxonil	616	27	MCPP-P; DMA Salt	12,251
169	Flumetsulam	281	122	Mefenoxam	893
211	Flumiclorac-pentyl	73	192	Mefluidide; diet.	154
86	Flumioxazin	1,954	24	Mesotrione	14,606
219	Fluopicolide	57	124	Metconazole	822
180	Fluopyram	221	252	Methiocarb	9
119	Fluridone	916	61	Methomyl	3,906
68	Fluroxypyr 1-MHE	3,155	213	Methoxyfenozide	69
150	Flurprimidol	356	204	Methyl anthranilate	91
191	Fluthiacet-methyl	154	91	Methyl bromide	1,757
222	Fluvalinate	49	15	Metolachlor	40,030
162	Fluxapyroxad	314	218	Metrafenone	59
71	Fomesafen Sodium	3,053	54	Metribuzin	6,027
245	Foramsulfuron	14	134	Metsulfuron-methyl	674
141	Fosamine	532	12	Mineral oil	60,981
32	Fosetyl-al	10,726	31	Mono-potassium salt	11,116
264	Gibberellins A4A7	5	142	Myclobutanil	500
146	Glufosinate-ammonium	455	226	Naphthalene	40
1	Glyphosate	634,954	193	Napropamide	145
194	Halosulfuron	142	199	Neem oil	122

State Pesticide Usage Publishable Estimates - Alphabetical

Rank	Pesticide Common Name	lbs	Rank	Pesticide Common Name	lbs
181	Neem oil; clar. hyd.	220	270	Reynoutria sachaline	3
196	Nicosulfuron	134	163	Rimsulfuron	312
214	Novaluron	69	276	S-Kinoprene	2
253	Noviflumuron	9	227	S-Methoprene	38
138	Octacide-264	619	9	S-Metolachlor	144,532
39	Oryzalin	8,581	113	Saflufenacil	1,015
130	Oxadiazon	739	168	Sedaxane	288
112	Oxyfluorfen	1,042	42	Sethoxydim	7,948
229	Oxytetracycline calc	37	160	Silica gel	316
239	Oxytetracycline hydrochloride	19	60	Silicon dioxide	3,947
106	Paclobutrazol	1,158	3	Simazine	229,855
11	Paraquat Dichloride	103,654	190	Sodium chlorate	166
187	Pelargonic acid	189	189	Sodium metaborate	167
7	Pendimethalin	154,511	99	Sodium Percarbonate	1,457
281	Penoxsulam	1	237	Spinetoram	20
129	Penthiopyrad	760	232	Spinetoram-J	32
45	Permethrin	7,328	233	Spinetoram-L	32
260	Peroxyacetic acid	6	170	Spinosad	262
78	Petroleum distillate	2,378	231	Spirodiclofen	35
240	Phenothrin	16	105	Spiromesifen	1,208
92	Phosmet	1,646	243	Spirotetramat	15
74	Picloram; K salt	2,834	173	Streptomycin sulfate	248
202	Pinoxaden	113	38	Sulfentrazone	8,589
41	Piperonyl butoxide	8,351	116	Sulfometuron methyl	987
166	Polyoxin D zinc salt	292	46	Sulfur	7,105
251	Potassium bicarbon.	9	59	Sulfuryl fluoride	4,378
210	Potassium salts	74	76	Tebuconazole	2,537
254	Prallethrin	9	159	Tetraconazole	317
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132	Prometon	723	13	Thiabendazole (TBZ)	48,549
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36	Propiconazole	9,193	175	Thiencarbazone-methy	231
179	Prosulfuron	225	14	Thifensulfuron	44,943
115	Prothioconazole	988	48	Thiophanate-methyl	6,726
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102	Pyraclostrobin	1,315	72	Triadimefon	2,955
171	Pyrethrins	254	19	Tribenuron-methyl	22,283
285	Pyridaben	1	43	Trichlorfon	7,554
280	Pyridalyl	2	136	Triclopyr	656
149	Pyrimethanil	392	271	Tricosene	3
23	Pyriproxyfen	19,737	53	Triethylamine triclo	6,273
67	Pyroxasulfone	3,480	104	Trifloxystrobin	1,227
58	Quinclorac	4,428	241	Triflumizole	16
244	Quinoline	14	85	Trifluralin	1,964

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Rank	Pesticide Common Name	lbs			
186	Triisopropanolamine	193			
128	Trinexapac-ethyl	764			
167	Tritconazole	290			
90	Vinclozolin	1,792			
143	Zeta-cypermethrin	497			
221	Zinc phosphide	49			
70	Ziram	3,064			
		3,257,692			

