

**MARYLAND PESTICIDE STATISTICS  
for 2004**

Issued cooperatively by

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## **Introduction**

This publication contains estimates for specific pesticides used in Maryland during calendar year 2004. 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 2005 to estimate the amounts and types of pesticides applied in calendar year 2004 by Maryland farm operators, certified private pesticide applicators, commercially licensed businesses, and public agencies. The survey consisted of a sample of 1,500 farmers, 3,875 private applicators, 1,494 commercially licensed businesses, and 307 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 January 2005, questionnaires were mailed to all sampled operations, businesses, and agencies, with a second mailing occurring in early March 2005. Responses were received from 214 (70%) public agencies, 616 (41 %) licensed commercial applicators, 1,950 (51%) certified private applicators, and 832 (56%) of the sampled farm operators. 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 and final sample sizes and assumed to represent usage of the target populations.

## **Results**

Pesticide usage estimates are published for active ingredients only when there were a sufficient number of reports and/or amounts to deem the data reliable. Published data are listed in descending order by pounds of active ingredient and in alphabetical order. In addition, data are provided on pesticides reported but not estimated, the top 20 pesticides (in terms of total pounds used), the top 10 by class (insecticides, herbicides, and fungicides), common formulation and type for pesticides published, comparisons of use by class for the last 5 surveys.

The 2004 survey design and data summarization methods only provide reliable data at the State level; therefore, county-level statistics are not available as in previous surveys.

## State Pesticides Usage Estimates - Ranked According to Pounds Used

<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>	<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>
1	Glyphosate	2,821,085	49	Fipronil	15,696
2	Chlorothalonil	1,529,493	50	Diazinon	14,044
3	Atrazine	1,109,475	51	MCPP	13,130
4	Fosetyl aluminum	980,072	52	Endosulfan	12,205
5	S-Metolachlor	872,768	53	Tefluthrin	11,759
6	Mancozeb	254,254	54	Carbendazim	11,655
7	Metolachlor	246,509	55	1-Bromo-3-chloro-5,5-dimethyl	10,350
8	Chlorpyrifos	237,508	56	Pelargonic Acid	10,190
9	Potassium salts of phos. acid	201,112	57	Bifenazate	9,958
10	2,4-D	199,141	58	Lambda-Cyhalothrin	9,132
11	Thiophanate-methyl	130,637	59	Captan	8,816
12	Imidacloprid	128,707	60	Trichlorfon	7,105
13	Paraquat	127,869	61	Sulfur	6,959
14	Vinclozolin	122,853	62	Ethalfuralin	6,917
15	Dithiopyr	101,247	63	Thiram	6,721
16	Mesotrione	85,138	64	Fenarimol	6,545
17	Diuron	82,342	65	Acephate	5,876
18	Dicamba	79,937	66	Propamocarb Hydrochloride	5,563
19	Simazine	72,883	67	Dimethenamid	5,149
20	Cypermethrin	63,871	68	Bendiocarb	4,833
21	Triclopy	55,642	69	Oryzalin	4,658
22	Pendimethalin	51,682	70	Terbufos	4,507
23	Petroleum Oils	47,641	71	Copper Naphthenate	4,405
24	Cuprous oxide	46,277	72	Benzoic Acid	4,327
25	Sodium bromide	45,830	73	Dichloropicolinic acid	4,072
26	Chromated Copper Arsenate	45,473	74	Maleic Hydrazide	3,699
27	Carbaryl	44,843	75	MSMA	3,697
28	Acetochlor	39,393	76	Cyprodinil	3,661
29	Temephos	38,913	77	Phosmet	3,659
30	Permethrin	38,038	78	Mefenoxam	3,644
31	Cyfluthrin	37,902	79	Metribuzin	3,547
32	Trifluralin	36,019	80	Triisopropanolamine	3,414
33	Alachlor	34,906	81	Metiram	3,316
34	Azinphos-methyl	34,546	82	Sethoxydim	3,273
35	Esfenvalerate	32,074	83	Methyl Bromide	2,951
36	Chlormequat	31,717	84	Prodiamine	2,921
37	Clopyralid	31,377	85	Potassium Salts of Fatty Acids	2,854
38	Imazapyr	26,633	86	Malathion	2,496
39	Sulfometuron methyl	26,436	87	Hydrogen Peroxide	2,466
40	Copper Sulfate	26,274	88	Bensulide	2,437
41	Diquat Dibromide	24,472	89	Ethofumesate	2,425
42	Lindane	24,011	90	Streptomycin	2,259
43	Imazaquin	23,586	91	Ziram	2,254
44	Oxadiazon	21,483	92	Dimethoate	2,211
45	Propiconazole	18,861	93	Pyrethrum	2,154
46	Iprodione	18,566	94	Novaluron	2,121
47	Triadimefon	18,276	95	Propanil	2,100
48	Halofenozide	17,231	96	EPTC	2,062

