

The Top Five Chemicals by Pounds Applied in each County in 2023

[Text files](#) of data are available. The ranking of chemicals is determined by total pounds of chemical used. Acres treated totals are cumulative, meaning that if a one-acre field was treated three times in a year, the cumulative acres treated would equal three acres. Cumulative acres treated totals include pesticide use reports (PURs) with unit treated equal to acres (A) or square feet (S), the latter of which was converted to acres. PURs with volume (cubic feet, etc.), weight (tons, lbs, etc.), or miscellaneous units (bins, holes, etc.) are not included in the acres treated totals. Most nonagricultural PURs are not required to report acres treated, so the acres treated totals are predominantly agricultural pesticide uses. Application counts (Apps) include only agricultural pesticide uses. A zero value under Acres Treated or Apps indicates that the pounds applied were nonagricultural uses. N-outdr = Outdoor nursery. N-grnhs = Greenhouse nursery. Values greater than one are rounded. Counties may have less than five rankings if there were not enough commodities or chemicals to rank. For more information, see [Pesticide Use Annual Report Data Access, References, and Definitions Guide](#).

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Alameda	Sulfuryl fluoride	1	65,996	0	0
Alameda	Sodium chlorate	2	55,592	0	0
Alameda	Glyphosate, isopropylamine salt	3	28,008	320	4,630
Alameda	Sulfur	4	25,407	613	6,752
Alameda	Permethrin	5	18,532	0	0
Alpine	Mineral oil	1	138	0	0
Alpine	Glyphosate, isopropylamine salt	2	101	0	10
Alpine	Imidacloprid	3	16	0	0
Alpine	Beta-cyfluthrin	4	8	0	0
Alpine	Piperonyl butoxide	5	7	0	0
Amador	Sulfur	1	61,536	769	9,157
Amador	Mineral oil	2	9,365	318	3,976
Amador	Glyphosate, dimethylamine salt	3	5,155	69	1,493
Amador	Glyphosate, isopropylamine salt	4	4,088	224	1,317
Amador	Kaolin	5	2,969	13	125
Butte	Propanil	1	581,359	1,655	139,054
Butte	Copper sulfate (pentahydrate)	2	443,862	512	37,148

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Butte	Mineral oil	3	269,415	2,058	140,199
Butte	1,3-dichloropropene	4	163,506	30	497
Butte	Copper hydroxide	5	116,067	829	32,960
Calaveras	Sulfur	1	10,087	225	2,347
Calaveras	Glyphosate, dimethylamine salt	2	9,151	128	2,267
Calaveras	Glyphosate, isopropylamine salt	3	2,401	59	393
Calaveras	Boric acid	4	2,199	0	5
Calaveras	Mineral oil	5	1,914	71	762
Colusa	Propanil	1	582,465	1,587	119,975
Colusa	Glyphosate, potassium salt	2	205,677	1,512	83,635
Colusa	Kaolin	3	149,722	104	5,174
Colusa	Mineral oil	4	126,195	763	54,448
Colusa	Copper sulfate (pentahydrate)	5	125,113	250	13,744
Contra costa	Sulfur	1	209,519	592	12,403
Contra costa	Glyphosate, isopropylamine salt	2	40,515	147	8,400
Contra costa	Mineral oil	3	29,419	439	9,105
Contra costa	Copper ethylenediamine complex	4	24,367	0	805
Contra costa	Sulfuryl fluoride	5	18,817	0	0
Del norte	Metam-sodium	1	70,723	50	221
Del norte	1,3-dichloropropene	2	53,083	24	203
Del norte	Copper hydroxide	3	6,961	446	3,918
Del norte	Chlorothalonil	4	1,626	245	1,911
Del norte	Triclopyr, butoxyethyl ester	5	1,118	41	593
El dorado	Glyphosate, dimethylamine salt	1	46,450	576	13,728
El dorado	Mineral oil	2	38,002	667	5,481
El dorado	Sulfur	3	24,682	655	6,807
El dorado	Glyphosate, isopropylamine salt	4	21,324	327	5,077