Pesticides Reported But Not Publishable ¹

NAME	TYPE
(S)-S 3307	O
(Z;E)-9;12-Tetradecadienyl acetate	O
1-Octanol	O
2;4-D; isoprop. salt	H
Acequinocyl	I
Alachlor	H
Alk. dim. benzyl 50%	O
Alk. dim. eth. benz.	O
Allethrin	I
Aminopyridine	O
Amitraz	I
Amm. Soap Fatty Acid	O
Ancymidol	O
Arsenic pentoxide	I
Bacillus amyloliquefaciens strain D747	F
Bacillus pumilus	F
Bacillus subtilis	F
Beauveria bassiana	I
Benefin	H
Brodifacoum	O
Bromacil; lithium salt	O
Bromethalin	O
Bt CryIII(A) DE plus genetic material	I
Bt israelensis AM 65-52	O
Bt kurstaki BMP123	I
Bt kurstaki SA-12; sol;spor;insect tox	O
Bt subsp. kurstaki	I
Bt. kurstaki SA-11	I
Butenoic Acid Hydro.	O
Caprylic acid	O
Carboxin	F
Chlorophacinone	O
Chloropicrin	O
Chlorpyrifos-methyl	I
Chromic acid	I
Chromobac subtsugae PRAA4-1 cells and spent media	I
Copper ethylenediamine complex	H
Copper oxide	F
Copper resinate	F
Cube Resins; Other	I
Cupric oxide	I
Cycloate	H
Cyflufenamid	F
Cyflumetofen	I
D - Limonene	H
Decanol	O
Decenyl acetate	O
Dichloropropene	O

Pesticides Reported But Not Publishable ¹

NAME	TYPE
Diphacinone sodium salt	O
Diphenylamine	O
Dodecadien-1-ol	O
Dodecanol	O
E-8-Dodecenyl acetat	O
Egg solids	O
Endothall; mono(N;N-dimethylcocoam) salt	O
Erioglaucine	H
Ethofumesate	H
Farnesol	O
Fenarimol	F
Fenbutatin-oxide	I
Fenoxycarb	I
Flubendiamide	I
Flucarbazone-sodium	H
Flufenacet	H
Flumetralin	O
Fluoxastrobin	F
Flutolanil	F
Fomesafen	H
Fonofos	I
Gamma-cyhalothrin	I
Garlic oil	O
Halofenozide	I
Harpin protein	O
Hexazinone	H
Imazaquin; mon. salt	H
Imiprothrin	I
Iron phosphate	O
Kinetin	O
Lactofen	H
Lavandulyl senecioat	O
Linalyl alcohol	I
Linuron	H
Mandipropamide Techn	F
Mepiquat chloride	O
Mesosulfuron-Methyl	H
Metalaxyl	F
Metaldehyde	O
Metam-sodium	O
Metiram	F
MSMA	H
NAA; Sodium	O
Nerolidol	O
Norflurazon	H
Oil of thyme	I
Oxamyl	I
Paecilomyces fumosor	O

Pesticides Reported But Not Publishable ¹

NAME	TYPE
PCNB	F
Phorate	I
Picloram; triisoprop	H
Picoxystrobin	F
Pirimicarb	I
Pirimiphos-methyl	I
POE isoctadecanol	I
Polybutene	O
Potassium Phosphate	F
Primisulfuron-methyl	H
Prohexadione calcium	O
Prohydrojasmon	O
Propanil	H
Pyraflufen-ethyl	H
Rotenone	I
Siduron	H
Sodium chlorite	O
Sodium hypochlorite	O
Soybean oil	I
Spores of bacillus popilliae	I
Streptomyces lydicus	F
Strychnine	O
Sulfosulfuron	H
Sulfoxaflor	I
Sulfuric Acid	O
Tartrazine	H
Tebufenozide	I
Tefluthrin	I
Tembotrione	H
Terbacil	H
Tetrachlorvinphos (Z-isomer)	I
Tetradecanol	O
Thiacloprid	I
Thiobencarb	H
Thiophanate	F
Thiram	F
Triforine	F
Vernolate	H
Warfarin	O
Z-8-Dodecanol	O
Z-8-Dodecen acetate	O

¹ Not publishable due to disclosure or less than 1 pound reported.

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

Top 10 Publishable Pesticides Usage by Crop in 2014

Field Crops			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Glyphosate	H	448,443
2	Atrazine	H	254,294
3	Simazine	H	228,003
4	S-Metolachlor	H	142,121
5	Pendimethalin	H	131,698
6	Paraquat Dochloride	H	101,264
7	2;4-D	H	48,957
8	Thifensulfuron	H	44,922
9	Metolachlor	H	30,794
10	Tribenuron-methyl	H	22,277

Fruit			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Mineral oil	O	20,610
2	Captan	F	10,887
3	Mancozeb	F	9,497
4	Mono-potassium salt	F	9,441
5	Sulfur	F	5,710
6	Glyphosate	H	3,771
7	Ziram	F	3,063
8	Oryzalin	H	3,040
9	Chlorpyrifos	I	1,948
10	Kaolin	I	1,745