## State Pesticides Usage Estimates - Ranked According to Pounds Used

<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>	<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>
97	Fosamine ammonium	2,048	145	Dicofol	417
98	Chlorfenapyr	2,045	146	Acetamiprid	414
99	3-Iodo2propynyl butylcarbamate	1,987	147	Imibenconazole	403
100	Flurprimidol	1,974	148	Chloroneb	403
101	Deltamethrin	1,973	149	Daminozide	401
102	Myclobutanil	1,859	150	Maneb	398
103	Polyoxin D zinc salt	1,791	151	Glutaral	397
104	Paclobutrazol	1,725	152	Methomyl	376
105	Ethylene Oxide	1,540	153	Trifloxystrobin	365
106	Metalaxyl	1,465	154	Propargite	358
107	Fatty Alcohols	1,431	155	Diflufenzopyr	354
108	Bacillus thuringiensis	1,428	156	Fluridone	352
109	Bifenthrin	1,307	157	Clethodim	336
110	Clomazone	1,263	158	Methidathion	314
111	Methoxyfenozide	1,253	159	Imazapic	289
112	Azoxystrobin	1,229	160	Piperonyl butoxide	288
113	Sulfentrazone	1,229	161	Fluvalinate	286
114	Imazethapyr	1,226	162	Isocetyl	276
115	Magnesium Phosphide	1,220	163	Ethephon	275
116	Etridiazole	1,217	164	Pyrethrins	248
117	DDVP	1,107	165	MCPA	239
118	PCNB	1,085	166	Bacillus subtilis	239
119	Nicosulfuron	1,072	167	Beauveria Bassiana	239
120	Prohexadione calcium	1,038	168	Pronamide	236
121	Fludioxonil	1,010	169	Acifluorfen	233
122	Copper	1,000	170	Metsulfuron-methyl	230
123	Endothall	998	171	Methoprene	214
124	Bentazone	966	172	Tribenuron-methyl	209
125	Tebufenozide	929	173	Flutolanil	207
126	Thifensulfuron-methyl	887	174	Isofenphos	203
127	Chlorimuron-ethyl	868	175	Terbacil	200
128	Isoxaben	800	176	Vernolate	199
129	Copper Oxychloride Sulfate	786	177	Carbamic acid	199
130	Copper Hydroxide	771	178	Tebuconazole	194
131	Abamectin	740	179	Benefin	188
132	Fenoxaprop-ethyl	687	180	Acibenzolar-S-methyl	170
133	Rimsulfuron	680	181	Propetamphos	165
134	Siduron	644	182	Manganese	165
135	Picloram	518	183	Hydropene	164
136	Pyridaben	506	184	Phosphorous acid	160
137	Fluazifop-P-butyl	497	185	Zeta-Cypermethrin	148
138	Boric Acid	488	186	Flumetsulam	139
139	Phosphine	482	187	Napropamide	136
140	Trinexapac-ethyl	474	188	Benomyl	136
141	Zinc	467	189	Oxyfluorfen	135
142	Diclofop-methyl	453	190	Quizalofop-ethyl	135
143	Pyridine	435	191	Diflubenzuron	131
144	Quinclorac	423	192	Norflurazon	124