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
El dorado	Hexazinone	5	8,249	143	6,697
Fresno	Sulfur	1	7,384,506	18,394	845,378
Fresno	Mineral oil	2	5,148,348	19,846	771,538
Fresno	Potassium n-methyldithiocarbamate	3	3,073,947	365	15,231
Fresno	Calcium hydroxide	4	857,576	2,146	49,394
Fresno	Glyphosate, potassium salt	5	819,851	9,444	392,971
Glenn	Propanil	1	428,482	1,466	90,743
Glenn	Copper sulfate (pentahydrate)	2	187,575	262	13,475
Glenn	Glyphosate, isopropylamine salt	3	126,721	1,659	52,205
Glenn	Copper hydroxide	4	112,810	697	28,922
Glenn	Glyphosate, potassium salt	5	88,665	825	35,691
Humboldt	Potassium laurate	1	5,370	73	17
Humboldt	Imazapyr, isopropylamine salt	2	3,547	346	7,067
Humboldt	Triclopyr, butoxyethyl ester	3	3,100	123	2,454
Humboldt	Glyphosate, dimethylamine salt	4	1,672	66	1,551
Humboldt	Disodium octaborate tetrahydrate	5	1,371	0	0
Imperial	Sulfur	1	1,022,987	777	49,780
Imperial	Mineral oil	2	574,368	5,223	285,138
Imperial	Pendimethalin	3	357,468	2,981	192,752
Imperial	1,3-dichloropropene	4	298,419	49	3,095
Imperial	Glyphosate, isopropylamine salt	5	232,582	667	36,173
Inyo	Glyphosate, isopropylamine salt	1	1,560	4	265
Inyo	Triclopyr, butoxyethyl ester	2	522	0	0
Inyo	Bifenthrin	3	441	0	10
Inyo	Pendimethalin	4	407	3	215
Inyo	2,4-d, dimethylamine salt	5	302	3	190
Kern	Mineral oil	1	5,513,761	12,375	704,678

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Kern	Sulfur	2	5,027,044	13,443	777,583
Kern	Metam-sodium	3	1,389,241	112	6,896
Kern	Potassium n-methyldithiocarbamate	4	1,091,262	107	6,416
Kern	Calcium hydroxide	5	989,735	1,358	62,889
Kings	Sulfur	1	1,239,683	1,535	98,379
Kings	Mineral oil	2	779,652	3,256	171,759
Kings	Potassium n-methyldithiocarbamate	3	589,668	61	5,545
Kings	Glyphosate, potassium salt	4	372,408	2,889	204,141
Kings	Paraquat dichloride	5	188,733	960	172,614
Lake	Sulfur	1	296,634	1,043	51,239
Lake	Mineral oil	2	157,032	650	15,582
Lake	Glyphosate, isopropylamine salt	3	10,556	271	3,997
Lake	Lime-sulfur	4	8,665	35	458
Lake	Ziram	5	7,375	67	1,712
Lassen	Methyl bromide	1	75,135	12	350
Lassen	Chloropicrin	2	56,285	12	350
Lassen	Sulfur	3	14,080	84	3,849
Lassen	Glyphosate, dimethylamine salt	4	9,328	79	2,793
Lassen	Glyphosate, isopropylamine salt	5	8,177	63	3,369
Los angeles	Sulfuryl fluoride	1	782,430	0	0
Los angeles	Potassium n-methyldithiocarbamate	2	471,566	21	1,647
Los angeles	Boric acid	3	119,547	0	0
Los angeles	Glyphosate, isopropylamine salt	4	93,914	1,187	2,713
Los angeles	Methyl bromide	5	79,691	0	0
Madera	Sulfur	1	2,710,518	5,202	319,907
Madera	Mineral oil	2	966,294	4,068	212,501
Madera	Glyphosate, potassium salt	3	312,404	4,071	153,053