Vegetables			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Metolachlor	H	9,113
2	Glyphosate	H	5,814
3	Chlorothalonil	F	3,517
4	S-Metolachlor	H	1,407
5	Clomazone	H	1,180
6	Paraquat Dichloride	H	1,039
7	Propamocarb hydroch.	F	592
8	Methomyl	I	525
9	Trifluralin	H	438
10	Copper hydroxide	F	406

Top 10 Publishable Pesticides Usage by Crop in 2014

Nursery/Greenhouse - Commercial			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Chlorothalonil	F	13,509
2	Mineral oil	O	9,475
3	Glyphosate	H	7,011
4	Petroleum distillate	I	1,618
5	Etridiazole	F	815
6	Thiophanate-methyl	F	762
7	2;4-D	H	697
8	Simazine	H	424
9	Isoxaben	H	421
10	Pendimethalin	H	412

Ornamental and Lawns			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Prodiamine	H	203,185
2	Glyphosate	H	84,574
3	2;4-D	H	77,329
4	Chlorothalonil	F	36,284
5	Dithiopyr	H	29,124
6	Clopyralid mono salt	H	25,218
7	Mineral oil	O	24,187
8	Bifenthrin	I	10,771
9	Imidacloprid	I	10,150
10	MCP-P; DMA Salt	H	10,044

Turf - Production			
Rank	Pesticide Common Name	Type	Pounds Active Ingredient
1	Chlorothalonil	F	28,639
2	2;4-D	H	9,221
3	Iprodione	F	7,615
4	Dithiopyr	H	5,624
5	Fosetyl-al	F	5,539
6	Glyphosate	H	3,909
7	Thiophanate-methyl	F	3,388
8	Propamocarb hydroch.	F	3,178
9	MCPA; 2-ethylhexyl	H	2,182
10	Butoxyethyl triclopy	H	2,144

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

Top 10 Publishable Pesticide Usage by County in 2014

County	Pesticide Common Name	Type	Pounds Active Ingredient
ALLEGANY	Glyphosate	H	7,867
	2;4-D	H	1,228
	Picloram; K salt	H	1,130
	Disod. Octa. tetra.	I	931
	Beta-cyfluthrin	I	327
	Aminopyralid potassium salt	H	221
	Imidacloprid	I	194
	Bifenthrin	I	133
	Lambda-cyhalothrin	I	86
	Pyriproxyfen	I	76
ANNE ARUNDEL	Fipronil	I	190,450
	Glyphosate	H	13,974
	2;4-D	H	8,733
	Imidacloprid	I	7,184
	Pyriproxyfen	I	6,753
	Beta-cyfluthrin	I	5,989
	Boric acid	I	2,712
	MCPA; dimethyl. salt	H	2,299
	Atrazine	H	2,202
	Pendimethalin	H	2,154
BALTIMORE	Glyphosate	H	53,133
	2;4-D	H	27,306
	Imidacloprid	I	21,530
	Cyfluthrin	I	20,029
	Chlorothalonil	F	18,499
	S-Metolachlor	H	16,635
	Atrazine	H	16,279
	Prodiamine	H	13,753
	Paraquat Dichloride	H	10,044
	Mineral oil	O	7,668
CALVERT	Imidacloprid	I	24,388
	Glyphosate	H	5,062
	Atrazine	H	2,708
	Mineral oil	O	2,421
	Paraquat Dichloride	H	2,142
	Thifensulfuron	H	620
	2;4-D	H	450
	Fipronil	I	146
	Bifenthrin	I	83
	Beta-cyfluthrin	I	81

Top 10 Publishable Pesticide Usage by County in 2014

CAROLINE	Glyphosate	H	26,494
	Atrazine	H	12,960
	S-Metolachlor	H	9,009
	Simazine	H	4,354
	2;4-D	H	3,370
	Mineral oil	O	2,195
	Chlorothalonil	F	1,659
	Paraquat Dichloride	H	1,308
	Mesotrione	H	1,019
	Captan	F	909
CARROLL	Pendimethalin	H	112,428
	Glyphosate	H	61,284
	Atrazine	H	50,298
	S-Metolachlor	H	38,036
	Paraquat Dichloride	H	31,556
	2;4-D	H	25,817
	Simazine	H	18,716
	Thifensulfuron	H	13,591
	Fipronil	I	10,390
	Tribenuron-methyl	H	6,772
CECIL	Chlorothalonil	F	13,144
	Glyphosate	H	11,589
	Mineral oil	O	9,571
	Atrazine	H	5,264
	2;4-D	H	3,915
	Captan	F	2,773
	Pendimethalin	H	2,055
	S-Metolachlor	H	1,824
	Imidacloprid	I	569
	Thiophanate-methyl	F	529
CHARLES	Glyphosate	H	6,005
	Imidacloprid	I	5,570
	2;4-D	H	2,231
	Acetochlor	H	1,390
	Atrazine	H	973
	Pyriproxyfen	I	846
	Bifenthrin	I	421
	Beta-cyfluthrin	I	221
	MCP-P; DMA Salt	H	179
	Cypermethrin	I	177
DORCHESTER	Glyphosate	H	26,735
	Atrazine	H	16,170
	S-Metolachlor	H	4,187