## State Pesticides Usage Estimates - Ranked According to Pounds Used

<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>	<b>Rank</b>	<b>Pesticide Common Name</b>	<b>Pounds Active Ingredient</b>
193	DCPA	123	240	Nicotonic Acid	23
194	Linuron	116	241	Fenbuconazole	23
195	Dimethyl Benzyl Amm. Chloride	114	242	DSMA	22
196	Chlorpyrifos-methyl	110	243	Dicloran	22
197	Propoxur	109	244	Hexazinone	22
198	Prometon	108	245	Hexythiazox	18
199	Chlorethoxyfos	104	246	Fenvalerate	15
200	Lysophosphatidylethanolamines	104	247	Methylene Chloride	13
201	Amorphous Silica Gel	101	248	Kresoxim-methyl	11
202	Primisulfuron-methyl	101	249	Dimethylamine	11
203	Bromacil	100	250	Imazamox	10
204	Thiabendazole	97	251	Oxamyl	10
205	Phenmedipham	96	252	Azadirachtin	9
206	Mefluidide	94	253	Fenoxaprop-P-ethyl	8
207	Petroleum Distillate	89	254	Dichlobenil	8
208	Methoxychlor	85	255	Fenpyroximate	8
209	Fenhexamid	82	256	Steinernema carpocapsae	7
210	Calcium Chloride	79	257	Naptalam	6
211	Cyclohexanecarboxamide	75	258	Flumetralin	6
212	Silver	74	259	Kinoprene	6
213	Octaborate	73	260	Formetanate Hydrochloride	5
214	Ferbam	71	261	Amizine (2)	4
215	Triflumizole	66	262	Clofentezine	4
216	Spinosad	66	263	Dazomet	4
217	Sodium hypochlorite	65	264	Potassium Bicarbonate	4
218	Gibberellic Acid	65	265	Copper Salts of fatty&rosin acid	3
219	Tebuthiuron	60	266	N-Decanol	3
220	Chlorpropham	60	267	Neem Oil	3
221	Pebulate	60	268	Cycloate	3
222	Glufosinate-ammonium	57	269	Cyromazine	2
223	Cloransulam-methyl	47	270	Diclotophos	2
224	Carbofuran	42	271	Methyl Parathion	1
225	Tetrachlorethylene	42	272	Cyproconazole	1
226	Methiocarb	39	273	Folpet	1
227	Tributyltin (TBT)	39	274	S-Methoprene	1
228	Prosulfuron	38	275	Bromoxynil	1
229	Ethoprop	37	276	1-Naphthaleneacetic Acid	1
230	Calcium Hypochlorite	37	277	Napthalene	1
231	Flucythrinate	35	278	Cinnamaldehyde	1
232	Aluminum Phosphide	34	279	Nicotine	1
233	Halosulfuron-methyl	33	280	Bacillus popilliae	1
234	S-Kinoprene	31	281	N6-Benzyladenine	1
235	Zinc Phosphide	30			
236	Triforine	30			
237	Dichlorodifluoromethane	26			
238	Trichloromethane	25			
239	PBO	25			
				<b>Total</b>	<b>10,722,796</b>

## State Pesticide Usage Estimates - Alphabetical

Pesticide Common Name	Pounds Active Ingredient	Pesticide Common Name	Pounds Active Ingredient
1-Bromo-3-chloro-5,5-dimethylhydantoin	10,350	Chlorpyrifos	237,508
1-Naphthaleneacetic Acid	1	Chlorpyrifos-methyl	110
2,4-D	199,141	Chromated Copper Arsenate (CCA)	45,473
3-Iodo-2-propynyl butylcarbamate	1,987	Cinnamaldehyde	1
Abamectin	740	Clethodim	336
Acephate	5,876	Clofentezine	4
Acetamiprid	414	Clomazone	1,263
Acetochlor	39,393	Clopyralid	31,377
Acibenzolar-S-methyl	170	Cloransulam-methyl	47
Acifluorfen	233	Copper	1,000
Alachlor	34,906	Copper Hydroxide	771
Aluminum Phosphide	34	Copper Naphthenate	4,405
Amizine (2)	4	Copper Oxychloride Sulfate	786
Amorphous Silica Gel	101	Copper Salts of fatty & rosin acid	3
Atrazine	1,109,475	Copper Sulfate	26,274
Azadirachtin	9	Cuprous Oxide	46,277
Azinphos-methyl	34,546	Cycloate	3
Azoxystrobin	1,229	Cyclohexanecarboxamide	75
Bacillus popilliae	1	Cyfluthrin	37,902
Bacillus subtilis	239	Cypermethrin	63,871
Bacillus thuringiensis	1,428	Cyproconazole	1
Beauveria Bassiana	239	Cyprodinil	3,661
Bendiocarb	4,833	Cyromazine	2
Benefin	188	Daminozide	401
Benomyl	136	Dazomet	4
Bensulide	2,437	DCPA	123
Bentazone	966	DDVP	1,107
Benzoic Acid	4,327	Deltamethrin	1,973
Bifenazate	9,958	Diazinon	14,044
Bifenthrin	1,307	Dicamba	79,937
Boric Acid	488	Dichlobenil	8
Bromacil	100	Dichlorodifluoromethane	26
Bromoxynil	1	Dichloropicolinic acid	4,072
Calcium Chloride	79	Diclofop-methyl	453
Calcium Hypochlorite	37	Dicloran	22
Captan	8,816	Dicofol	417
Carbamic acid	199	Dicrotophos	2
Carbaryl	44,843	Diiflubenzuron	131
Carbendazim	11,655	Diiflufenzopyr	354
Carbofuran	42	Dimethenamid	5,149
Chlorethoxyfos	104	Dimethoate	2,211
Chlorfenapyr	2,045	Dimethyl Benzyl Ammonium Chloride	114
Chlorimuron-ethyl	868	Dimethylamine	11
Chlormequat	31,717	Diquat Dibromide	24,472
Chloroneb	403	Dithiopyr	101,247
Chlorothalonil	1,529,493	Diuron	82,342
Chlorpropham	60	DSMA	22