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Madera	Glyphosate, isopropylamine salt	4	274,785	3,517	170,559
Madera	Glufosinate-ammonium	5	186,344	4,875	211,057
Marin	Sulfuryl fluoride	1	14,456	0	0
Marin	Potassium phosphite	2	11,438	0	0
Marin	Disodium octaborate tetrahydrate	3	8,166	0	0
Marin	Copper ethanolamine complexes, mixed	4	8,099	0	4
Marin	Mineral oil	5	5,218	43	295
Mariposa	Glyphosate, isopropylamine salt	1	1,532	40	68
Mariposa	Sodium tetraborate decahydrate	2	1,270	0	0
Mariposa	Sulfuryl fluoride	3	448	0	0
Mariposa	Triclopyr, triethylamine salt	4	349	21	78
Mariposa	Copper ethanolamine complexes, mixed	5	327	0	129
Mendocino	Copper ethanolamine complexes, mixed	1	822,031	0	0
Mendocino	Sulfur	2	407,507	1,857	54,290
Mendocino	Mineral oil	3	236,103	731	21,743
Mendocino	Octhilinone	4	125,543	0	0
Mendocino	5-chloro-2-methyl-4-isothiazolin-3-one	5	65,560	0	0
Merced	Sulfur	1	1,630,976	1,763	115,274
Merced	Mineral oil	2	826,913	4,005	216,707
Merced	1,3-dichloropropene	3	715,153	276	6,003
Merced	Potassium n-methyldithiocarbamate	4	380,440	60	1,635
Merced	Glyphosate, potassium salt	5	365,591	4,508	203,845
Modoc	Potassium n-methyldithiocarbamate	1	38,334	4	235
Modoc	Metam-sodium	2	10,473	1	70
Modoc	1,3-dichloropropene	3	10,337	1	75
Modoc	Copper sulfate (pentahydrate)	4	8,802	29	928
Modoc	Metribuzin	5	8,646	225	15,620

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Mono	Diuron	1	825	11	655
Mono	Glyphosate, isopropylamine salt	2	512	0	0
Mono	Fatty acids, methyl esters	3	403	6	219
Mono	2,4-d, dimethylamine salt	4	297	5	289
Mono	Hexazinone	5	294	10	553
Monterey	Chloropicrin	1	2,260,442	643	9,298
Monterey	Mineral oil	2	1,245,031	10,349	231,273
Monterey	Sulfur	3	844,076	9,090	204,660
Monterey	1,3-dichloropropene	4	839,528	515	9,032
Monterey	Potassium n-methyldithiocarbamate	5	325,190	84	1,285
Napa	Sulfur	1	868,348	8,547	152,417
Napa	Mineral oil	2	218,075	2,572	38,075
Napa	Potassium bicarbonate	3	17,900	452	5,681
Napa	Glyphosate, potassium salt	4	15,757	1,005	7,441
Napa	Sulfur dioxide	5	14,077	7	0
Nevada	Sulfur	1	25,134	112	1,380
Nevada	Glyphosate, isopropylamine salt	2	4,909	10	234
Nevada	Copper ethanolamine complexes, mixed	3	3,620	3	35
Nevada	Sodium tetraborate decahydrate	4	2,686	0	0
Nevada	Copper triethanolamine complex	5	2,055	2	< 1
Orange	Sulfuryl fluoride	1	317,156	0	0
Orange	Mineral oil	2	61,444	94	1,094
Orange	Glyphosate, isopropylamine salt	3	43,696	568	1,255
Orange	Fosetyl-al	4	43,081	25	67
Orange	Chloropicrin	5	33,075	14	161
Placer	Propanil	1	42,290	165	9,458
Placer	Mineral oil	2	37,952	274	14,152

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Placer	Sulfur	3	28,259	134	4,298
Placer	Permethrin	4	22,738	0	0
Placer	Glyphosate, isopropylamine salt	5	19,911	89	2,307
Plumas	Glyphosate, dimethylamine salt	1	43,337	215	16,299
Plumas	Hexazinone	2	13,833	107	12,363
Plumas	Glyphosate, isopropylamine salt	3	9,675	22	4,383
Plumas	Imazapyr, isopropylamine salt	4	7,486	174	16,771
Plumas	Sodium bromide	5	3,498	0	0
Riverside	Metam-sodium	1	370,071	68	1,633
Riverside	Sulfur	2	330,267	2,430	66,331
Riverside	Mineral oil	3	293,928	2,470	59,359
Riverside	1,3-dichloropropene	4	228,343	10	728
Riverside	Kaolin	5	220,869	116	3,673
Sacramento	Sulfur	1	3,275,206	4,086	252,152
Sacramento	Mineral oil	2	682,917	3,652	78,228
Sacramento	Glyphosate, isopropylamine salt	3	79,846	889	24,441
Sacramento	Glyphosate, potassium salt	4	70,935	910	31,303
Sacramento	Lime-sulfur	5	56,469	95	3,212
San benito	Potassium n-methyldithiocarbamate	1	96,248	50	420
San benito	Diatomaceous earth	2	93,748	1,131	7,065
San benito	Mineral oil	3	69,599	1,550	18,036
San benito	Sulfur	4	52,676	618	11,559
San benito	Kaolin	5	21,144	31	441
San bernardino	Glyphosate, isopropylamine salt	1	67,507	447	5,705
San bernardino	Sulfuryl fluoride	2	54,115	0	0
San bernardino	Mineral oil	3	24,513	305	2,886
San bernardino	Boric acid	4	24,237	0	0