Top 10 Publishable Pesticide Usage by County in 2014

DORCHESTER (con't)	Permethrin	I	1,239
	Difenoconazole	F	470
	Beta-cyfluthrin	I	461
	Imidacloprid	I	369
	Bifenthrin	I	252
	Indoxacarb	I	158
	Lambda-cyhalothrin	I	139
FREDERICK	Simazine	H	159,303
	Glyphosate	H	54,620
	Chlorothalonil	F	46,910
	Atrazine	H	18,211
	2;4-D	H	12,974
	Bifenthrin	I	8,970
	S-Metolachlor	H	8,368
	Dithiopyr	H	5,859
	Paraquat Dichloride	H	5,753
	Mono-potassium salt	F	4,726
GARRETT	Glyphosate	H	9,451
	S-Metolachlor	H	6,789
	Imidacloprid	I	6,346
	Atrazine	H	3,801
	Metolachlor	H	2,094
	Mesotrione	H	469
	Pendimethalin	H	368
	2;4-D	H	258
	2;4-DB	H	195
	Dicamba; dimet. salt	H	164
HARFORD	2;4-D	H	19,447
	Glyphosate	H	15,384
	Atrazine	H	14,589
	Paraquat Dichloride	H	8,337
	S-Metolachlor	H	6,836
	Thifensulfuron	H	5,557
	Simazine	H	3,593
	Chlorothalonil	F	3,116
	Prodiamine	H	2,948
	Tribenuron-methyl	H	2,770
HOWARD	Glyphosate	H	23,936
	S-Metolachlor	H	10,833
	Atrazine	H	10,590
	2;4-D	H	9,605
	Fipronil	I	9,480
	Propiconazole	F	5,839

Top 10 Publishable Pesticide Usage by County in 2014

HOWARD (con't)	Paraquat Dichloride	H	3,604
	Imidacloprid	I	3,148
	Thifensulfuron	H	2,922
	Chlorothalonil	F	2,779
KENT	Glyphosate	H	31,754
	Atrazine	H	7,606
	S-Metolachlor	H	4,262
	2;4-D	H	3,356
	Simazine	H	3,130
	Mono-potassium salt	F	476
	Imidacloprid	I	270
	Thifensulfuron	H	257
	Bifenthrin	I	232
	Difenoconazole	F	184
MONTGOMERY	Glyphosate	H	28,791
	Atrazine	H	18,717
	Chlorothalonil	F	12,508
	S-Metolachlor	H	9,161
	Fosetyl-al	F	6,070
	Paraquat Dichloride	H	5,764
	Mineral oil	O	5,657
	Dithiopyr	H	5,584
	Iprodione	F	5,520
	2;4-D	H	5,109
PRINCE GEORGE'S	Imidacloprid	I	17,076
	Glyphosate	H	8,121
	Beta-cyfluthrin	I	6,695
	Piperonyl butoxide	I	6,257
	Silicon dioxide	I	3,243
	Fipronil	I	2,487
	Pyriproxyfen	I	1,933
	Mineral oil	O	1,851
	Atrazine	H	1,756
	Boric acid	I	1,510
QUEEN ANNE'S	Glyphosate	H	45,283
	Atrazine	H	7,739
	2;4-D	H	5,762
	S-Metolachlor	H	2,963
	Mono-potassium salt	F	692
	Simazine	H	418
	Pendimethalin	H	400
	Captan	F	349
	Imidacloprid	I	283

Top 10 Publishable Pesticide Usage by County in 2014

QUEEN ANNE'S (con't)	Pyriproxyfen	I	235
SOMERSET	Glyphosate	H	10,040
	2;4-D	H	1,019
	Indoxacarb	I	2
ST. MARY'S	Imidacloprid	I	55,344
	Glyphosate	H	12,970
	Atrazine	H	6,864
	S-Metolachlor	H	5,476
	Paraquat Dichloride	H	2,661
	Chlorothalonil	F	2,199
	Pendimethalin	H	1,483
	Simazine	H	1,466
	Thifensulfuron	H	1,057
	2;4-D	H	788
TALBOT	Glyphosate	H	62,403
	Clethodim	H	19,366
	2;4-D	H	7,185
	Atrazine	H	5,783
	Metolachlor	H	2,900
	Paraquat Dichloride	H	2,693
	MCPP-P; DMA Salt	H	1,528
	Copper triethanolamine complex	O	1,401
	Copper ethanolamine	H	1,097
	Diquat dibromide	H	379
WASHINGTON	Atrazine	H	32,002
	Clopyralid mono salt	H	25,444
	2;4-D	H	24,223
	Glyphosate	H	23,756
	Paraquat Dichloride	H	11,850
	Thifensulfuron	H	8,692
	Mineral oil	O	7,550
	Mancozeb	F	4,851
	Tribenuron-methyl	H	4,329
	Disod. Octa. tetra.	I	4,198
WICOMICO	Glyphosate	H	13,634
	2;4-D	H	2,763
	S-Metolachlor	H	2,521
	Atrazine	H	1,445
	Deltamethrin	I	687
	Beta-cyfluthrin	I	396
	Lambda-cyhalothrin	I	162
	Indoxacarb	I	152