## State Pesticide Usage Estimates - Alphabetical

Pesticide Common Name	Pounds Active Ingredient	Pesticide Common Name	Pounds Active Ingredient
Endosulfan	12,205	Imazethapyr	1,226
Endothall	998	Imibenconazole	403
EPTC	2,062	Imidacloprid	128,707
Esfenvalerate	32,074	Iprodione	18,566
Ethalfuralin	6,917	Isoctyl	276
Ethephon	275	Isofenphos	203
Ethofumesate	2,425	Isoxaben	800
Ethoprop	37	Kinoprene	6
Ethylene Oxide	1,540	Kresoxim-methyl	11
Etridiazole	1,217	Lambda-Cyhalothrin	9,132
Fatty Alcohols	1,431	Lindane	24,011
Fenarimol	6,545	Linuron	116
Fenbuconazole	23	Lysophosphatidylethanolamines, egg yolk	104
Fenhexamid	82	Magnesium Phosphide	1,220
Fenoxaprop-ethyl	687	Malathion	2,496
Fenoxaprop-P-ethyl	8	Maleic Hydrazide	3,699
Fenpyroximate	8	Mancozeb	254,254
Fenvalerate	15	Maneb	398
Ferbam	71	Manganese	165
Fipronil	15,696	MCPA	239
Fluazifop-P-butyl	497	MCPP	13,130
Flucythrinate	35	Mefenoxam	3,644
Fludioxonil	1,010	Mefluidide	94
Flumetralin	6	Mesotrione	85,138
Flumetsulam	139	Metalaxyl	1,465
Fluridone	352	Methidathion	314
Flurprimidol	1,974	Methiocarb	39
Flutolanil	207	Methomyl	376
Fluvalinate	286	Methoprene	214
Folpet	1	Methoxychlor	85
Formetanate Hydrochloride	5	Methoxyfenozide	1,253
Fosamine ammonium	2,048	Methyl Bromide	2,951
Fosetyl aluminum	980,072	Methyl Parathion	1
Gibberellic Acid	65	Methylene Chloride	13
Glufosinate-ammonium	57	Metiram	3,316
Glutaral	397	Metolachlor	246,509
Glyphosate	2,821,085	Metribuzin	3,547
Halofenozide	17,231	Metsulfuron-methyl	230
Halosulfuron-methyl	33	MSMA	3,697
Hexazinone	22	Myclobutanil	1,859
Hexythiazox	18	N6-Benzyladenine	1
Hydrogen Peroxide	2,466	Napropamide	136
Hydropene	164	Naptalam	6
Imazamox	10	Napthalene	1
Imazapic	289	N-Decanol	3
Imazapyr	26,633	Neem Oil	3
Imazaquin	23,586	Nicosulfuron	1,072