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
San bernardino	Glyphosate, potassium salt	5	17,116	288	4,130
San diego	Sulfuryl fluoride	1	379,221	0	0
San diego	Mineral oil	2	226,592	2,806	17,785
San diego	Sodium chlorate	3	120,576	0	0
San diego	Glyphosate, isopropylamine salt	4	78,422	4,710	20,618
San diego	Metam-sodium	5	70,399	48	580
San francisco	Disodium octaborate tetrahydrate	1	3,506	0	0
San francisco	Chlorothalonil	2	3,153	0	507
San francisco	Glutaraldehyde	3	2,582	0	0
San francisco	1-bromo-3-chloro-5,5-dimethyl hydantoin	4	2,497	0	0
San francisco	Potassium phosphite	5	2,064	0	14
San joaquin	Sulfur	1	5,853,018	11,389	475,807
San joaquin	Mineral oil	2	646,324	5,227	173,890
San joaquin	1,3-dichloropropene	3	527,663	84	1,616
San joaquin	Glyphosate, isopropylamine salt	4	440,013	6,301	198,136
San joaquin	Glyphosate, potassium salt	5	214,261	3,271	109,748
San luis obispo	Sulfur	1	596,431	3,736	144,502
San luis obispo	Chloropicrin	2	484,213	99	2,501
San luis obispo	Mineral oil	3	336,935	2,247	61,029
San luis obispo	1,3-dichloropropene	4	179,230	72	1,615
San luis obispo	Potassium n-methyldithiocarbamate	5	152,018	22	587
San mateo	Sulfuryl fluoride	1	43,660	0	0
San mateo	Potassium n-methyldithiocarbamate	2	36,067	31	383
San mateo	Potassium phosphite	3	19,869	41	409
San mateo	Mineral oil	4	16,990	66	194
San mateo	Sodium percarbonate	5	8,492	0	18
Santa barbara	Chloropicrin	1	1,915,878	366	10,039

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Santa barbara	Sulfur	2	912,956	4,154	168,250
Santa barbara	Potassium n-methyldithiocarbamate	3	644,307	69	2,627
Santa barbara	1,3-dichloropropene	4	393,558	124	3,408
Santa barbara	Mineral oil	5	308,358	3,532	68,299
Santa clara	Potassium n-methyldithiocarbamate	1	167,268	43	842
Santa clara	Sulfuryl fluoride	2	137,904	0	0
Santa clara	Chloropicrin	3	35,623	22	246
Santa clara	Sulfur	4	32,024	346	5,397
Santa clara	Boric acid	5	30,316	0	0
Santa cruz	Chloropicrin	1	599,240	167	2,298
Santa cruz	1,3-dichloropropene	2	255,359	144	2,723
Santa cruz	Soybean oil	3	62,238	456	4,312
Santa cruz	Sulfuryl fluoride	4	45,493	0	0
Santa cruz	Potassium n-methyldithiocarbamate	5	42,985	12	184
Shasta	Glyphosate, dimethylamine salt	1	36,197	561	14,144
Shasta	Methyl bromide	2	34,107	12	163
Shasta	Copper sulfate (pentahydrate)	3	31,499	32	2,340
Shasta	Chloropicrin	4	25,353	11	163
Shasta	Glyphosate, isopropylamine salt	5	16,447	133	3,367
Sierra	Glyphosate, isopropylamine salt	1	2,103	2	247
Sierra	Permethrin	2	37	0	0
Sierra	Metam-sodium	3	33	0	0
Sierra	Diuron	4	27	1	45
Sierra	Aminopyralid, triisopropanolamine salt	5	18	0	150
Siskiyou	Methyl bromide	1	767,227	156	3,411
Siskiyou	Chloropicrin	2	448,010	155	3,397
Siskiyou	Sulfur	3	23,373	199	7,868