Top 10 Publishable Pesticide Usage by County in 2014

WICOMICO (con't)	Boric acid	I	141
	Difenoconazole	F	136
WORCESTER	Glyphosate	H	82,612
	Atrazine	H	19,221
	Paraquat Dichloride	H	14,771
	S-Metolachlor	H	10,356
	Deltamethrin	I	2,055
	Dicamba; dimet. salt	H	1,524
	2;4-D	H	1,483
	Beta-cyfluthrin	I	920
	Imidacloprid	I	707
	Lambda-cyhalothrin	I	618

F = Fungicide

H =Herbicide

I = Insecticide

O = Other

Top 20 Publishable Pesticides in 2014 Compared to 2011, 2004, 2000, 1997

Rank	Pesticide Common Name	Type	2014	2011	2004	2000	1997
			Total Amount Applied (lbs)	Total Amount Applied (lbs)	Total Amount Applied (lbs)	Total Amount Applied (lbs)	Total Amount Applied (lbs)
1	Glyphosate	H	634,954	721,154	2,821,085	950,269	366,496
2	Atrazine	H	256,548	381,321	1,109,475	618,515	487,837
3	Simazine	H	229,855	200,734	72,883	301,427	172,911
4	Prodiamine	H	218,432	145,979	2,921	18,190	2,065
5	Fipronil	I	216,180	21,380	15,696	78	-
6	2,4-D	H	171,077	439,538	199,141	225,426	168,723
7	Pendimethalin	H	154,511	30,957	51,682	533,715	339,845
8	Imidacloprid	I	150,286	231,323	128,707	131,773	2,113
9	S-Metolachlor	H	144,532	555,807	872,768	109,566	-
10	Chlorothalonil	F	119,158	61,069	1,529,493	115,194	48,331
11	Paraquat Dichloride	H	103,654	137,874	127,869	156,131	141,262
12	Mineral oil	O	60,981	141,270	-	-	-
13	Thiabendazole (TBZ)	F	48,549	241	97	159	21
14	Thifensulfuron	H	44,943	3,502	887	6,016	6,690
15	Metolachlor	H	40,030	-	246,509	1,000,654	695,586
16	Dithiopyr	H	34,946	52,005	101,247	83,224	6,500
17	Clopyralid mono salt	H	32,029	2,832	31,377	16,775	2,668
18	Beta-cyfluthrin	I	29,863	11,267	-	-	-
19	Tribenuron-methyl	H	22,283	1,594	209	2,896	-
20	Clethodim	H	20,907	1,680	336	331	437