## State Pesticide Usage Estimates - Alphabetical

Pesticide Common Name	Pounds Active Ingredient	Pesticide Common Name	Pounds Active Ingredient
Nicotine	1	Rimsulfuron	680
Nicotonic Acid	23	Sethoxydim	3,273
Norflurazon	124	Siduron	644
Novaluron	2,121	Silver	74
Octaborate	73	Simazine	72,883
Oryzalin	4,658	S-Kinoprene	31
Oxadiazon	21,483	S-Methoprene	1
Oxamyl	10	S-Metolachlor	872,768
Oxyfluorfen	135	Sodium bromide	45,830
Paclobutrazol	1,725	Sodium hypochlorite	65
Paraquat	127,869	Spinosad	66
PBO	25	Steinernema carpocapsae	7
PCNB	1,085	Streptomycin	2,259
Pebulate	60	Sulfentrazone	1,229
Pelargonic Acid	10,190	Sulfometuron methyl	26,436
Pendimethalin	51,682	Sulfur	6,959
Permethrin	38,038	Tebuconazole	194
Petroleum Distillate	89	Tebufenozide	929
Petroleum Oils	47,641	Tebuthiuron	60
Phenmedipham	96	Tefluthrin	11,759
Phosmet	3,659	Temephos	38,913
Phosphine	482	Terbacil	200
Phosphorous acid	160	Terbufos	4,507
Picloram	518	Tetrachlorethylene	42
Piperonyl butoxide	288	Thiabendazole	97
Polyoxin D zinc salt	1,791	Thifensulfuron-methyl	887
Potassium Bicarbonate	4	Thiophanate-methyl	130,637
Potassium Salts of Fatty Acids	2,854	Thiram	6,721
Potassium salts of phosphorous acid	201,112	Triadimefon	18,276
Primisulfuron-methyl	101	Tribenuron-methyl	209
Prodiamine	2,921	Tributyltin (TBT)	39
Prohexadione calcium	1,038	Trichlorfon	7,105
Prometon	108	Trichloromethane	25
Pronamide	236	Triclopy	55,642
Propamocarb Hydrochloride	5,563	Trifloxystrobin	365
Propanil	2,100	Triflumizole	66
Propargite	358	Trifluralin	36,019
Propetamphos	165	Triforine	30
Propiconazole	18,861	Triisopropanolamine	3,414
Propoxur	109	Trinexapac-ethyl	474
Prosulfuron	38	Vernolate	199
Pyrethrins	248	Vinclozolin	122,853
Pyrethrum	2,154	Zeta-Cypermethrin	148
Pyridaben	506	Zinc	467
Pyridine	435	Zinc Phosphide	30
Quinclorac	423	Ziram	2,254
Quizalofop-ethyl	135		
		<b>Total</b>	<b>10,722,796</b>



## Pesticides Reported But Not Estimated<sup>1</sup>

<b>Name</b>	<b>Type</b>
4-amino/pyridine	Rodenticide
5-Chloro-2-methyl-3(2H)-isothiazolone	Bait, Miticide
Ammonium benzoate	Repellent
Ancymidol	Granular
Bacillus sphaericus	Insecticide
Bacillus thuringensis spp. kurstaki	Insecticide
Capsaicin	Insecticide
Carfentrazone-ethyl	Herbicide
Cyclopropene, 1-methyl	Granular
Fenoxycarb	Insecticide
Hydramethylnon	Insecticide
Isofenphos	Insecticide
Metaldehyde	Molluscicide
N-octyl bicycloheptene dicarboximide	Insecticide
Piperalin	Fungicide
Resmethrin	Insecticide
Rotenone	Insecticide
Tetramethrin	Insecticide

<sup>1</sup> Reported amounts less than 1 lb.