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Siskiyou	Glyphosate, isopropylamine salt	4	13,128	239	5,290
Siskiyou	Captan	5	12,532	130	5,676
Solano	Sulfur	1	593,635	1,356	44,524
Solano	Mineral oil	2	134,279	280	27,419
Solano	Glyphosate, potassium salt	3	83,230	1,086	43,216
Solano	Glyphosate, isopropylamine salt	4	76,335	530	29,707
Solano	Metam-sodium	5	45,690	5	263
Sonoma	Sulfur	1	1,534,767	11,956	243,521
Sonoma	Mineral oil	2	372,334	3,860	69,831
Sonoma	Lavandulyl senecioate	3	72,163	895	22,962
Sonoma	Prodiamine	4	30,791	0	0
Sonoma	Sulfuryl fluoride	5	29,412	0	0
Stanislaus	Mineral oil	1	1,143,710	3,598	188,603
Stanislaus	Sulfur	2	558,440	1,161	56,665
Stanislaus	1,3-dichloropropene	3	537,526	114	2,799
Stanislaus	Glyphosate, isopropylamine salt	4	372,369	4,952	178,741
Stanislaus	Glyphosate, potassium salt	5	240,258	3,907	129,034
Sutter	Propanil	1	490,726	1,171	108,685
Sutter	Mineral oil	2	333,995	1,974	110,438
Sutter	Copper sulfate (pentahydrate)	3	189,443	205	15,454
Sutter	1,3-dichloropropene	4	165,454	48	510
Sutter	Sulfur	5	141,997	224	8,641
Tehama	1,3-dichloropropene	1	175,486	125	539
Tehama	Copper hydroxide	2	124,468	919	30,581
Tehama	Glyphosate, isopropylamine salt	3	71,850	1,567	33,186
Tehama	Glyphosate, potassium salt	4	49,237	798	22,670
Tehama	Sulfuryl fluoride	5	46,875	0	0

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Trinity	Glyphosate, dimethylamine salt	1	6,260	101	4,222
Trinity	Glyphosate, isopropylamine salt	2	2,775	21	1,203
Trinity	Imazapyr, isopropylamine salt	3	1,788	58	3,157
Trinity	Clopyralid, monoethanolamine salt	4	872	27	1,054
Trinity	Oxyfluorfen	5	380	6	262
Tulare	Mineral oil	1	5,742,977	28,360	596,185
Tulare	Calcium hydroxide	2	2,652,378	6,298	118,305
Tulare	Sulfur	3	1,895,104	8,694	340,718
Tulare	Kaolin	4	631,772	742	14,340
Tulare	Glyphosate, isopropylamine salt	5	463,779	9,204	255,058
Tuolumne	Glyphosate, isopropylamine salt	1	11,419	102	2,253
Tuolumne	Glyphosate, dimethylamine salt	2	8,203	91	1,862
Tuolumne	Sodium tetraborate decahydrate	3	2,402	2	137
Tuolumne	Glyphosate, potassium salt	4	1,073	1	< 1
Tuolumne	Copper ethanolamine complexes, mixed	5	893	0	325
Ventura	Chloropicrin	1	1,843,464	311	10,390
Ventura	Mineral oil	2	1,101,108	6,049	117,801
Ventura	Potassium n-methyldithiocarbamate	3	931,304	102	3,544
Ventura	1,3-dichloropropene	4	323,951	66	2,249
Ventura	Metam-sodium	5	188,167	18	789
Yolo	Sulfur	1	1,752,152	3,074	135,308
Yolo	Potassium n-methyldithiocarbamate	2	189,619	14	1,212
Yolo	Mineral oil	3	166,708	1,415	56,055
Yolo	Glyphosate, isopropylamine salt	4	145,372	1,704	80,147
Yolo	Propanil	5	121,652	245	25,074
Yuba	Propanil	1	160,495	547	36,096
Yuba	Mineral oil	2	137,121	985	38,507

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Yuba	Copper sulfate (pentahydrate)	3	63,851	101	4,952
Yuba	Copper hydroxide	4	50,557	336	13,892
Yuba	Glyphosate, potassium salt	5	41,929	677	22,506