F = Fungicide

H =Herbicide

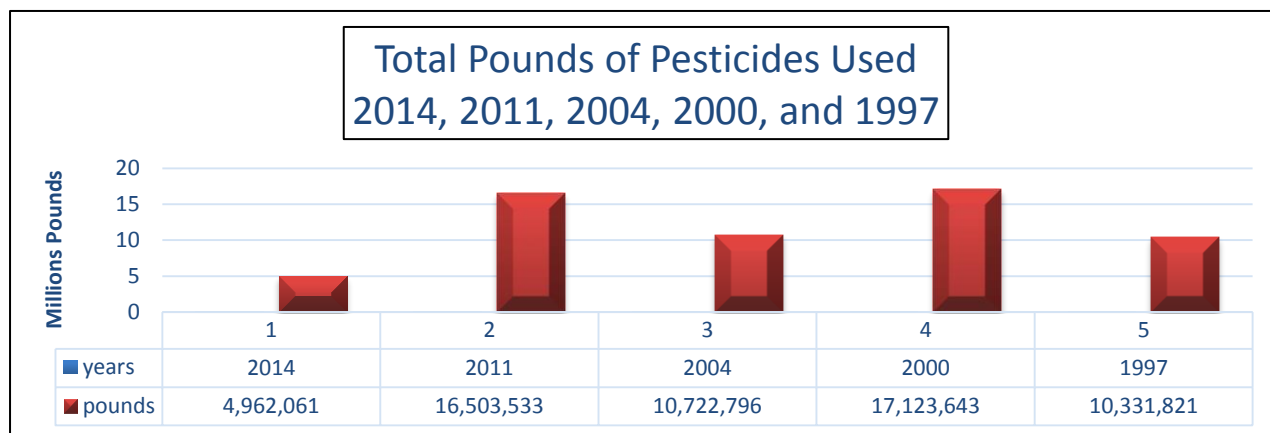
I = Insecticide

O = Other

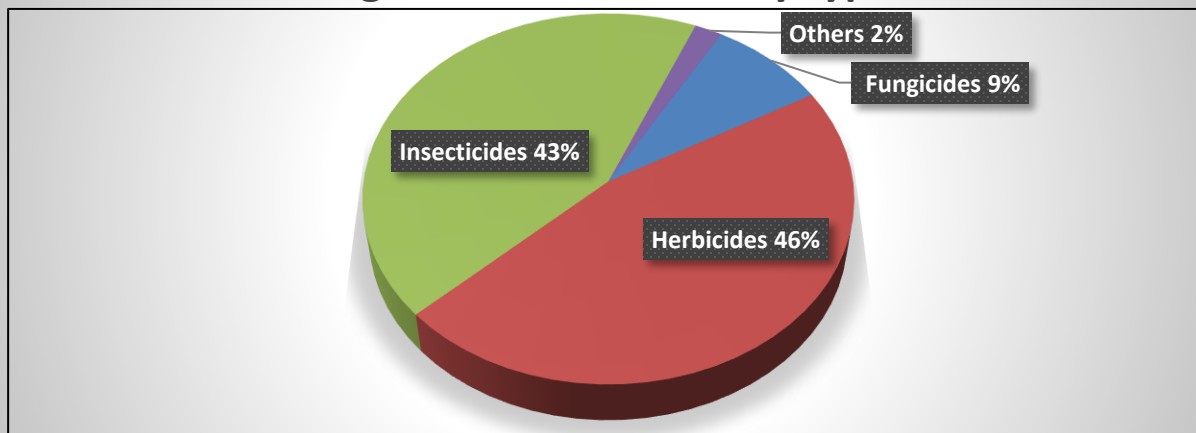
Comparison of Pesticides Use Classes Reported in 2014,2011, 2004, 2000, 1997

Pesticide Class		2014	2011	2004	2000	1997
Total Usage	<i>Pounds</i>	4,962,061	16,503,533	10,722,796	17,123,643	10,331,821
Herbicides	<i>Pounds</i>	2,299,757	3,406,867	6,310,097	4,619,656	3,195,407
	<i>% of Total</i>	46%	21%	59%	27%	31%
Insecticides	<i>pounds</i>	2,143,238	831,769	875,511	1,104,249	465,729
	<i>% of Total</i>	43%	5%	8%	6%	5%
Fungicides	<i>Pounds</i>	420,560	538,940	3,387,026	599,556	199,373
	<i>% of Total</i>	9%	3%	32%	4%	2%
Others¹	<i>Pounds</i>	98,506	11,725,957	150,162	10,800,182	6,460,312
	<i>% of Total</i>	2%	71%	1%	63%	62%

¹ Includes Wood Preservatives, Antifoulants, Molluscicides, Repellents and Rodenticides



Percentage of Chemical Use by type, 2014



Top 10 Publishable Pesticides by Season in 2014

Season Applied: SPRING		
Active Ingredient	Class	Total Amount Applied (lbs)
Glyphosate	H	319,695
Atrazine	H	233,907
Simazine	H	224,938
Prodiamine	H	212,117
S-Metolachlor	H	130,036
2;4-D	H	105,157
Paraquat Dichloride	H	84,282
Thifensulfuron	H	44,657
Dithiopyr	H	34,169
Chlorothalonil	F	31,444

Season Applied: SUMMER		
Active Ingredient	Class	Total Amount Applied (lbs)
Glyphosate	H	163,555
Chlorothalonil	F	66,079
2;4-D	H	19,627
Imidacloprid	I	15,625
Bifenthrin	I	12,780
S-Metolachlor	H	11,315
Fipronil	I	9,295
Paraquat	H	8,579
Captan	F	7,792
Sethoxydim	H	7,769

Season Applied: FALL		
Active Ingredient	Class	Total Amount Applied (lbs)
Glyphosate	H	105,818
2;4-D	H	39,892
Chlorothalonil	F	15,699
Imidacloprid	I	14,853
Mineral Oil	O	11,042
Fipronil	I	7,244
Cyfluthrin	I	6,729
Propiconazole	F	6,239
Beta-cyfluthrin	I	5,823
Disod. Octa. Tetra	I	5,576

Season Applied: WINTER		
Active Ingredient	Class	Total Amount Applied (lbs)
Fipronil	I	190,389
Mineral oil	O	16,074
Imidacloprid	I	14,022
Beta-cyfluthrin	I	7,815
Pyriproxyfen	I	4,374
Chlorothalonil	F	3,229
Glyphosate	H	2,440
Boric acid	I	2,235
Piperonyl butoxide	I	1,974
Disod. Octa. tetra.	I	1,932