## Top 20 Reported Pesticides in 2004 Compared to 2000, 1997, 1994, 1991

Rank	Pesticide Common Name	Pounds of Active Ingredient Used					Usage Ranking for			
		2004	2000	1997	1994	1991	2000	1997	1994	1991
1	Glyphosate	2,821,085	950,269	366,496	410,291	177,460	4	5	5	9
2	Chlorothalonil	1,529,493	115,194	48,331	76,600	58,111	16	19	17	20
3	Atrazine	1,109,475	618,515	487,837	1,166,064	988,335	5	4	3	3
4	Fosetyl aluminum	980,072	19,592	12,042	13,355	1/	39	39	51	-
5	S-Metolachlor	872,768	109,566	1/	1/	1/	17	-	-	-
6	Mancozeb	254,254	38,107	37,343	17,572	8,710	26	21	45	47
7	Metolachlor	246,509	1,000,654	695,586	2,166,308	1,441,432	3	3	2	2
8	Chlorpyrifos	237,508	136,670	72,289	240,325	289,104	14	14	7	6
9	Postassium Salts of Phosphorous Acid	201,112	1/	1/	1/	1/	-	-	-	-
10	2,4-D	199,141	225,426	168,723	226,054	187,377	9	9	8	8
11	Thiophanate-methyl	130,637	19,939	10,747	6,502	989	-	-	70	101
12	Imidacloprid	128,707	131,773	2,113	186	1/	15	102	173	-
13	Paraquat	127,869	156,131	141,262	175,607	130,165	11	11	11	12
14	Vinclozolin	122,853	43,706	1,105	40,104	378	25	131	25	131
15	Dithiopyr	101,247	83,224	6,500	1,028	1/	20	55	129	-
16	Mesotrione	85,138	1/	1/	1/	1/	-	-	-	-
17	Diuron	82,342	9,875	10,788	29,473	15,697	60	44	31	37
18	Dicamba	79,937	85,414	36,698	52,007	56,433	19	22	20	21
19	Simazine	72,883	301,427	172,911	153,240	298,523	7	8	12	5
20	Cypermethrin	63,871	57,280	14,983	5,637	3,374	22	35	78	70

1/ Not reported.

**Top 10 Reported Insecticides in 2004 Compared to 2000, 1997, 1994, 1991**

Rank	Pesticide Common Name	Pounds of Active Ingredient Used					Usage Ranking for			
		2004	2000	1997	1994	1991	2000	1997	1994	1991
1	Chlorpyrifos	237,508	136,670	72,289	240,325	289,104	3	3	1	6
2	Imidacloprid	128,707	131,773	2,113	186	1/	4	-	-	-
3	Cypermethrin	63,871	57,280	14,983	5,637	3,374	7	5	-	-
4	Petroleum Oils	47,641	229,896	166,646	221,603	139,661	1	1	2	-
5	Carbaryl	44,843	26,681	26,459	39,352	33,962	9	-	-	-
6	Temephos	38,913	1/	1/	1/	1/	-	-	-	-
7	Permethrin	38,038	86,681	82,730	82,985	28,361	5	2	4	-
8	Cyfluthrin	37,902	7,880	24,873	14,788	982	-	-	-	-
9	Azinphos-methyl	34,546	5,972	3,820	3,745	1,800	-	-	-	-
10	Esfenvalerate	32,074	622	443	600	4,755	-	-	-	-

**Top 10 Reported Herbicides in 2004 Compared to 2000, 1997, 1994, 1991**

Rank	Pesticide Common Name	Pounds of Active Ingredient Used					Usage Ranking for			
		2004	2000	1997	1994	1991	2000	1997	1994	1991
1	Glyphosate	2,821,085	950,269	366,496	410,291	177,460	2	3	5	9
2	Atrazine	1,109,475	617,627	487,837	1,166,064	988,335	3	2	2	3
3	S-Metolachlor	872,768	109,566	1/	1/	1/	9	-	-	-
4	Metolachlor	246,509	1,000,654	695,586	2,166,308	1,441,432	1	1	1	2
5	2,4-D	199,141	225,426	168,723	226,054	187,377	6	7	8	8
6	Paraquat	127,869	156,131	141,262	175,607	130,165	8	8	-	-
7	Dithiopyr	101,247	83,224	6,500	1,028	1/	-	-	-	-
8	Mesotrione	85,138	1/	1/	1/	1/	-	-	-	-
9	Diuron	82,342	9,875	10,788	29,473	15,697	-	-	-	-
10	Dicamba	79,937	85,414	36,698	52,007	56,433	10	-	-	-

**Top 10 Reported Fungicides in 2004 Compared to 2000, 1997, 1994, 1991**

Rank	Pesticide Common Name	Pounds of Active Ingredient Used					Usage Ranking for			
		2004	2000	1997	1994	1991	2000	1997	1994	1991
1	Chlorothalonil	1,529,493	113,510	48,331	76,600	5,811	1	1	1	-
2	Fosetyl aluminum	980,072	19,592	12,042	1/	13,355	-	-	-	-
3	Mancozeb	254,254	37,405	37,343	17,572	8,710	4	2	5	-
4	Potassium salts of phosphorous acid	201,112	2,307	4,756	8,026	1,656	-	-	-	-
5	Thiophanate-methyl	130,637	19,366	10,717	6,502	989	8	5	-	-
6	Vinclozolin	122,853	43,515	1,105	40,104	378	3	-	2	-
7	Copper Sulfate	26,274	14,656	9,962	399	11,044	-	-	-	-
8	Propiconazole	18,861	50,029	23,990	11,045	2,991	2	3	8	-
9	Iprodione	18,566	10,473	5,548	7,276	7,970	-	-	-	-
10	Triadimefon	18,276	26,514	951	2,299	845	5	-	-	-

1/ Not reported.

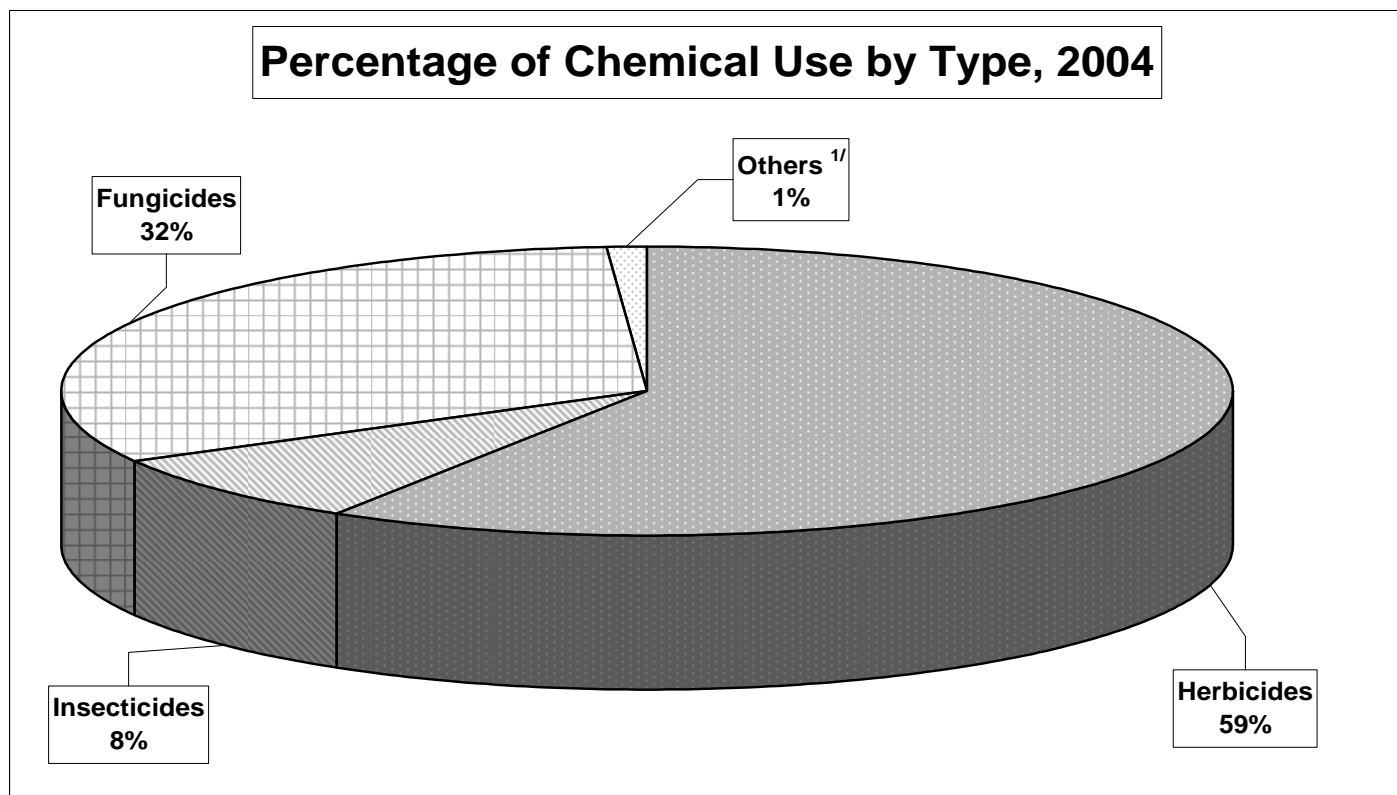
### Comparison of Pesticide Use Classes Reported in 1991, 1994, 1997, 2000, 2004