F = Fungicide

H =Herbicide

I = Insecticide

O = Other

Top 10 Publishable Pesticide Usage by Type in 2014

Herbicides		
Rank	Pesticide Common	Total Amount Applied (lbs)
1	Glyphosate	634,954
2	Atrazine	256,548
3	Simazine	229,855
4	Prodiamine	218,432
5	2;4-D	171,077
6	Pendimethalin	154,511
7	S-Metolachlor	144,532
8	Paraquat Dichloride	103,654
9	Thifensulfuron	44,943
10	Metolachlor	40,030

Insecticides		
Rank	Pesticide Common	Total Amount Applied (lbs)
1	Fipronil	216,180
2	Imidacloprid	150,286
3	Beta-cyfluthrin	29,863
4	Cyfluthrin	20,727
5	Bifenthrin	20,355
6	Pyriproxyfen	19,737
7	Disod. Octa. tetra.	12,142
8	Cypermethrin	11,191
9	Lambda-cyhalothrin	8,750
10	Boric acid	8,441

Fungicides		
Rank	Pesticide Common	Total Amount Applied (lbs)
1	Chlorothalonil	119,158
2	Thiabendazole (TBZ)	48,549
3	Mancozeb	14,300
4	Captan	13,481
5	Iprodione	12,157
6	Mono-potassium salt	11,116
7	Fosetyl-al	10,726
8	Propiconazole	9,193
9	Cyazofamid	7,435
10	Sulfur	7,105

Top 10 Publishable Pesticide Usage by Type in 2014

Other		
Rank	Pesticide Common	Total Amount Applied (lbs)
1	Mineral oil	60,981
2	Sulfuryl fluoride	4,378
3	Isopropyl alcohol	3,101
4	Copper triethanolamine complex	1,879
5	Methyl bromide	1,757
6	Paclbutrazol	1,158
7	Carbon dioxide	988
8	(7S)-Hydroprene	911
9	Trinexapac-ethyl	764
10	Ethephon	648

Integrated Pest Management (IPM)

	Year	Never	Sometimes	Almost Always	Not Applicable
		<i>percent</i>			
Monitoring Practices such as scouting for pests, soil testing, field mapping, etc	2014	14	14	54	18
	2011	13	13	56	18
Avoidance practices such as crop rotation, alternate planting dates, companion cropping, trapping, etc.	2014	12	17	52	19
	2011	11	17	54	18
Preventative practices such as mowing, burning, chopping, tillage, etc.	2014	10	25	52	13
	2011	10	25	50	15
Suppression practices such as biological pesticides, mating disruptors, beneficial organisms, genetically modified products, etc.	2014	33	19	28	20
	2011	27	24	27	22

2014 MARYLAND PESTICIDE USAGE SURVEY

Project Code: 970
SMetaKey: 3785



**Maryland
Department of
Agriculture**

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Suite 210
Annapolis, MD 21401
(410) 841-5740
Fax (800) 474-4168

Please make any necessary corrections to the name, address and zip code.

Please return in the enclosed envelope no later than November 30, 2015

Please refer to the "Instruction Sheet" on Page 2 to aid in the completion of this survey.

1. Did you or your business or your agency apply pesticides in **2014** ?
0001 Yes – Go to Question 2.
 No – Go to Page 8, Question 5.

2. Are you a commercial business?
0002 Yes – Go to Page 2 and complete the table for all pesticides **that your business applied in 2014 for your customers.**
 No – Go to Question 3.

3. Are you a public agency?
0003 Yes – Go to Page 2 and complete the table for all pesticides **applied in 2014 by you or a designated applicator within your agency.**
 No – Go to Question 4.

4. Are you a farmer?
0004 Yes – Go to Page 2 and complete the table for all pesticides **you personally applied in 2014 on property that you own or lease.**
 No – Go to Page 8, Question 5.

Maryland Pesticides Instructions

Pesticide: An herbicide, insecticide, fungicide, growth regulator, nematicide, fumigant, rodenticide, repellent, wood preservative, or any other material used to manage pests.

- ✓ Please report the pesticides you, your business, or your agency **applied in 2014** in the tables. Record the EPA number or chemical product name.
- ✓ Record the county and zip code where each pesticide was applied.
- ✓ Include only the pesticide portions of a tank mix.
- ✓ Report each chemical on a separate line, even if two chemicals were applied in combination. Specify the unit of measurement with the total quantity.

PLEASE DO NOT INCLUDE ANY PESTICIDES APPLIED BY A CONTRACTOR.