Pesticide Class		1991	1994	1997	2000	2004	Percent Change			
							91-04	94-04	97-04	00-04
<b>Total Usage</b>	<i>pounds</i>	9,042,277	13,881,629	10,331,821	17,123,643	10,722,796	19%	-23%	4%	-37%
<b>Herbicides</b>	<i>pounds</i>	4,598,561	5,677,775	3,195,407	4,619,656	6,310,097	37%	11%	97%	37%
	<i>% of Total</i>	51%	41%	31%	27%	59%				
<b>Insecticides</b>	<i>pounds</i>	1,070,256	997,913	465,729	1,104,249	875,511	-18%	-12%	88%	-21%
	<i>% of Total</i>	12%	7%	5%	6%	8%				
<b>Fungicides</b>	<i>pounds</i>	129,093	301,612	199,373	599,556	3,387,026	2524%	1023%	1599%	465%
	<i>% of Total</i>	1%	2%	2%	4%	32%				
<b>Wood Preservatives</b>	<i>pounds</i>	3,185,312	6,769,673	6,156,000	10,655,541	49,879	-98%	-99%	-99%	-100%
	<i>% of Total</i>	35%	49%	60%	62%	<sup>3/</sup>				
<b>Antifoulants</b>	<i>pounds</i>	<sup>1/</sup>	27,045	1,520	3,606	46,316	-----	71%	2947%	1184%
	<i>% of Total</i>		<sup>3/</sup>	<sup>3/</sup>	<sup>3/</sup>	<sup>3/</sup>				
<b>Others <sup>2/</sup></b>	<i>pounds</i>	59,055	107,611	313,792	141,035	53,967	-9%	-50%	-83%	-62%
	<i>% of Total</i>	1%	1%	3%	1%	1%				

<sup>1</sup> Not reported.

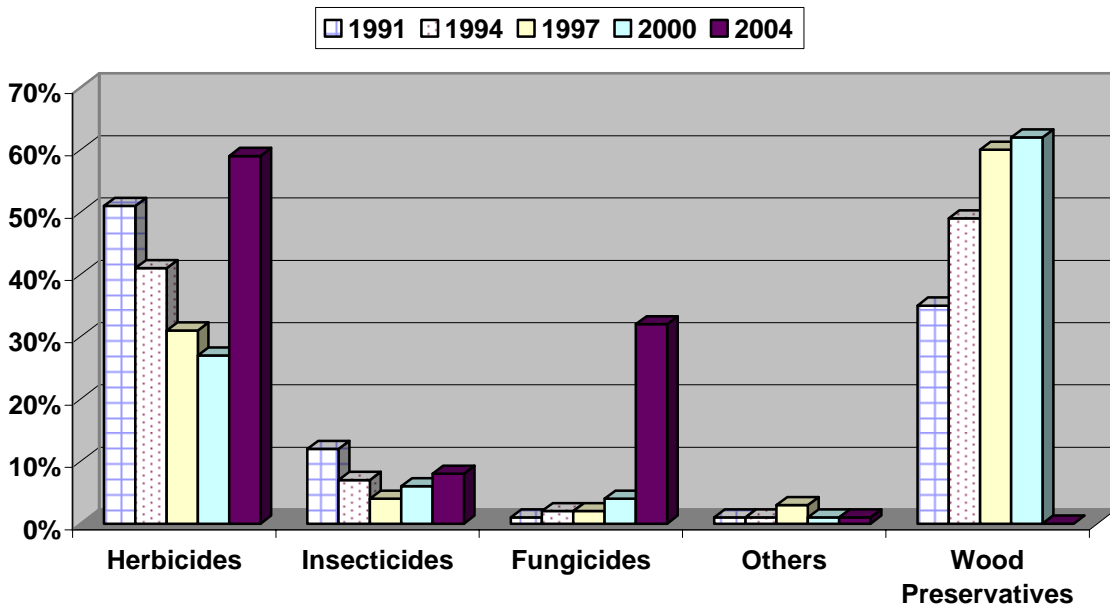
<sup>2</sup> Others include Algicides, Bactericides, Fumigants, Growth Regulators, Miticides, Molluscicides, Repellents, and Rodenticides.

<sup>3</sup> Percentage too small to publish.



<sup>1</sup> Others includes antifoulants and wood preservatives.

## Percent of Chemical Usage by Type 1991, 1994, 1997, 2000, and 2004



## Total Pounds of Pesticides Used 1991, 1994, 1997, 2000, and 2004