Column 3 - - County Code	Column 12 - - Target Crop or Site Code
1 Allegany	1 Field Crops
3 Anne Arundel	2 Fruit
5 Baltimore	3 Vegetables
6 Baltimore City	4 Nursery/greenhouse - commercial
9 Calvert	5 Animal - livestock and poultry
11 Caroline	6 Stored grain
13 Carroll	7 Forest
15 Cecil	8 Ornamental & lawns - interior and exterior landscapes
17 Charles	9 Turf - production
19 Dorchester	10 Seed treatment
21 Frederick	11 Aquatic
23 Garrett	12 Rights of way
25 Harford	13 Industrial/Structural - incl. structural household pests, birds, rodents,
27 Howard	14 Fumigation - commodities, structures, grains
29 Kent	15 Public Health
31 Montgomery	16 Regulatory - PUBLIC AGENCIES ONLY
33 Prince George's	17 Demonstration/Research
35 Queen Anne's	18 Other - wood preservatives, sewer root control
37 St. Mary's	
39 Somerset	
41 Talbot	
43 Washington	
45 Wicomico	
47 Worcester	

Office Use Lines in Table		Table	0399	2014 Maryland Pesticide Usage Survey Pesticide Use								
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L I N E	County Name	County Code (see instructions for codes)	Pesticide Applied EPA registration number or chemical product name	Product Code Office Use	Was this part of a tank mix? (If tank mix, enter line number of first product in mix.)	Total Quantity of Product Used	Units: 1 = pound 12 = gallons 13 = quarts 14 = pints 15 = liquid oz 28 = dry oz 30 = grams	Total Quantity of Product Used To how many acres, linear feet, or cubic feet was this product applied?	Units: 1 = acres 2 = linear ft. 3 = cubic ft. 4= square ft 5= bushels 6=head	When was this product applied? 1. Spring 2. Summer 3. Fall 4. Winter	What was the target crop or site? (see instructions for codes)	
	01		60		61	63	73	74	68	69	64	71
	02		60		61	63	73	74	68	69	64	71
	03		60		61	63	73	74	68	69	64	71
	04		60		61	63	73	74	68	69	64	71
	05		60		61	63	73	74	68	69	64	71
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	08		60		61	63	73	74	68	69	64	71
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	10		60		61	63	73	74	68	69	64	71
	11		60		61	63	73	74	68	69	64	71
	12		60		61	63	73	74	68	69	64	71
	13		60		61	63	73	74	68	69	64	71
	14		60		61	63	73	74	68	69	64	71
	15		60		61	63	73	74	68	69	64	71
	16		60		61	63	73	74	68	69	64	71
	17		60		61	63	73	74	68	69	64	71
	18		60		61	63	73	74	68	69	64	71
	19		60		61	63	73	74	68	69	64	71
	20		60		61	63	73	74	68	69	64	71
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	14		60		61	63	73	74	68	69	64	71
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	21		60		61	63	73	74	68	69	64	71
22		60		61	63	73	74	68	69	64	71	

5. Were any pesticides applied for you by a contractor in 2014?

0005 1 Yes

3 No

FARMERS: Please complete the following.

Integrated Pest Management (IPM) is a long-standing science-based, decisions making process that identifies and reduces risks from pests and pest management related strategies. It coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources, and the environment. IPM provides an effective strategy for managing pests in all arenas from developed residential and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests.

Please refer to the definition of Integrated Pest Management (above) when answering questions 6 to 9.

Check the appropriate box for each question.		Never	Sometimes	Almost Always	Not Applicable
6. Do you use resources before making pest control decisions? (i.e. Scouting, Soil testing, Field mapping, Predictive models, Pest thresholds, etc.)	0006	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
7. Do you use preventive measures to avoid pest outbreaks? (i.e. Crop rotation, ground covers/mulches, physical barriers, adjustment of plant/harvest dates, adjustment of plant density, resistance varieties, companion cropping, trapping, etc.)	0007	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
8. Do you use physical practices for pest control? (i.e. Mowing, burning, chopping, tillage, etc.)	0008	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
9. Do you use products, such as the ones listed below, for pest control? *Biological pesticide *Mating Disruptors *Beneficial Organisms (insects, nematodes, pathogens) *Genetically modified products (Glyphosphate – resistant soybeans, Bt corn)	0009	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Thank you for your survey response!

OFFICE USE	9800
1. Did you have pesticides applied?	
2. Applied by a contractor, not by respondent.	

Respondent Name: _____

9911	9910	MM	DD	YY
------	------	----	----	----

Response	Respondent	Mode	Enum.	Eval.	Change	Office Use for POID						
1-Comp	9901	1-Op/Mgr	9902	1-Mail	9903	9998	9900	9985	9989			
2-R		2-Sp		2-Tel					_____ - _____ - _____			
3-Inac		3-Acct/Bkpr		3-Face-to-Face					Optional Use			
4-Office Hold		4-Partner		4-CATI					9907	9908	9906	9916
5-R – Est		9-Oth		5-Web								
6-Inac – Est				6-e-mail								
7-Off Hold – Est				7-Fax								
				8-CAPI								
				10-Other								
S/E Name												